Seven years of Design research at Politecnico di Milano.
Analysis of the funded research projects

Annex II

C-Roads Italy (scheda completa)
PI: Luca Studer, partner

Duration: 5 years (2017 – 2021)

Program & specific program: CEF program 2014-2020 (Connecting Europe Facility)

Topic: Testing, implementing, assess the impact of cooperative intelligent transport systems

5 keywords: Mobility, Connected and automated transport, Cooperative intelligent transport systems (C-ITS), Vehicle to everything, Impact assessment

Issues/challenge: Intelligent Transport Systems (ITS) as cooperative, connected and automated mobility is a crucial topic for the EU. They are vital to increase safety and **tackle Europe's growing emission and congestion problems**.

Key idea and scope of the project:
C-Roads Italy is part of the C-Roads Platform, a joint initiative of European States for **testing and implementing cooperative intelligent transport systems** (C-ITS) in a harmonised and interoperable way. C-Roads Italy has **implemented and tested a set of C-ITS services in real traffic conditions**, and cooperative systems based on V2X (vehicle-to-everything) technologies have been deployed and tested for the following automated driving applications: **truck Platooning and Highway Chauffeur**. POLIMI played a central role in **evaluating the impacts (ex-ante and ex-post)**.
The impacts of C-ITS are mostly on mobility, considered in terms of: Safety, Traffic fluidity, Energy efficiency.

C-Roads (Studer, partner)

OUTPUT	OUTCOME	IMPACT	TARGET
I. #Literature review results **Literature overview** and state of the art on I-CTS > 1 conference paper in proceeding (IEEE) II. #Evaluation study **Evaluation study** as ex-post evaluation on the field test: impacts of the system on mobility and traffic III. #Scientific publication Publications: **1 book chapter** (IET digital library, on C-ITS and impact assessment of cooperative and automated vehicles in particular) **+ 2 peer-reviewed journals** (1 Infrastuctures by MDPI & 1 Transport by Vilnius Tech, on micro-simulation; 1 on C-ITS, cooperative driving, roadworks warning; 1 on a Python script for the micro-simulation of the truck platooning system, with an impact assessment perspective) **+ 3 conference paper in international proceedings** (1 Springer and 1 IEEE addressing the topic of the evaluation and impacts of the Highway Chauffeur System; 1 IEEE on the evaluation approach for a combined implementation of day 1 C-ITS and truck platooning).	I. **Scientific dissemination** II. Discussion on the topic of I-CTS impact and its evaluation #mobility #SH7_9 Energy, transportation and mobility #PE7_8 Networks (communication networks, sensor networks, networks of robots...)	Scientific: #1 Creating high-quality new knowledge I. **Reinforcing/advancing knowledge** on C-ITS and their possibilities II. Contributing to develop a **scientific community** focused on the evaluation of the **impact** of C-ITS on mobility	Scientific community
I. #Evaluation study **Results from evaluation study** as ex-post evaluation on the field test: impacts of the system on mobility and traffic	Dissemination of results with the industry of reference #mobility #transportation design #product performance #SH7_9 Energy, transportation and mobility #PE7_8 Networks (communication networks, sensor networks, networks of robots...) #PE6_9 Human computer interaction and interface, visualisation	Social: #6 Strengthening the uptake of research and innovation in society Reinforcing/advancing **knowledge** on cooperative intelligent transport systems and their possibilities	Infrastructure sector
I. #Pilot Development of the **Italian pilot of C-Roads** II. #State of the art Current status of the C-Roads **deployments** III. #Guidelines Analysis of the results for **transferability** IV. #Recommendations **Results & lessons learnt** shared across EU (C-Roads Platform)	I. **Uptake**, diffusion, deployment, and use of project's results by direct target groups II. **Infrastructure upgrade** and integration of V2I and V2V C-ITS service in the Autostrada del Brennero #mobility #traffic management #SH7_9 Energy, transportation and mobility	Techno-economic: #7 Generating innovation-based growth Informing and nurturing the **development and transferability of on-board technologies** in the mobility sector	Car sector (car makers and manufacturers)
#Interviews Results from the **interviews** investigating **drivers behaviour and system acceptance**.	Relevant knowledge in terms of drivers behaviour user acceptance transferred to the **transportation industry** #transportation design #SH7_9 Energy, transportation and mobility #PE6_9 Human computer interaction and interface, visualisation	Social: #6 Strengthening the uptake of research and innovation in society Bringing new knowledge on C-ITS impact on drivers and **social acceptance**, expecting to led to **behavioural change in drivers**	Scientific community, Transportation sector; Civil society as drivers

C-Roads (Studer, partner)

OUTPUT	OUTCOME	IMPACT	TARGET
I. #Impact evaluation Pilot as a **setting for discussion** with car-makers and manufacturers on effective and motivated collaboration in developing future on-board technologies	I. Increased dialogue with car-makers and manufacturers for effective and motivated **collaboration in developing future on-board technologies**. II. Participation as one of the 11 C-Roads pilots acting as a **forum of discussion and exchange** among authorities and road operators involved in the **11 MS pilots**. III. **Directions** for harmonising the deployment of C-ITS in EU, impacting on EU policies for intelligent transport and vehicle control IV. Data-informed **understanding** and **know-how** for implementing traffic management **policies** #decision making #mobility #SH7_9 Energy, transportation and mobility #PE6_9 Human computer interaction and interface, visualisation	Social: #4 Addressing EU policy priorities and global challenges through research and innovation Informing the development of **future vehicle control strategies and intelligent transport policies** in EU	(1) mobility sector; (2) policy makers; (3) road-operators and car sector
I. #Datasets #Data collection (repository) **Intensive testing** the technology and its implementation within an harmonised cooperative intelligent transport systems across EU (considering other C-Roads pilots in EU) II. #Recommendations Results & lessons learnt nurtured **Recommendations as foundations for connected and automated vehicles**	I. Knowledge for harmonised specifications accounting the EU-C-ITS **recommendations**, linking all C-ITS deployments II. **Data-driven verification of C-ITS impact** on mobility #decision making #mobility #product performance #SH7_9 Energy, transportation and mobility #PE7_8 Networks (communication networks, sensor networks, networks of robots...)	Social: #5 Delivering benefits and impact through research and innovation missions (1) Increasing road **safety** (2) Contributing in decreasing congestion (**sustainability**)	Civil society
		Techno-economic: #9 Leveraging investment in research and innovation Nurturing the development of harmonized strategies and **C-ITS specifications** for Europe, **towards standardization** of intelligent systems	Scientific community, transportation and Infrastructure sectors, road operators
I. #New concept Participation to **C-Roads 2** and **C-Roads 3**; II. #New concept The network and the knowledge acquired led to other research **projects** (h2020 Esrium Project and Project with Movyon/Autostrade per l'Italia/Iveco). III. 11 C-Roads pilots as forum of discussion and exchange among authorities and road operators involved in the **11 MS pilots**. IV. Advance of career: **1 position as RTDA**	I. Reinforced knowledge on the current status of C-ITS deployments and lessons learnt from the project II. **Solid and trusted network** of contacts and effective cooperation with road-operators and car-manufacturers. #mobility #traffic management #transportation design #SH7_9 Energy, transportation and mobility #PE7_8 Networks (communication networks, sensor networks, networks of robots...)	Scientific in the research team: #2 strengthening human capital in research and innovation I. **High recognizability and prominent role** at National and International scale in **measuring impacts** of ITS/C-ITS technology on mobility II. **Advance of career**: 1 position as RTDA	Scientific community, transportation and Infrastructure sectors, road operators

Cascina 9 (scheda completa)
PI: Francesca Piredda, coordinator

Full title: Cascina 9 – Un progetto collaborativo per lo scambio di competenze, storie e produzioni creative fra attori del territorio

Duration: 21 months (2018 – 2019)

Program & specific program: Fondazione Cariplo – Bandi Territoriali 2017

Topic: Social innovation and inclusion, and CCIs

5 keywords: action-research, capacity building, social innovation, participatory design, storytelling

Issues/challenge: Create an **open, inclusive, resilient space (creative hub) in Municipio 9**, where cross-fertilization, exchanges of knowledge and among cultures are encouraged, in a perspective of socio-cultural inclusion and transformation. Build a place where to experiment favourable conditions for sharing of skills and encourage creative activity among the multiple actors involved (universities, cultural operators, schools, citizens – and **migrants** as a vulnerable group. Support the role of associations active in the area, as well as the dialogue between communities of different cultures.

Key idea and scope of the project: The project aims at (1) building a space for **social inclusion** across every boundary, overcoming barriers such as nationality, language, social status, background and expertise; (2) **capacity building & knowledge transfer**, encouraging co-creation among persons with different backgrounds and promoting wide inclusion and empowerment; (3) **Urban regeneration and economic boost** for Nuovo Armenia (CCI), and local associations, building virtuous synergies in the neighbourhood.

Cascina 9 (Piredda, coordinator)

OUTPUT	OUTCOME	IMPACT	TARGET
I. #Co-creation sessions #Co-design sessions **12 Co-design and 3 Co-creation activities** with partners and local actors (eg. engagement strategy, co-creation of the garden and the cascina spaces) ○ 12 co-design session for the strategy; ○ 3 co-creation activities in Cascina with interviews for co-creating the garden; II. #Workshop **6 Workshops** with **migrants** and design students @ School of Design to give form to their stories (miniatures and drawings) III. #Exhibition **1 Exhibition** "89 Luoghi. Geografie della migrazione e del radicamento" as result of co-creation between students of Design and Asnada, and partners, with presentation to the municipality and citizens	I. **Sharing of know-how and practices** with the ecosystem of local actors (third mission) II. The Cascina space (Nuovo Armenia) as a **creative hub** where multiple expertises coexist and intertwine #user centered design #SH3_1 Social structure, social mobility, social innovation #SH3_4 Social integration, exclusion, prosocial behaviour	Social: #6 Strengthening the uptake of research and innovation in society **Favouring capacity building** and **knowledge transfer** to the **local ecosystem** about the application of co-creation for social innovation and social inclusion, involving multiple stakeholders, and minorities and vulnerable groups among them	Civil society as the local actors: associations in education and CCI fields
I. #Construction of physical space (lab & building) **Space of Cascina redeveloped as Nuovo Armenia** (renovation and reorganisation), as a space open to the use and creative/cultural production by the communities and associations living in the area (beneficiaries, stakeholders). II. #Co-creation sessions #Co-design sessions **a total of 27** co-creation sessions that **engaged multi-level actors and stakeholders, including migrants and refugee,** for getting to know each others and planning future joint initiatives > as cafè foyer, open-air cinema, etc.. A. co-design session for the strategy = **12** B. co-creation sessions with interviews for co-creating the garden = **3** C. co-creation sessions for preparation of other activities = **3** D. workshops with migrants as activities conducted through co-creation for preparing the artifacts of the exhibition and the exhibition = **6** E. co-design activities in classroom (Com / PSSD) = **3** III. #Brand identity **Communication strategy to support the multicultural open-air summer cinema "Cinema di Ringhiera" @ Nuovo Armenia**: a palimpsest and review of international films from places of migration to discuss with the audience and stimulate multicultural dialogue	The Nuovo Armenia as an **accessible and inclusive space for all**, at disposal for cultural and social events and activities of the neighbor and its actors, especially associations. #urban spaces #user centered design #cultural and creative industries #SH7_4 Social aspects of health, ageing and society #SH3_1 Social structure, social mobility, social innovation	Social: #6 Strengthening the uptake of research and innovation in society (1) Improving the **quality of life** of the Dergano neighborhood; (2) reinforcing the **sense of belonging** of the community.	Civil society as citizens, associations and organisations
	Nuovo Armenia became a **social innovation ecosystem** that values different skills, expertise, and know-how, build on them in a systemic, sustainable way. #user centered design #co-design #design driven innovation #cross-cultural research #SH7_4 Social aspects of health, ageing and society #SH3_1 Social structure, social mobility, social innovation	Techno-economic: #8 Creating more and better jobs **Supporting and boosting the local economic ecosystem**, and activate virtuous behaviors among local actors, capable of pooling available skills.	Citizens, associations and organisations, SMEs of the quarter
	Nuovo Armenia became a **virtuous engine** of human and social relations, inclusive towards minorities and vulnerable groups. **Migrants and refugee are currently working** at the cafè foyer, developing connections with the context #urban spaces #design driven innovation #SH3_4 Social integration, exclusion, prosocial behaviour #SH3_8 Social policies, welfare, work and employment	Social: #6 Strengthening the uptake of research and innovation in society **Reinforcing social engagement, inclusion, and integration of migrants and refugee**, and other vulnerable groups	Migrants and refugee

Cascina 9 (Piredda, coordinator)

OUTPUT	OUTCOME	IMPACT	TARGET
I. #Co-creation sessions #Co-design sessions **15 working tables** as **co-creation moments** where to plan initiatives and activities with various local stakeholders: ○ 12 for the strategy; ○ 3+ in Cascina with interviews for co-creating the garden; II. #Guidelines #Tool Provision to the partner cultural operators (Nuovo Armenia and Asnada) of **guidelines and formats** for communicating activities/events favouring dialogue between cultures.	I. Nuovo Armenia's **activities are currently planned and co-created** with local stakeholders, engaging the community II. **Transfer of skills** on digital strategies **to cultural operators partners** (Nuovo Armenia, Asnada). #co-design #communication process #storytelling #SH3_12 Communication and information, networks, media #SH3_6 Social influence; power and group behaviour	Social: #6 Strengthening the uptake of research and innovation in society Empowering the local community **transferring skills on digital strategies to cultural operators partners,** engaging its actors in capacity building activities	Cultural associations and organisations
I. #Training sessions **Training of migrants and refugees** in the laboratory of Allestimenti and Prototipi (School of Design) during 6 workshops II. Collaboration **between migrants and refugees (students** of Asnada) and students of Design in 6 hands-on workshops	**Transfer of skills and know-how to the migrants and refugee of Asnada** #co-design #communication process #storytelling #SH3_4 Social integration, exclusion, prosocial behaviour	Social: #6 Strengthening the uptake of research and innovation in society **Empowering migrants and refugees** through activities of **capacity building** and knowledge transfer	Migrants and refugee
I. #Exhibition **Exhibition** "89 Luoghi. Geografie della migrazione e del radicamento": +500 visitors and press reviews	Establishment in the neighborhood of **counter-narrative of migration** against the hegemonic one #storytelling #communication process #SH5_8 Cultural studies, cultural identities and memories, cultural heritage	Social: #6 Strengthening the uptake of research and innovation in society **Increasing awareness** and **sensibilization towards the migrants/refugee experiences** in the neighborhood	Community of Dergano/Bovisa
I. #Scientific publication **1 open-access book chapter** II. #Event 1 Public **presentation** of the project results with Comune di Milano; more than 300 persons attended to the event	I. Dissemination of **findings** #reflective practice #co-design #storytelling #SH3_1 Social structure, social mobility, social innovation #SH3_4 Social integration, exclusion, prosocial behaviour	Scientific: #1 Creating high-quality new knowledge Reinforcing the diffusion of **co-design practices** for social engagement and/for inclusion of migrants	Scientific community
I. #Event #Exhibition **Nodi di Parole**, a room-sized installation (format) for a collaborative construction of shared meanings in relation to Cinema di Ringhiera; II. #Guidelines #Toolkit Format "Abitare le domande": **guidelines and toolkit** to sustain the conception of the activities, and provide guidance for communication III. #Software A **location-based game** with distributed narration: http://www.cascina9.polimi.it/leonardo-da-dergano/ > general description http://www.cascina9.polimi.it/wp-content/uploads/2019/03/Il-Codice-da-Dergano1.html > game IV. #Event with Dergano **childrens** for playing the location-based game	Involvement of students in the development of tools and activities that favour social engagement and mutual comprehension, resulting in **3 MSc theses** developed and **implemented** throughout the project #design education #cultural and creative industries #game design #stroytelling #SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies PE6_9 Human computer interaction and interface, visualisation PE6_8 Computer graphics, computer vision, multimedia, computer games	Social: #6 Strengthening the uptake of research and innovation in society Reinforcing attitudes of **social engagement** and/for inclusion of migrants **between HEI, local communities, cultural associations and organizations**	HEI, migrants, local communities, Cultural associations and organizations

Cascina 9 (Piredda, coordinator)

OUTPUT	OUTCOME	IMPACT	TARGET
I. #Analysis (Benchmarking/Comparative/ context analysis/etc) Findings from participant observation and questionnaire II. #Analysis (Benchmarking/Comparative/ context analysis/etc) Analysis of **dynamics** occurring in the context as a local ecosystem with multi-level actors > 1 chapter in book	Awareness about effective dynamics of social inclusion in co-creation activities #user centered design #design driven innovation #reflective practice #SH3_1 Social structure, social mobility, social innovation #SH3_4 Social integration, exclusion, prosocial behaviour	Scientific in the research team: #1 Creating high-quality new knowledge Reinforcing **knowledge and awareness** on how to apply co-creation and social innovation processes involving multiple stakeholders, minorities and vulnerable groups	Research team
I. #Workshops ##Co-creation/Co-design sessions 27 among workshops and working tables as co-creation moments where to plan initiatives and activities with various local stakeholders II. #Exhibition **Exhibition** "89 Luoghi. Geografie della migrazione e del radicamento"	i. New **tools and approaches** developed through the project, later used in other contexts of application (replication and scalability) #user centered design #design driven innovation #SH3_1 Social structure, social mobility, social innovation #SH3_4 Social integration, exclusion, prosocial behaviour	Scientific: #1 Creating high-quality new knowledge Further **exploring of a research approach** developing tools and methods **replicable and scalable** to other contexts	Research team
I. #Workshops #Co-creation/Co-design sessions 27 among workshops and working tables as co-creation moments where to plan initiatives and activities with various local stakeholders II. #Construction of physical space (lab & building) **Space of Cascina redeveloped as Nuovo Armenia** (renovation and reorganisation), as a space open to the use and creative/cultural production by the communities and associations living in the area (beneficiaries, stakeholders).	I. Interdisciplinary **collaboration** between academia, practitioners and associations which made it possible to systematize and connect knowledge on social inclusion and integration. II. Increased visibility of the research team in the local context among institutions and other possible stakeholders on the topic of social innovation and social integration #user centered design #design driven innovation #SH3_1 Social structure, social mobility, social innovation #SH3_6 Social influence; power and group behaviour	Social in the research team: #6 Strengthening the uptake of research and innovation in society Strengthening **collaboration with cross-sector actors** (researchers/academia, HEIs, associations/NGOs dealing with migrants and refugee, and cultural associations)	Research team

Eupolis (scheda completa)
PI: Marisa Galbiati, accordo collaborazione

Full title: Eupolis – Sviluppo di strategie digitali per la pubblica amministrazione

Duration: 3 years (2016 – 2018)

Program & specific program: Accordo di collaborazione con Eupolis per Regione Lombardia

Topic: digital strategies for public sector innovation

5 keywords: public administration, digital transformation, organisational change, digital strategy, educational programme

Issues/challenge: The project aimed at understanding and analysing the **existing communication and digital strategy within the PA**, both concerning (i) communications practices within and among departments, and (ii) communication practices towards citizens. The challenge was **define new strategies and practices related to digital communication and marketing**, answering the needs characterizing PAs who are dealing with **digital transformation**.

Key idea and scope of the project: Exploration and testing of **new techniques and languages for an effective digital communication** of the Public Administration, leading to important **organisational/institutional change** in terms of **digital transformation**. Hence: (1) Supporting, informing, contributing to the digital transformation in the PA; (2) capacity building, knowledge transfer, institutional change in the PA; (3) Co-designing an integrated education programme to effectively meet the PA needs with Eupolis (now Polis – Regione Lombardia), to train the Regione Lombardia staff

Eupolis (Galbiati, accordo collaborazione)

OUTPUT	OUTCOME	IMPACT	TARGET
I. #Co-creation/Co-design sessions **15 Co-design activities (meetings)** for engaging stakeholders in a thorough analysis of the PA needs in terms of digital transformation II. #Analysis (Benchmarking/Comparative analysis/etc) **Context analysis** supported by sentiment analysis among PA teams III. #Educational programme Design + implementation of an **integrated education programme** to effectively meet PA needs and support its digital transformation	**Stakeholder engagement** of Regione Lombardia teams and Eupolis in developing a course to effectively meet the needs and bring **innovation** in the PA #co-design #user centered design #SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Socio-cultural: #6 Strengthening the uptake of research and innovation in society **Strengthening knowledge transfer** on the topic of communication, digital strategy, digital transformation (from academy to public sector, and vice versa)	Research team as university, PA and its staff
I. #State of the art **Collection and dissemination** of innovative practices and excellences in the PA II. #Educational programme **Two courses on digital transformation** with a comprehensive set of activities, from lectures to hands-on and experimental projects attended by **different units** of Regione Lombardia	I. Awareness of the **various expertise**, competences, and know-hows of Regione Lombardia teams II. The PA gained awareness of benefits/opportunities from **synergizing different expertises** of the PA #user centered design #SH3_12 Communication and information, networks, media	Socio-cultural: #6 Strengthening the uptake of research and innovation in society I. **Favouring capacity building** and impacting on **power dynamics** among the PA depts for a better integration of competences in Regione Lombardia II. **Favouring organisational change** and better communication within Regione Lombardia towards increased efficiency and better exploitation of resources	PA (Regione Lombardia) and its staffs
I. #Educational programme #Workshop **Two courses on digital transformation and strategy of communication** with a comprehensive set of activities, from lectures to hands-on and experimental projects II. Identification and answer to **communication organizational issues** with a holistic view of the complex landscape of the PA III. Application of the **practices of digital positioning and digital strategy** in a public context	**Strict cooperation among triple helix actors:** academy, public sector, and SME as communication agency (Twig) Better understanding of how to **intertwine different expertise**, competences, and know-hows I. present within the Regione Lombardia as public sector II. from triple helix actors: academy + public sector + SME #SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Socio-cultural: #6 Strengthening the uptake of research and innovation in society **Contributing to overcoming a siloed mentality** with **knowledge transfer** among the triple helix actors	Academy + public sector + SME
	Better exploitation of internal know-hows in a **win-win logic:** improved communication among teams and with citizens #communication process #corporate social responsibility	Socio-cultural: #4 Addressing EU policy priorities and global challenges through research and innovation Reinforcing Regione Lombardia's knowledge on how to operationalize and apply **corporate social responsibility** in the PA	PA and its staff, and citizens
Knowledge from the project informed a book on *Digital transformation. Metodi e strumenti per guidare l'evoluzione digitale delle imprese attraverso design, marketing e comunicazione*	Contents and trajectories for a book on *Digital transformation. Metodi e strumenti per guidare l'evoluzione digitale delle imprese attraverso design, marketing e comunicazione* #communication process #SH3_12 Communication and information, networks, media	Scientific: #1 Creating high-quality new knowledge **Reinforcing cross-sector knowledge** for supporting digital transformation (communication strategies) in the PA sector > mitigating the **gap** between theory and practice	Scientific community, PA

Eupolis (Galbiati, accordo collaborazione)

OUTPUT	OUTCOME	IMPACT	TARGET
I. #Analysis (Benchmarking/Comparative analysis/etc) **Context analysis** supported by sentiment analysis conducted among some teams of Regione Lombardia II. Identification and development of **contents** for building course on **digital transformation** III. #Educational programme **Two courses on digital transformation** to Regione Lombardia	I. Emergence of a **fertile ground** where to grasp evidence-based, **foundational knowledge for policies** for digital transformation in Regione Lombardia, II. Support Eupolis as the regional Institute for Policy Support responsible for accompanying the **implementation of digital policies for the Region** #change management #SH3_12 Communication and information, networks, media #SH1_10 Management; strategy; organisational behaviour	Socio-cultural: #4 Addressing EU policy priorities and global challenges through research and innovation **Informing policies** for supporting a more efficient digital transformation in the Regione Lombardia, with potential of **replicability and scalability** of the solution	PA, connected institutes and bodies, policymakers and consultant on policy development (Eupolis)
I. #Educational programme Courses with hands-on activities involving staff from **various departments and teams**	I. Increased **awareness** of the skills and expertise present in the PA and its departments. #change management #SH3_12 Communication and information, networks, media #SH1_10 Management; strategy; organisational behaviour	Socio-cultural: #6 Strengthening the uptake of research and innovation in society Increasing **PA knowledge** on how to **strategically plan the communication** of/within the organization, leveraging existing skills and expertise	PA and its staff
I. #Analysis (Benchmarking/Comparative analysis/etc) Analysis of the **dynamics** occurring within the PA through active listening, participant observation II. #Co-creation/Co-design sessions **Co-design activities** with the PA staff for informing the course, and design the trajectories of the collaboration III. #Workshop **Dissemination** of the findings to the PA through 2 meetings with various groups	I. Awareness of PA dynamics, issues/needs II. Reinforced knowledge on how to co-design contents in a field, that of the public sector, that was not so explored before #co-design #user centered design #communication process #corporate social responsibility #SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Scientific in the research team: #2 Strengthening human capital in research and innovation I. Reinforcing understanding of **social innovation processes and digital transformation in the PA** II. Favouring the operationalization of digital strategies for PA (new domain) III. **Favouring the development of a solid relationship** with the actors and stakeholders, further collaborations, between the **higher education domain and the public sector**	Research team + Eupolis team

PUDCAD (scheda completa)
PI: Fiammetta Costa, partner

Full title: PUCAD – Practicing Universal Design Principles in Design Education through a CAD-Based Game (link game)

Duration: 36 months (2017 – 2020)

Program & specific program: Erasmus+, Cooperation for innovation and the exchange of good practices, Strategic Partnerships for higher education

Topic: Game-based learning/New learning and teaching methods & Universal Design Principles

5 keywords: Universal Design; New learning and teaching methods; Disabilities and special needs; Open and distance learning; Game-based learning

Issues/challenge: The number of **people with disabilities** is increasing, together with those who suffer social exclusion. EU intends to fight isolation from the start as childhood, when people with disabilities quit studying because they cannot find a proper school to enroll. In this concept, design helps **lifting all barriers in between for their inclusion to society** – starting from the schools.

Key idea and scope of the project: The project aims to **widen the awareness of universal design principles and inclusive design to future architects and interior designers by exploring and practicing innovative methods**. It **educates future designers to develop innovative solutions for more accessible environments**, allowing people with disabilities to participate in activities, by designerly avoiding barriers to their access. The project develops a **CAD-based Game to be used in design curriculum** as a practical interface for not only learning about these principles and criteria but also for exploring them on their designs.

PUDCAD (Costa, partner)

OUTPUT	OUTCOME	IMPACT	TARGET
I. #Workshop #Co-creation/Co-design sessions 4 **co-design workshops** with 120 students with different backgrounds (architecture, interior design, and game design) and from different Countries **work collaboratively**, and **exchanged knowledge**.	Cross-fertilization among different design disciplines and backgrounds #user centered design #interdisciplinarity #design for subjective well-being #spatial design #ergonomics #furniture design #co-design #SH7_4 Social aspects of health, ageing and society #SH3_2 Inequalities, discrimination, prejudice	Socio-cultural: #2 Strengthening human capital in research and innovation **Favouring capability building** in HEIs students	Students; Scientific community/HEI
I. #Workshop #Co-creation/Co-design sessions 4 **co-design workshops** with 120 students from different Countries II. #Training sessions 3 teachings for the consortium partners and HEIs students student to train them on the topic		Socio-cultural: #3 fostering diffusion of knowledge and Open Science Reinforcing **collaboration**, knowledge and experience exchange to include reasonings on **special needs** in design education across borders	
I. #Workshop #Co-creation/Co-design sessions 4 **co-design workshops** with 120 students from different Countries II. #Software **PUDCAD video game** puts U.D. principle into practice III. **Contents developed** for the courses IV. #Platform #e-learning courses Open access **E-learning platform** and **E-learning Course** sharing knowledge gained to professors involved/lecturing in accessibility courses in design faculties V. 1000 persons were reached out the project activities VI. #Conference 1 divulgative conference aimed at a wide audience VII. #Training sessions 3 teachings for the consortium partners and HEIs students student to train them on the topic	I. Widened practice and knowledge of **inclusive/universal design principles** in interior/architectural design education #SH7_4 Social aspects of health, ageing and society II. Ease the process of **attaining to joint universal design solutions** to **reduce/lift barriers** hindering the inclusion of people with special needs in society #SH5_4 Visual and performing arts, film, design and architecture #design for all #design driven innovation #games for change #ergonomics #furniture design #co-design	Socio-cultural: #6 Strengthening the uptake of research and innovation in society I. Strengthening the **impact and the quality of design education** implementing principles of Universal Design II. Strengthening the **awareness** that reflection on **accessibility and its impact** on social exclusion need to be included in design education curricula	Scientific community/HEI, Students, civil society
#Platform **E-learning platform** with contents about inclusive/universal design principles in interior/architectural design education	Research outputs shared in an open and accessible way #PE6_10 Web and information systems, database systems, information retrieval and digital libraries, data fusion #SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies #digital platforms #ergonomics #furniture design	Socio-cultural: #3 fostering diffusion of knowledge and Open Science Sharing **open access knowledge** on the topic of universal design principles	Scientific com., civil society
#Software Development of **PUDCAD video game**, experienced by 120 students in 4 codesign workshops (the game was developed through a series of co-design workshops, going from concept to testing), where 100 academicians were also involved	I. Educational material enriched through entertaining learning techniques II. Game implemented into the design education curriculum for learning and applying U.D. principles #design for all #game design #games for change #virtual models & virtual reality #interaction design #PE6_9 Human computer interaction and interface, visualisation #SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Socio-cultural: #6 Strengthening the uptake of research and innovation in society Enriching design curricula spreading new engaging **approaches in CAD-based design** development process	Students

PUDCAD (Costa, partner)

OUTPUT	OUTCOME	IMPACT	TARGET
I. #Software Game software: **PUDCAD video game** for design education II. #Software #Guidelines #Website Infrastructure supporting the video game implementation in HEIs: website, design manual, data exchange, e-learning platform, etc	Tools that support and guide students to learn how to design a totally accessible high school including fixture and furniture design. #computer aided design #virtual models & virtual reality #interdisciplinarity #PE6_8 Computer graphics, computer vision, multimedia, computer games	Techno: #7 Generating innovation-based growth Supporting Universal Design Principles in HEIs through **video game (software)** and its supporting infrastructure	HEIs, Students, Educators
➔ #Conference **3 scientific conferences** with over 300 participants, 12 keynotes, 103 presentations ➔ #Scientific publication **2 book chapters** (national publishers: FrancoAngeli and DEI) on the game-based system use, and **4 proceedings** articles in International conferences (one Springer) exploring the CAD-based game and its implementation.	I. PUDCAD **reached and gathered academic people** interested in CAD-based design, UD, game-based learning for educational purposes via scientific papers and conferences #SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies II. POLIMI guaranteed quantity and quality of publications, proposing/defining paper subjects, managing resources and selecting conferences and peer reviewed publication #design education #user centered design #design for subjective well-being #design driven innovation #games for change #game design	Social: #6 Strengthening the uptake of research and innovation in society Exchanging **cross-sector scholarship and know-how** on how to embed UD principles in design education and HEIs	Scientific community
		Scientific: #1 Creating high-quality new knowledge Contributing to the discourse on the advancement of **CAD-based design modelling** and its implementation, and the use of **game-based learning** for including universal design principles in design education	Students, educators, researchers
#Conference #Scientific publication #Curricula/Learning modules **Conferences, publications, online resources** (video game, platform for the e-learning) developed through a **synergic collaboration between partners, NGOs and HEIs**	Competences of partners and stakeholders from different sectors are bridged throughout the project activities, building collaboration across domains #interdisciplinarity #design education #design driven innovation #SH7_4 Social aspects of health, ageing and society #SH3_4 Social integration, exclusion, prosocial behaviour	Social: #6 Strengthening the uptake of research and innovation in society **Favouring networking and reinforcing synergic cooperation** between HEIs and NGOs dealing with disability	Organisations and HEIs

PUDCAD (Costa, partner)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
	I. **Experience** of **educational policies** II. **Experience of Erasmus+ Project**	Scientific in the research team: I. Reinforcing knowledge on **educational policies** II. Gaining experience on **Erasmus+ Project**	Research team
I. **Teachings** in 3 other universities as part of the project activities II. #workshop 4 workshops organized in as many universities III. #conference 3 conferences & publications	Increased **visibility** of the research team in the local and national context among institutions and other possible stakeholders	Scientific: Developing and further **exploring of a research team approach**	Research team
I. **Invitation** to be speakers at conferences/seminars II. **Cross-sector knowledge** on design of interactive digital environments III. #New concept Invited to be partner for the **funded project** "Rappresentazione avanzata del patrimonio culturale per gli interni museali//simulazione e visualizzazione per la comunicazione della cultura giordana"	I. Interdisciplinary **collaboration** between department's researchers, which made it possible to systematize and connect knowledge on drawing, interior design, interaction design, game design, social inclusion and learning methodologies. #interdisciplinarity	Scientific in the research team: #2 Strengthening human capital in research and innovation Strengthening **collaboration with cross-sector actors** (researchers/academia, HEIs, associations/NGOs)	Research team

Lighting Design nell'industria (scheda completa)*
PI: Maurizio Rossi, accordo collaborazione

Duration: 2014 - 2015

Program & specific program: MSE-ENEA (progetto C.1 "Risparmio di energia elettrica nei settori: civile, industria e servizi" del Piano Annuale di Realizzazione 2013 per la Ricerca di Sistema Elettrico - Rif. LLU/MR/2014/05)

Topic: Industrial Lighting, Sustainability & Well-being

5 keywords: Industrial lighting, sustainability, well-being, visual comfort, working fatigue

Issues/challenge: The **industry sector** presents a **great variety and nature of the visual requirements, and high context-dependency** of the lighting solutions developed: the study and definition of requirements for optimal lighting of a particular production activity are strictly connected to the environment. Possibility to employ **more sustainable and advantageous technologies** while improving worker **well-being** and **working efficiency**.

Key idea and scope of the project: Following user-centered design principles, the research evaluates the **impact and possible application scenarios of new LED technologies** in Industrial Lighting, where key aspects are worker productivity, visual comfort in terms of correct illuminance levels, containment of glare and signs of worker fatigue. Hence, the project **defines a lighting system for industrial applications** that meets the criteria of: (1) **energy saving**, (2) **reduced maintenance**, and (3) **improved visual comfort** for workers (well-being).

Lighting Design nell'industria (Rossi, accordo collaborazione)

OUTPUT	OUTCOME	IMPACT	TARGET
I. #Analysis (Benchmarking/Comparative analysis/etc) **Analysis** of the contexts/environments of application II. #Impact evaluation **Evaluation of the impact** and **possible application scenarios** of new LED technologies in Industrial Lighting III. #Recommendation **Recommendations** (**report**) to plan optimized light distribution ensuring visual comfort and better performances	**Understanding** on how to **optimize light distribution and efficiency** while ensuring glare containment and a satisfactory level of visual comfort, reduced risk of accidents, improved efficiency in visual checks and production #spatial design #lighting product design #lighting design #safety and prevention #PE8_10 Manufacturing engineering and industrial design	Socio-cultural: #6 Strengthening the uptake of research and innovation in society Improving the **working environment impacting on work safety and efficiency – new design of lighting system**	Industry field (stakeholders), and workers (beneficiaries)
I. #Prototype **Completion of the "light engine"** (HUMBLEBEE) developed by ENEA II. #Prototype **4 Prototypes** developed for **task lighting** for industrial working stations. **Research, development and prototyping of the luminaires systems** for improving the lighting in the industry, providing light distribution and efficiency while ensuring **glare containment** and **visual comfort** for workers III.	I. More sustainable lighting solutions in the industry working environment II. Better vision conditions, reduced risk of accidents, improved efficiency in visual checks and production. #sustainable lifestyle #lighting product design #lighting design #safety and prevention #PE8_10 Manufacturing engineering and industrial design #PE7_9 Man-machine interfaces	Techno-economic: #7 Generating innovation-based growth Contributing to the **development of optimized and more sustainable lighting** ensuring workers' visual comfort and safety, while improving working efficiency	Industry field (stakeholders), and workers (beneficiaries)
		Socio-cultural: #6 Strengthening the uptake of research and innovation in society Improving the **quality of life** of industrial workers	Industrial workers (beneficiaries)
I. #Recommendations #Technical report Recommendations (**technical report**) to plan optimized light distribution ensuring visual comfort and better performances II. #Workshop **3 internal workshops** during the project and the **technical report** (wider audience).	I. Academic/scientific **knowledge** is brought to the field (**third mission**) II. **Dissemination of the project insights and findings** to the partners and to the community of reference #design driven innovation #lighting product design #lighting design #safety and prevention #PE8_10 Manufacturing engineering and industrial design	Socio-cultural #6 Strengthening the uptake of research and innovation in society **Favouring capacity building and knowledge transfer** from academy to industry,reinforcing practices of **joint cooperation among the triple helix**, against siloed mentality Scientific #3 Fostering diffusion of knowledge and Open source Providing **open access to knowledge on the relevance of sustainable and better lighting**, and its implication in manufacturer production efficiency and safety	Industry field, ENEA, university, policymakers
I. #Prototype Completion of the "light engine" (HUMBLEBEE) II. #Prototype 4 prototypes. Development of an luminaires system	Strict **collaboration/cooperation with ENEA** and cross-fertilization among sectors and triple-helix actors #prototyping #PE8_10 Manufacturing engineering and industrial design		
I. #Recommendation #Technical report Recommendations (**technical report**)	I. Partners gained knowledge to be used to nurture **recommendation for future R&D and possibly lighting policy** > Knowledge and findings shared with the **Ministero dello Sviluppo Economico** #lighting design #PE8_10 Manufacturing engineering and industrial design	Socio-cultural: #4 Addressing EU policy priorities and global challenges through research and innovation Supporting competitiveness and sustainable development of **national lighting policy** for improving working conditions (long term)	Policymakers and industry field
I. #Impact evaluation **Evaluation of the impact** and **possible application scenarios** of new LED technologies in Industrial Lighting II. #Recommendation **Recommendations** (**report**) to plan optimized light distribution ensuring visual comfort and better performances III. #Prototype **Completion of the "light engine" (HUMBLEBEE)** internally developed by ENEA IV. #New concept	**Reinforced cooperation with ENEA** that is a recurrent partner for various projects, at least 2 more with ENEA - Centro Ricerche Casaccia About 90% of the funding contributed to **research fellows positions > RTDB (Siniscalco)** The project contributed to a research present in the **ADI Design index 2021** #lighting design #design driven innovation #PE8_10 Manufacturing engineering and industrial design	Scientific in the research team: #2 Strengthening human capital in research and innovation **Strengthening the cooperation with ENEA, elaborating new strategies for photometric measurement in laboratories (lab Luce)** Techno-economic: #8 Creating more and better jobs **New working position**	Research team

SISCODE (scheda completa)
PI: Alessandro Deserti, coordinator

Full title: SISCODE – Society in Innovation and Science through CODEsign / Co-Design for society in innovation (link cordis)

Duration: 3 years (1 May 2018 – 30 April 2021)

Program & specific program: H2020 – SwafS-13-2017: Integrating Society in Science and Innovation – An approach to co-creation

Topic: Responsible Research and Innovation & Co-creation

5 keywords: responsible research and innovation, co-creation, policy-making, innovation ecosystems, design-driven innovation

Issues/challenge: Understanding of (1) the **logics and dynamics of co-creation,** considering that it occurs in **various cultural, societal and regulatory frames**; (2) the **conditions/circumstances favouring or hampering, preventing, constraining the real implementation** of the solution and its impact on the policy landscape.

Key idea and scope of the project:
Experiment with co-creation as a way to **make R&I more responsible, integrating civic society in STI policy making**.
The focus and impact are twofold: experimenting with co-creation ecosystems under different societal, cultural, organisational, institutional, and regulatory conditions as **(1) innovation communities** where to grasp effective dynamics, and **(2) playgrounds for policy makers** where to gain knowledge on how co-creation and design methodologies can cross-fertilise RRI/STI practices and policies.

SISCODE 1/4 (Deserti, coordinator)

OUTPUT	OUTCOME	IMPACT	TARGET
I. #Knowledge base #Analysis (Benchmarking/Comparative analysis/etc) **Knowledge base** on co-creation practices and **comparative analysis** on co-creation methodologies in RRI practices II. #Analysis (Benchmarking/Comparative analysis/etc) Dynamics at the micro, meso, macro scales are derived from the observation of the **10 pilots**, compared and systematized III. #Analysis (Benchmarking/Comparative analysis/etc) Analytical triangulation of results from action research + case studies + biographies + pilots IV. #Scientific publication **1 book** by Springer on the experimentation of design methods and tools to co-create for RRI, presenting the project pilots as case studies; 1 **article** in the Taylor & Francis **Journal** "Policy Design and Practice" introducing co-creation as a framework to operationalize RRI; **4+2 (via PF) conference proceedings; 2 book chapters**, by 1 national publishers (FrancoAngeli), and 1 publisher for sustainability topics in German-speaking countries (oekom).	I. Experimentation of cross-sector co-creation methods to develop RRI and effective solutions, considering matters of **transferability and scalability** of effective RRI processes and policies; II. Evidence on the effectiveness of co-creation and the adoption of design methodologies and tools for a better integration of society in STI (articles) #co-design #design driven innovation #design thinking #case studies #interdisciplinarity #SH3_14 Social studies of science and technology #SH3_1 Social structure, social mobility, social innovation	Scientific: #1 Creating high-quality new knowledge I. Increasing **knowledge of co-creation** processes in diverse European contexts	Scientific community, RRI field
		Scientific: #3 fostering diffusion of knowledge and Open Science I. Reinforcing knowledge on the **role of stakeholder engagement** in influencing the outcomes of co-creation and co-production processes	Scientific community, RRI field, civic society
I. #Methodology **Design methodology** for **operationalize** co-creation in RRI and **guidance for building co-creation ecosystems** based on the different institutional, cultural and regulatory frameworks observed through cases, biographies and real life experimentations II. #Co-creation sessions #Co-design sessions **21 Co-creation and 32 Co-design activities** in the 10 pilots as real-life experimentations building innovation ecosystems A. Workshops 'Dialogue Researchers&Practitioners' >> **3 Co-Creation** B. Workshop a conferenze >> **6 Co-Creation** C. Workshop all'interno del consorzio per definizione attività ecc >> **18 Co-Design** D. Workshop all'interno del consorzio per formazione >> **14 Co-Design** E. Workshops con coinvolgimenti di esterni, focus groups etc >> **12 Co-Creation**	I. Systematization of RRI processes and tools, taking into account **local factors and conditions** II. Knowledge on how to **adapt and reconfigure solutions** within specific contexts, allowing their wide adoption (context dependency) #change management #co-design #design thinking #prototyping #reflective practice #product service system #SH3_14 Social studies of science and technology #SH3_1 Social structure, social mobility, social innovation	Socio-cultural: #6 Strengthening the uptake of research and innovation in society I. **Providing guidance** to **cope with organizational barriers and resistance to change** preventing concrete implementation of RRI solutions and policies II. Contributing to **mitigating the gap between ideation and implementation** in the co-creation of RRI policies and solutions, contributing to shift from a top-down approach to a multi-level governance. III. Favouring the introduction of a **pragmatic culture** a largely theoretical sector (RRI)	RRI practitioners and researchers; innovation communities
	I. Processes of learning-by-doing in real-life experimentations for researchers, innovators, and policy makers II. Prototypes used as **boundary objects** enabling diverse actors and stakeholders, and favouring the **adaptation of solutions to diverse social, cultural, and regulatory contexts** #change management #co-design #design driven innovation #design thinking #case studies #interdisciplinarity #prototyping #reflective practice #product service system #SH3_14 Social studies of science and technology #SH3_1 Social structure, social mobility, social innovation	Socio-cultural: #5 Delivering benefits and impact through research and innovation missions I. Contributing to overcoming researchers, innovators, and policy makers prejudices and preventions on co-creation in STI	RRI practitioners and researchers; innovation communities; policymakers
		Socio-cultural: #6 Strengthening the uptake of research and innovation in society I. Providing guidance towards **better ways to engage stakeholders & civic society** in STI	RRI practitioners and researchers; innovation communities

SISCODE 2/4 (Deserti, coordinator)

OUTPUT	OUTCOME	IMPACT	TARGET
I. #Framework #Tool #Impact evaluation **Assessment framework** with **4 operational tools** (lab spreadsheets, self-assessment questionnaire, supporting team dashboard and scenario set up) to evaluate the **organizational change** at the organization level	**Impact assessment** of how co-creation in a RRI frame impacted on organizations/institutions reusable for other RRI projects #SH3_14 Social studies of science and technology #SH1_10 Management; strategy; organisational behaviour	Socio-cultural: #6 Strengthening the uptake of research and innovation in society Reinforcing knowledge on how co-creation for RRI can impact **organizations (learning & change)** Scientific: #2 Strengthening human capital in research and innovation Strengthening knowledge on **assessing** the impact of co-creation in **organizational/institutional change**	Scientific community, RRI field, organizations
I. #Toolkit/Toolbox 1 **toolbox for co-creation** with design tools II. #Framework Development of a **set of dimensions for observing co-creation** ecosystems III. #Framework Setting up a **learning framework** for the innovation of **policymaking** IV. #Recommendation **Recommendations** on how to support the implementation of co-creation engaging society and reaching the maturity level V. #e-learning courses #MOOC #Guidelines learning hub, MOOC for policy makers, interactive guidebook; VI. #Workshop 53 workshops & other initiatives: ○ 3 ws 'Dialogue Researchers & Practitioners' ○ 6 Conference ws ○ 18 ws within the consortium for definition of activities etc ○ 14 ws within the consortium for training ○ 13 ws with external involvement, focus groups etc	Spread awareness about the benefits of co-creating RRI and support sharing of knowledge #SH3_14 Social studies of science and technology #SH3_1 Social structure, social mobility, social innovation	Socio-cultural: #6 Strengthening the uptake of research and innovation in society I. Providing guidance to concretely support the **implementation** of co-creation in **RRI solutions and policies**, effectively engaging society (multi-level stakeholders). II. **Strengthening cross-sector capacity building** an knowledge transfer on the application of design methods for co-creation in the RRI domain III. Improving the **capacity to design appropriate citizen science and other co-creation** processes in RRI field IV. Contributing to mitigate the **gap** between theory and practice (practitioner and researchers) in STI domain	RRI field, innovation communities, policy makers
I. #Analysis (Benchmarking/Comparative analysis/etc) **Comparative analysis** of existing cases and experimentations as case studies, with a specific focus on drivers and barriers > deliverable II. #Framework Development of a **set of dimensions for observing co-creation** ecosystems III. #Recommendation **Recommendations** on how to improve their maturity level IV. #Scientific publication1 article in the Taylor & Francis **Journal** "Policy Design and Practice" introducing co-creation as a framework to operationalize RRI	Evidence-based knowledge about how **local factors** and conditions can influence the successful deployment of co-creation #change management #co-design #design driven innovation #reflective practice #case studies #SH3_14 Social studies of science and technology #SH3_1 Social structure, social mobility, social innovation	Scientific: #6 Strengthening the uptake of research and innovation in society Increasing the **understanding of dynamics** and circumstances that favor or hinder **co-creation** for RRI	Scientific community, RRI field
I. #Co-creation/Co-design sessions Intensive **prototyping** in the **pilot experimentation**, II. #Event Dissemination of results to RRI communities and civil society with presentations and events	I. Involvement of society in developing RRI solutions: co-creation in innovation ecosystems II. **Prototypes** strengthening culture of co-design, enabling alignment of diverse actors, adapting to contexts. #co-design #design driven innovation #design thinking #interdisciplinarity #prototyping #product service system #SH3_14 Social studies of science and technology #SH3_1 Social structure, social mobility, social innovation	Socio-cultural: #6 Strengthening the uptake of research and innovation in society **Contributing to diffuse the culture of co-creation** in research and innovation communities and in the **industry** Contributing to better integrating the voice of society in science and innovation.	innovation communities, RRI field, civil society

SISCODE 3/4 (Deserti, coordinator)

OUTPUT	OUTCOME	IMPACT	TARGET
I. #Framework **Learning framework** for the innovation of **policymaking** II. #Repository #MOOC #Guidelines #Workshop #Co-creation sessions Co-design sessions learning hub, MOOC, guidebook; workshops; other initiatives III. #Scientific publication 1 book by Springer, situating the project in the context of co-creation for RRI, presenting the project framework, its pilots as case studies IV. #Conference Final conference V. Results and lessons learnt from the project are shared through dissemination events	Design methodology and knowledge brought in the contexts of RRI and policy-making for STI #change management #co-design #design thinking #reflective practice #decision making #SH3_14 Social studies of science and technology	Socio-cultural: #6 Strengthening the uptake of research and innovation in society Favouring the **uptake** of co-creation to effectively **engage society** in science, technology and innovation.	innovation communities, RRI field, civil society
I. #Scientific publication 1 article in journal, proceedings and 1 book II. #Workshop #Co-creation/Co-design sessions Citizen engagement in events (13 workshops, panels, etc) for an effective inclusion of society in STI	I. Design methodologies brought into a whole new context II. Findings critiqued and led to criticism of an approach to citizen engagement rooted in Swafs context. #co-design #design driven innovation #design thinking #interdisciplinarity #SH3_14 Social studies of science and technology	Scientific: #1 Creating high-quality new knowledge Increasing **cross-fertilization between Design and RRI** field by introducing new drivers for responsible innovation in STI	RRI field, innovation communities
#Co-creation/Co-design sessions Real life experimentations (10 pilots) as an **interactive playground for/with policymakers** where diverse actors and level of governance meet, reflect, and learn from each other	The playground as an intermediate interactive layer that favours a **bi-directional exchange** among the various levels of **policymaking** and its regulatory frameworks, scientific field, and civil society. #change management #co-design #design thinking #SH1_10 Management; strategy; organisational behaviour #SH3_8 Social policies, welfare, work and employment	Socio-cultural: #4 Addressing EU policy priorities and global challenges through research and innovation I. Connecting different levels of **policymaking** for reinforcing knowledge and spreading approaches to **multi-level governance** II. Contributing to overcoming a siloed approach for better integrating co-creation in policymaking	policymakers
#Software The pilot BODYSOUND by Polifactory produced a **software** for carrying out exercises for supporting the motoric reactivation of children with cerebral palsy.	#game design #design for subjective well-being #LS7_12 Health care, including care for the ageing population #PE6_9 Human computer interaction and interface, visualisation #PE6_8 Computer graphics, computer vision, multimedia, computer games	Techno-economic.#7 Generating innovation-based growth Supporting therapists and families of impaired children for home rehabilitation.	Therapists and families of impaired children

SISCODE 4/4 (Deserti, coordinator)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
#networking **Increased networking** and participation in the **ecosystem of SwafS projects** **Reaching out to other H2020 projects** and increased recognizability	Increased knowledge sharing/transfer with SwafS/RRI prj #interdisciplinarity #design driven innovation #SH3_14 Social studies of science and technology	Scientific in the research team: #2 Strengthening human capital in research and innovation **Reinforcing collaboration** between a multi-actors ecosystem at local-to-national level (policy makers, municipalities, associations) with STI and RRI actors, to boost knowledge uptake in policy-making	Research team
I. **Co-creation** activities II. Workshops, Conferences & publications #Workshop #Co-creation/Co-design sessions #Conference #Scientific publication	Increased **visibility** of the research team at national and international scale	Scientific in the research team: #3 fostering diffusion of knowledge and Open Science **Further developing a research group approach**, feeding the debate on co-creation practices in STI policy making with open-access relevant cross-disciplinary knowledge, considerate of it multi-level actors (researchers/academia, policy-makers, institutions, associations/NGOs) #1 Creating high-quality new knowledge Advancing reasoning on the need to include other forms of innovation in the science-based and tech-oriented RRI field, to sustain the concrete uptake of RRI in diverse contexts.	Research team
I. **Invitation** to be speakers at conferences/seminars II. Relevant publications on the debate of co-creation practices in STI policy making and the potentialities and limitations of design for policy III. Networking with relevant actors and stakeholders IV. **Cross-sector knowledge** on the topic of RRI V. Pilots as an operational and strategic playground where policy-makers, citizens, and innovative communities meet VI. Invited to be partner for the **funded project** #new concept	I. Interdisciplinary **collaboration** across sectors II. Involvement of policy-makers III. Systematization, operatization and cross-breeding knowledge on various topics #design driven innovation #design thinking #interdisciplinarity #reflective practice #change management #SH3_14 Social studies of science and technology #SH3_1 Social structure, social mobility, social innovation		
#networking **Increased networking** and participation in the **ecosystem of SwafS projects** **Reaching out to other H2020 projects** and increased recognizability	Increased knowledge sharing/transfer with SwafS/RRI prj #interdisciplinarity #design driven innovation #SH3_14 Social studies of science and technology	Scientific in the research team: #2 Strengthening human capital in research and innovation **Reinforcing collaboration** between a multi-actors ecosystem at local-to-national level (policy makers, municipalities, associations) with STI and RRI actors, to boost knowledge uptake in policy-making	Research team

FIRE (scheda completa)
PI: Paolo Ciuccarelli, partner

Full title: FIRE – Fighting Illicit firearms trafficking Routes and actors at European level

Duration: 2 years (December 2014 – November 2016)

Program & specific program: DG Home Affairs within the Prevention of and Fight against Crime (ISEC)

Topic: Illicit firearms trafficking and data knowledge

5 keywords: illicit firearms trafficking, policy, fighting crime, prevention, mapping, data knowledge

Issues/challenge: FIRE tackles the urgent matter of **identifying and mapping the information on the illicit trafficking of firearms** (henceforth ITF) available at European level, analysing its routes, exchange markets and actors at an European level.

Key idea and scope of the project: FIRE analyses illicit trafficking in firearms (ITF) in the 28 EU MSs, determining the information that can be collected by **future EU policy initiatives** to:

1. Analyse the **main dimensions of ITF in the EU:** routes, markets, actors, dynamics, etc.
2. Present and analyse the **EU regulatory framework** with a specific focus on the 2015 EC Proposal for amending the Firearms Directive, its loopholes, and the unintended criminal opportunities it could produce.
3. Develop a **set of recommendations** to fight and prevent ITF at European level.

FIRE (Ciuccarelli, partner)

<table>
<tr><th>OUTPUT</th><th>OUTCOME</th><th>IMPACT</th><th>TARGET</th></tr>
<tr><td>I. #Data collection (repository) Collection and analysis of data available from open sources (e.g. newspaper articles and police and customs press releases)
II. #Analysis (Benchmarking/Comparative analysis/etc) Comprehensive analysis of ITF routes, exchange markets and actors at European level.</td><td rowspan="2">I. Analysis and representation of the main dimensions of ITF in the EU
II. Scraping articles consented to track down the amount of crimes committed using illegal weapons, as well as the involved people
III. Techniques of scraping implemented to search web and dark web
IV. New knowledge for coping with illicit guns for a number of purposes (criminal activity, private protection, leisure)
#data visualization #safety and prevention #mapping #interdisciplinarity
#SH3_12 Communication and information, networks, media</td><td>Socio-cultural: #6 Strengthening the uptake of research and innovation in society
Building knowledge of ITF logics, actors, and channels: comprehensive understanding of both the different stages and processes that drive ITF, and the harm that illicit firearms produce.</td><td>Scientific community, law enforcement agencies</td></tr>
<tr><td>#Software Scraper: Semi-automated process to scrape the web (also the darknet), as well as to collect and cluster local newspaper articles from the 28 countries members of the EU
#Analysis (Benchmarking/Comparative analysis/etc) Report; no publications</td><td>Scientific/Technologic: #9 Leveraging investment in research and innovation
Favoring knowledge transfer across sectors, also entering into a new research context: the dark web.</td><td>Scientific community</td></tr>
<tr><td>#Reccomendations Knowledge derived from the analysis informed:
● recommendations on how to improve the fight against and the prevention of illicit trade and firearms flows.
● recommendations to advance Counties' security agendas</td><td>I. Improved awareness and evidence-based knowledge on firearms transfers
II. Existing data were collected and visualized, becoming relevant information
#data visualization #information design
#SH3_8 Social policies, welfare, work and employment</td><td>Socio-cultural:
#4 Addressing EU policy priorities and global challenges through research and innovation
I. Informing the policy framework to deal with and fight ITF
II. Reinforcing knowledge on firearms transfers as a foreign policy instrument to set achievable and tangible security requirements and objectives</td><td>Policy makers and governments, Firearms Expert Group</td></tr>
<tr><td>I. #Software Scraper that diggs the web and darknet marketplaces as sources of illicit firearms: cross-sectoral solution useful to multilevel governance addressing prevention, investigation and mitigation of impacts of criminal acts, including of new/emerging types.
II. #Datasets with all the occurrences mapped by the project
III. #Platform Web platform (fireproject.eu/explore) as a results of the research, publicly displayed on a web platform as a unique and EU-wide map of the situation at the time of the project.</td><td>I. Unique access point to knowledge that before was distributed and unrelated.
II. Support tool for law enforcement agencies (LEAs) and prosecutors
#data visualization #digital platforms #information design #interdisciplinarity
#SH3_8 Social policies, welfare, work and employment
#PE6_9 Human computer interaction and interface, visualisation</td><td>Socio-cultural:
#6 Strengthening the uptake of research and innovation in society
Impacting on EU security by informing the setting of tangible objectives towards a global reduction in firearms flows.</td><td>Policy makers, law enforcement agencies and prosecutors, Firearms Expert Group</td></tr>
</table>

FIRE (Ciuccarelli, partner)

OUTPUT	OUTCOME	IMPACT	TARGET
I. #Platform **Web platform (fireproject.eu/explore)** as a **support tool** for law enforcement agencies (LEAs) and prosecutors II. #Analysis (Benchmarking/Comparative analysis/etc) #Datasets **Comprehensive analysis** of the issue and a review of its main information and data	I. diffused data are gathered and turned into visualisations that favour understanding of the situation and sense-making on the topic of illicit trafficking of firearms II. Synergic cross-sector and multidisciplinary **collaboration** to fight a common and urging societal threat. #safety and prevention #SH3_8 Social policies, welfare, work and employment #PE6_10 Web and information systems, database systems, information retrieval and digital libraries, data fusion	Socio-cultural: #6 Strengthening the uptake of research and innovation in society **Bridging scholarship from different disciplines** to provide new knowledge out of data spread online	Law enforcement agencies, Experts in analysing/fighting ITF
	Knowledge and information is brought to policymakers and relevant stakeholders, becoming of use to **elaborate strategies** #decision making #safety and prevention #SH3_8 Social policies, welfare, work and employment	Socio-cultural: #4 Addressing EU policy priorities and global challenges through research and innovation Informing/providing indications for future **initiatives, policies, strategies and decision-making** on ITF to reduce the lethal impact of firearms illicit traffic.	Policy makers, law enforcement agencies, and prosecutors
#datasets Repurpose software and applications in a condition of limited available knowledge.	I. The combination of original datasets and effective visual interfaces motivated the main partner **to establish a systematic relationship with design**, as a discipline and as a practice II. New opportunities of interdisciplinary collaboration between different domains, systematizing and connect knowledge from various fields #interdisciplinarity #SH3_12 Communication and information, networks, media	Scientific in the research team: #1 Creating high-quality new knowledge I. Knowledge and the skills acquired have been **applied in other contexts** #3 fostering diffusion of knowledge and Open Science II. Strengthening the position of the research lab as a unique partner in data-intensive research projects.	Research group

Edu4FT (scheda completa)
PI: Colombi, partner

Full title: Edu4FT - Education for Fashion Tech: Interdisciplinary Curriculum for Fashion in the Digital Era (link)

Duration: 3 years (2017)

Program & specific program: KA2 - Cooperation for Innovation and the Exchange of Good Practices KA203 - Strategic Partnerships for higher education

Topic: Fashion Tech + Education

5 keywords: Fashion-Tech, Design Process, Creativity and Culture, Digital Technologies, Innovative Curricula

Issues/challenge: EDU4FashionTech aims to develop a **fashion-tech curriculum for fashion designers** blending fashion, design education with digital skills and digital manufacturing capabilities. **Supporting innovation and creativity** through partnership and i**nter- and trans-disciplinary approaches**, and strengthening the role of higher education regionally. Enhancing the **quality and relevance of students' knowledge and skills**. Open and innovative practices in a **digital era**.

Key idea and scope of the project: In particular, the project works on: (1) Developing digital capabilities next to design skills; (2) Enhancing of craftsmanship skills hybridizing them with digital manufacturing; (3) Providing technological insights enabling designers to work with scientists, computer-engineers and biologists; (4) Equipping designers with collaborative design and innovation capabilities to deliver disruptive products and product/services; (5) Mastering co-creation and user-driven innovation processes; (6) Strengthening capabilities to interpret socio-technological trends, consumer insights and narratives; (7) Building industry-relevant transferable skills; (8) Enhancing 21st-century skills.

Edu4FT (Colombi, partner)

OUTPUT	OUTCOME	IMPACT	TARGET
I. #scientific publication Benchmarking report II. #toolkit Teachers' toolkit III. #learning modules Learning units IV. #workshops 3 workshops events for students	**Revision of the curriculum of the Master's Degree in Design for the Fashion System**, introducing the coverage of contemporary issues, such as the integration of the fashion system with the world of technology, wearables and smart textiles. #wearable technologies #digital manufacturing #materials #design education #fashion design SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Technological/economic: #8 creating more and better jobs **Favouring the employability of design students in fashion design** by improving their skill-set with fashion-tech awareness.	• Company in the sector • Entrepreneurs and other relevant professionals • Today students as future employees
	I. **Knowledge of fashion-tech** topic, business, and technology disciplines in education and entrepreneurship #change management #new craftmanship #design education #fashion design SH1_9 Industrial organisation; entrepreneurship; R&D and innovation II. **Multi-disciplinary and international collaboration** of different cohorts of students coming from different universities, working jointly and stimulating a process of learning-by-doing between students and students and teachers #interdisciplinarity #design education SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies III. Promotion of **innovative teaching methods** #design education SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Societal: #6 strengthening the uptake of r&i in society **Strengthening the impact and the quality of design education** in order to get a mutual reinforcement and to widening the visibility and academic influence.	• Project's partner • Individual participant: teachers/trainers and students • Company in the sector
I. #platform Community platform II. #educational programme Tuning document III. #workshops 3 workshops events for students	Cross-fertilization among different disciplines (arts and science/engineer) and backgrounds (fashion, digital technology, wearable, textile, material) #wearable technologies #digital manufacturing #materials #new craftmanship SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Scientific: #3 fostering diffusion of knowledge and Open Science **Reinforcing collaboration and synergies** between university and entrepreneurs through knowledge transfer and cross-sector exchange within the fashion-tech industry.	• Individual participant: teachers/trainers and students • Company in the sector • Entrepreneurs and other relevant professionals
I. #scientific publication The publication "Education for Fashion-tech" is the output that supports the strategic vision of the wider definition of fashion-tech ("edited" publication that generated 6 book chapters) II. #collection of data #analysis Benchmarking report III. #educational programme Tuning document	The project contributes to the structuring of the **interpretation of fashion-tech in a more comprehensive way**. Through the project, it is understood and demonstrated that the definition of **fashion-tech is much broader and holistic** than the traditional market. #fashion design #design driver innovation #interdisciplinarity #phenomenological research SH3_14 Social studies of science and technology	Scientific: #1 creating high quality new knowledge **Creating knowledge** on the culture of cross-fertilization on fashion-tech topic in academic and company fields.	• Academic partner • Other academic audience (that support and nurture the vision)
		Societal: #4 addressing EU policy priorities and global challenges through r&i **Informing the development of future policies** towards an entrepreneurial action-plan for the modernization of Higher Education.	• Academic audience • Company in the sector • Entrepreneurs and other relevant professionals

Edu4FT (Colombi, partner)

OUTPUT	OUTCOME	IMPACT	TARGET
#scientific publication The publication "Education for Fashion-tech" is the output that supports the strategic vision of the wider definition of fashion-tech ("edited" publication that generated 6 book chapters)	**Expansion of the definition of fashion-tech** and the consequent inclusion of different focuses on transdisciplinary themes #phenomenological research #interdisciplinarity SH3_14 Social studies of science and technology	Scientific: #1 creating high quality new knowledge **Creating new knowledge and expanding the definition of "Fashion-Tech".** The reflection led to the funding of other competitive research projects (e.g. FT-Alliance).	• Research group • Academic audience
#scientific publications #toolkit #learning modules #workshops #educational programme #collection of data #analysis In general **all the project's output**	Reinforcement of effective collaboration with other international partners (collaboration that was then continued in other funded projects) #interdisciplinarity SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Scientific: #3 fostering diffusion of knowledge and Open Science **Raising transdisciplinary knowledge and improving the reputation** of the research group at national and European level.	• Research group • Academic audience
	The project has made it possible to further expand the group of juniors connected to the specific topic of the project, who then extended their observations to broader areas as well. #metadesign PE8_10 manufacturing engineering and industrial design	Scientific: #2 strengthening human capital in research and innovation **Reinforcing group knowledge and expanding the research team a**nd subsequently attracting a Ph.D student.	• Research group
		Technological/economic: #8 creating more and better jobs **Increasing of the number of offered opportunities** for early career researchers in the fashion-tech area.	• Design Department • Research group

Fashion SEEDS (scheda completa)
PI: Colombi, partner

Full title: Fashion SEEDS: Fashion Societal, Economic & Environmental Design-led Sustainability

Duration: 3 years (09/2018 - extended 11/2021)

Program & specific program: KA2 - Cooperation for Innovation and the Exchange of Good Practices KA203 - Strategic Partnerships for higher education

Topic: Sustainability + Fashion Design + Education

5 keywords: Fashion Design Education, Transformation, Fashion Design for Sustainability, Design thinking, Innovative Curricula

Issues/challenge: FashionSEEDS aims to develop a **holistic framework for embedding sustainability into higher education fashion design curricula** supporting their transformation. **Developing skills and curricula relevant to the labour market and societal needs** in order to fill the gap in the provision of sustainability teaching and learning in fashion at higher education level. **Building inclusive and connected systems and supporting the civic and social responsibility** of students and institutions. **Contributing to innovation ensuring education and research** are mutually reinforcing, and strengthening the role of institutions in their local and regional environments.

Key idea and scope of the project: The focus is on innovative best practices to design-led sustainability education. (1) Increasing the quality of fashion BA/MA programmes, better aligned with the sector skills needs and the employment prospects. (2) New open educational resources and learning materials for fashion-sustainability education. (3) Enhancing educators and students relevant fashion designers skills and capabilities. (4) Provide professional development opportunities and tools relating to fashion sustainability. (5) Enhance 21st-century skills.

Fashion SEEDS (Colombi, partner) - NOT CONCLUDED

OUTPUT	OUTCOME	IMPACT	TARGET
I. #repository #learning module #educational programme Design-led sustainability learning resource repository II. #scientific publication Scientific publication: 3 conference papers and 1 upcoming "Future Skills Foresight 2030" (eds.) with chapters made by Polimi authors III. #events #publication Informative resources and events to nurture interest in the subject in a wider audience (e.g. Benchmarking Report)	Exchange of fashion knowledge for sustainability approaches. #sustainable lifestyle #design education #fashion design Introduction and coverage of contemporary issues in the fashion curricula, such as better integration of the fashion system with sustainability and circularity issues. #sustainable lifestyle #design education #fashion design #interdisciplinarity PE8_11 Environmental engineering, e.g. sustainable design, waste and water treatment, recycling, regeneration or recovery of compounds, carbon capture & storage SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Scientific: #3 fostering diffusion of knowledge and Open Science **Reinforcing collaboration and synergies** between university (educators and students) and entrepreneurs through knowledge transfer and cross-sector exchange.	• Individual participant: teachers and students • Company in the sector • Entrepreneurs and other relevant professionals
I. #repository #learning module #educational #programmeDESIGN-LED SUSTAINABILITY LEARNING RESOURCE REPOSITORY: this output has been developed over three years of research, reflection and co-design by the partners. II. #scientific publication Future Skills Foresight 2030 Report		Societal: #4 addressing EU policy priorities and global challenges through r&i **Informing the development of future policies** towards an entrepreneurial action-plan and regional innovation score for the modernization of Higher Education.	• Academic audience • Company in the sector • Entrepreneurs and other relevant professionals
I. #benchmarking #publication Benchmarking report II. #tools #methods All tools and materials developed in the project (FashionSeeds Cards, FashionSeeds Design Canvas) III. #repository #learning module #educational programmeDesign-led sustainability learning resource repository	Development of teaching methods and materials inspired by the Quadruple Helix approach. #design education #fashion design SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Scientific: #2 strengthening human capital in research and innovation **Strengthening the impact and the quality of design education** by developing the field of fashion for sustainability, enhancing and expanding academic visibility and influence	• Project's partner • Company in the sector • Individual participant: teachers and learners
I. #tools FashionSeeds Design Canvas	Possible/probable integration of the tools of FashionSeeds tools in LeNS (Vezzoli's project) - currently on evaluation. #life cycle design #interdisciplinarity #design education SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies		
I. #benchmarking Benchmarking report II. #scientific publication Scientific publications: 3 conference papers and 1 upcoming book "Future Skills Foresight 2030" (eds.) with chapters made by Polimi authors	Demonstration of the importance of the design approach - able to vision and manage complexity in multi-level systems - in the field of sustainability for the fashion industry. #change management #sustainable lifestyle #corporate social responsibility #life cycle design #fashion design PE8_11 Environmental engineering, e.g. sustainable design, waste and water treatment, recycling, regeneration or recovery of compounds, carbon capture & storage PE8_10 manufacturing engineering and industrial design	Scientific: #1 creating high quality new knowledge **Developing a research and learning new pathway** in the Fashion field, based on the dimensions of cultural, social, economic and environmental sustainability (holistic).	• Academic audience • Entrepreneurs and other relevant professionals
#tools #methods In general **all the project's tools and methods**	Creation of new fashion products that meet global sustainability criteria #sustainable lifestyle #life cycle design #fashion design PE8_11 Environmental engineering, e.g. sustainable design, waste and water treatment, recycling, regeneration or recovery of compounds, carbon capture & storage	Societal: #5 delivering benefits and impact through r&i missions **Fostering new sustainable behaviors** in consumers, who gain access to products derived from the new holistic view of sustainability.	• Company in the sector • Entrepreneurs and other relevant professionals • Wide public
I. #educational programme #workshops #event Informative resources and events to nurture interest in the subject in a wider audience: the faculty training workshop; the participation in the "Digital Multilogue On Fashion Education" event. II. #scientific publication: 3 conference papers and 1 upcoming book "Future Skills Foresight 2030" (eds.) with chapters made by Polimi authors	Demonstration of the potential offered by the mutual collaboration between Fashion and Sustainability seen in a holistic way. #sustainable lifestyle #cultural and creative industries PE8_11 Environmental engineering, e.g. sustainable design, waste and water treatment, recycling, regeneration or recovery of compounds, carbon capture & storage	Societal: #6 strengthening the uptake of r&i in society **Strengthening the perception** of the importance the sustainability in the Fashion field, as an holistic element (environmental, economic, social and cultural).	• Academic audience • Teachers and learners • Company in the sector • Wide public interested in the issues

Fashion SEEDS (Colombi, partner) - NOT CONCLUDED

OUTPUT	OUTCOME	IMPACT	TARGET
I. #benchmarking Benchmarking report II. #event participation in the "Digital Multilogue On Fashion Education" event. III. #scientific publication Scientific publications: 3 conference papers and 1 upcoming book "Future Skills Foresight 2030" (eds.) with chapters made by Polimi authors	Identification of possible strategic connection between fashion and sustainability, that enable the establishment of a new approach to the topic. #phenomenological research #interdisciplinarity SH3_14 Social studies of science and technology	Scientific: #2 strengthening human capital in research and innovation **Reinforcing group knowledge and expanding the research team** and subsequently attracting a Ph.D student funded by general scholarship.	• Research group • Design Department
#repository #learning module #educational programme #scientific publication #publications #events #tool #tool #tool #methods #benchmarking #workshop In general **all the project's output**	I. Partnership of the Fashion in Process team with Wemanage Group #interdisciplinarity SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies II. Participation in other competitive research calls and third mission activities. #interdisciplinarity	Scientific: #3 fostering diffusion of knowledge and Open Science **Raising transdisciplinary knowledge and improving the reputation** of the research group at the national and European level in order to start the whole fashion design for sustainability strand.	Research group
#repository #learning module #educational programme #scientific publication #publications #events #tool #tool #tool #methods #benchmarking #workshop In general **all the project's output**	To start third mission activities on awareness raising towards fashion sustainability in a holistic way that includes environmental, economic, social and cultural dimensions. #environmental design #corporate social responsibility #cultural and creative industries #metadesign PE8_11 Environmental engineering, e.g. sustainable design, waste and water treatment, recycling, regeneration or recovery of compounds, carbon capture & storage PE8_10 manufacturing engineering and industrial design	Scientific: #1 creating high quality new knowledge **Creating knowledge on Fashion Sustainability,** and then integrating the new research theme by the group involved, which includes the theme of Sustainability (new) with the skills already present in the Fashion field.	• Academic audience • Research group • Design Department

MaDe (scheda completa)
PI: Rognoli, partner

Full title: Materials Designers. Boosting Talent Towards Circular Economies (link)

Duration: 2 years (2019)

Program & specific program: Creative Europe - 'Support for cooperation projects related to the European Year of Cultural Heritage 2018' - EACEA Call 35/2017

Topic: Circular materials

5 keywords: materials knowledge, material interpretation, material narratives, circular economy, speculative design

Issues/challenge: MaDe's approach **considers materials design and materials making as a remarkable driving force behind innovation** and responds to the question: **What if we used creativity to provide better circular economy solutions through the ideation of new materials?** n turn, the strategic approach of MaDe comprises the following programme priorities as per EACEA 32/2017: "Capacity building: Training and education", and "Transnational mobility".

Key idea and scope of the project: The objectives of MaDe program are as follows: (1) to explore and obtain a better understanding of how can materials' design contribute to attaining a more circular economy; (2) to spot the European materials designers emerging scene; (3) to provide European students from different creative areas with the appropriate skills to enhance their career as Specialist Materials Designers; (4) to foster the career development and recognition of emerging materials designers; (5) to connect new materials with designers and the industry through a digital platform; (6) to ensure the widest impact for MaDe's educational resources and main outcomes through public presentations.

MaDe (Rognoli, partner)

OUTPUT	OUTCOME	IMPACT	TARGET
I. #literature review result Preparatory activities for setting-up the workshops II. #workshops #training Two of six one-week intensive workshops (with 12 participants each)	Creation of a replicable and scalable innovative education format for the spread of experimental material designer knowledge. #materials #design education SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies PE8_10 Manufacturing engineering and industrial design	Societal: #6 strengthening the uptake of r&i in society Enriching design curricula by spreading new experimental approaches for the implementation of knowledge and skills in the material designer field	• Creative, designers, students, • Companies and R&D actors • Academic audience
		Societal: #6 strengthening the uptake of r&i in society Fostering new sustainable and circular approaches in materials designer, who create the substance from which the products of the future will be made	• Creatives, designers: EU Undergraduate, Graduate students and Professionals from Design and Creative spheres that do not have training in the identified skill gaps.
I. #workshops #training Two of six one-week intensive workshops (with 12 participants each) II. #internship #matchmaking "MaDe Challenges": virtual mentoring activities and internship collaboration for the project selected in Milan	Implementation of learning-by-doing process in training activities #design education #prototyping SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Societal: #6 strengthening the uptake of r&i in society Deploying design-related material culture to overcome Specialist Materials Designers skills gaps.	Creatives, designers: • EU Undergraduate • Graduate students and Professionals from Design and Creative spheres that do not have training in the identified skill gaps.
I. #workshops #training Two of six one-week intensive workshops (with 12 participants each) II. #repository MaDe Book, an inventory of best practices that provides a better undestanding on how can materials' design contributes to attain a more circular economy. III. #exhibition (virtual) "MaDe Galleries" and MaDe Films" as visual narratives of the project as a whole	Cross-fertilization among different disciplines (arts and science/engineer) and backgrounds #interdisciplinarity #cross-cultural research SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Scientific: #3 fostering diffusion of knowledge and Open Science Reinforcing collaboration and synergies between university (educators and students) and entrepreneurs through knowledge transfer and cross-sector exchange on new category of sustainable materials	• Companies and R&D actors • Academic audience
I. #scientific publications: 4 book chapters; 1 conference paper (peer-reviewed) II. #repository MaDe Book, an inventory of best practices	Improved academic reputation in addressing "materials designers" theme #materials #phenomenological research #design education PE5_6 New materials: oxides, alloys, composite, organic-inorganic hybrid, nanoparticles	Scientific: #1 creating high quality new knowledge Reinforcing knowledge on the culture of cross-fertilization on materials designers topic in academic and educational fields.	• Companies and R&D actors • Academic audience
I. #repository MaDe Book, an inventory of best practices II. #exhibition (virtual) "MaDe Galleries" and MaDe Films" as visual narratives of the project as a whole III. Participation in the Instagram account deployment	Demonstration of the effectiveness of tinkering and DIY in the materials field to a broad and diverse audience. #materials #local craft #prototyping PE8_10 Manufacturing engineering and industrial design	Societal: #6 strengthening the uptake of r&i in society Strengthening the importance of exploring new materials and related possibilities even by non-experts of chemical and physical materials properties	• Wide audience • Academic audience • Company • Professionals from design and creative spheres
#repository MaDe Book, an inventory of best practices that provides a better undestanding on how can materials' design contributes to attain a more circular economy.	In general all the project's outcome #materials #local craft #prototyping #interdisciplinarity #cross-cultural research	Scientific: #3 fostering diffusion of knowledge and Open Science Sharing open access knowledge on the topic of materials designers	• Wide audience • Academic audience • Companies and R&D actors

MaDe (Rognoli, partner)

OUTPUT	OUTCOME	IMPACT	TARGET
I. #scientific publications: 4 book chapters; 1 conference paper (peer-reviewed) II. #repository MaDe Book, an inventory of best practices	The results of the project have been fundamental for the construction of a new publication (book chapter "Defining the DIY materials approach in Material Experience vol.2") on DIY materials. #materials #interdisciplinarity PE8_10 Manufacturing engineering and industrial design PE5_6 New materials: oxides, alloys, composite, organic-inorganic hybrid, nanoparticles	Scientific: #1 creating high quality new knowledge Creating knowledge on “Materials Designers” topic. The reflection led to the drafting of a PRIN proposal under evaluation and nurturing scientific spin-offs.	• Research group • Academic audience
#literature review result #workshops #training #internship #matchmaking #repository #exhibition #scientific publications In general **all the project’s output**	The project has made it possible to further expand the group of juniors connected to the specific topic of the project, who then extended their observations to broader areas as well. #materials #phenomenological research PE8_10 Manufacturing engineering and industrial design PE5_6 New materials: oxides, alloys, composite, organic-inorganic hybrid, nanoparticles	Scientific: #2 strengthening human capital in research and innovation Reinforcing group knowledge and expanding the research team and subsequently attracting a Ph.D student	• Research group • Design Department

POD (scheda completa)
PI: Trabucco, coordinator

Full title: P.O.D. Plurisensorial Device to prevent occupational disease

Duration: 2 years (2015)

Program & specific program: SAF€RA - T2.1 Smart and safe working environments

Topic: Product design for personal protective equipment

5 keywords: environmental monitoring, personal protective equipment, respiratory diseases, wearable device, working environment

Issues/challenge: POD aims at **creating a wearable interface for monitoring the workers' health status and surrounding environment potential risk sources**, giving him/her useful real time information and/or alarms, as well as allowing data transmission with a body gateway enabling to share information and a possible high level risk management service. The aim is to improve the health condition of workers of coating factories by two actions: (1) **increase the awareness of health condition** by monitoring environment and personal indicators in order to define the working conditions based on objective data; (2) **motivate to use the mask** by improving the comfort of use and redesign the mask or part of it and choose better materials.

Key idea and scope of the project: The key idea behind the POD project was to design a wearable system made up of three elements: (1) **a smart shirt for the measurement** of the main physiological parameters (heart rate and breathing); (2) **a protective mask** (mandatory for workers) **with the integration of air quality detection sensors**; (3) **a bracelet** or body gateway **to receive signals from the devices and alert the user** (vibration, lights, text) about his/her conditions and air quality.

POD (Trabucco, coordinator)

OUTPUT	OUTCOME	IMPACT	TARGET
#patent 3 patents reached: I. two at the national level II. one at the European level	I. **A product service system patentable that meets the objectives of prevention of worker health**, but is also in line with their behaviors and needs. #product design #usability #safety and prevention #smart systems #wearable technologies #design for subjective well-being #envisioning LS7_12 Health care, including care for the ageing population II. **Exploitation of the patent** resulting from the project **as a license** (goal of applied research with the BLS company) #product development #smart systems PE8_10 Manufacturing engineering and industrial design	Technological/economic: #7 generating innovation-based growth **Sustaining technology transfer** between diversified sectors (engineering, medicine)	• Academic audience • Manufacturers and employers • Company in prevention sector • IPD manufacturers • Insurance Companies
#scientific publications Scientific publications: I. 3 conference papers (HCI conferences) II. 1 article (in The Design Journal) III. 3 patents	**To prove** the role of design as discipline into the field of persuasive technologies to a wider scientific community. #sustainable lifestyle #design driven innovation PE8_10 Manufacturing engineering and industrial design	Scientific: #3 fostering diffusion of knowledge and Open Science Strengthening **the design for behavioural change theme in** the technical domain of the "persuasive technologies"	• Academic audience • Manufacturers and employers • Decision Makers
	Demonstration of the effectiveness of "design through prototyping" **scientific and projectual results** to a broad and diverse audience to support the importance of prototype use. #prototyping PE8_10 Manufacturing engineering and industrial design	Scientific: #3 fostering diffusion of knowledge and Open Science **Fostering the importance of research through prototyping** to a broad audience (professionals, academics, decision makers).	
#exhibitions POD attended events to nurture interest in the subject in a wider audience: I. Project Exhibition @Human Factor Day 2017 (29 May) Milan. II. POD @ Maker Faire Rome 2017 III. POD @ Fabbrica dei Brevetti (2019)	**Demonstration** of the effectiveness of **applied research** through prototypes to third parties. #prototyping #user centered design SH3_6 Social influence; power and group behaviour	Societal: #6 strengthening the uptake of r&i in society Strengthening **the importance of the research-based innovative solutions** created, to a broad audience both general and specialized.	• Wide audience • Academic audience • Manufacturers and employers • Company in prevention sector • Insurance Companies
I. #state of the art The State of the Art of the IPD, II. #Co-creation/Co-design sessions #focus group Co-design workshops with users and lead users III. #prototype A working prototype IV. #patent The resulting patents	To study and develop a system able to effectively **monitor and protect the worker, who was actively involved** until the validation of the proposed design solution. #welfare #safety and prevention #smart systems #design for subjective well-being #product development #product design LS7_12 Health care, including care for the ageing population	Societal: #5 delivering benefits and impact through r&i missions **Fostering better quality and safety at work**, and also increasing the overall **workers' health condition**.	• Users/workers • Company that uses IPD • Company in prevention sector
		Societal: #6 strengthening the uptake of r&i in society **Increasing and/or building new awareness in workers towards personal protection and care** to promote job security and reduce the impact in the healthcare industry.	

POD (Trabucco, coordinator)

OUTPUT	OUTCOME	IMPACT	TARGET
I. #state of the art State of the Art of the IPD II. #Co-creation/Co-design sessions #focus group Co-design workshop with users and lead users III. #prototype Working prototype (verified with users)	The project has made it possible to **further expand the group of juniors** connected to the specific topic of the project, who then extended their observations to broader areas as well. #phenomenological research SH3_6 Social influence; power and group behaviour	Scientific: #2 strengthening human capital in research and innovation **Reinforcing** group knowledge and **expanding the research team** and subsequently **attracting a Ph.D student** (on "behavioural change by persuasion" topic)	Research group
#state of the art #scientific publications #Co-creation/Co-design sessions #focus group #patent #exhibitions In general **all the project's output**	The **relationship with the project's partner company was strengthened** and Comftech continued to be involved in other competitive and non-competitive research activities of the group. #interdisciplinarity PE8_10 Manufacturing engineering and industrial design	Scientific: #3 fostering diffusion of knowledge and Open Science **Raising transdisciplinary knowledge** and **improving the reputation** of the research group at the national and European level.	• Research group • Design Department
	The project created an **effective collaboration with TU Delft's materials research group**; a collaboration that was later carried over into other funded projects #interdisciplinarity PE8_10 Manufacturing engineering and industrial design		
#scientific publications #strategic playground Scientific publications: I. 3 conference papers II. 1 article (in The Design Journal) III. 3 patent		Scientific: #1 creating high quality new knowledge **Creating knowledge** on "Design through prototyping" topic. The reflection led **to the funding of the FARB "The Role of the Prototype"** (Ferraris).	Research group and Academic audience

NESTORE (scheda completa)
PI: Andreoni, coordinator

Full title: Nestore - Non-intrusive Empowering Solutions and Technologies for Older people to Retain Everyday life activity (link) (cordis)

Duration: 1 Sept 2017 - 28 Febr 2021 (extended to 30 April 2021)

Program & specific program: H2020-EU.3.1.4. - Active ageing and self-management of health;
SC1-PM-15-2017 - Personalised coaching for well-being and care of people as they age

Topic: Product design for healthcare

5 keywords: healthy ageing, virtual coaching system, co-design, intelligent decision support system, multi-domain monitoring system

Issues/challenge: NESTORE developed an innovative, multidimensional, personalized coaching system to support healthy ageing by:
(1) generating and sustaining motivation to take care of health; (2) suggesting healthy nutrition and personalized physical and mental coach, as well as social interaction, to prevent decline and preserve wellbeing. The main concept is to develop NESTORE as a friend and a coach able to support both the individual and the social dimension.

Key idea and scope of the project: The key innovation element in NESTORE is the design of "pathways of interest" able to provide hints and services according to the user's preferences, while ensuring that the overall wellbeing and health status is maximised. Methodological strengths of NESTORE approach are: (1) co-design research adopted throughout the project; (2) thorough system validation with respect to usability, acceptability and effectiveness; (3) development of a sustainable ecosystem involving citizens and stakeholders for the co-production of wellness.

NESTORE (Andreoni, coordinator)

RESULTS (OUTCOME & OUTPUT)	*IMPACT*
I. **theoretical background** and **knowledge base;** II. **iterative** co-design process for the development, testing and implementing of Nestore System and the process itself; III. **triangulation** of literature review, findings from the project, and case studies to produce **recommendations and lesson learnt,** useful for improving the project itself and future actions and activities; IV. **continuous involvement and engagement** of users and stakeholders (FAS) through the entire project lifespan; V. dissemination of the **findings from the project, and from the real-life experimentations** > articles and an open-access book discussing the different aspects of the project development and the co-design process.	Scientific: • Better understanding of **co-design processes** for developing strategies, methods and tools (including multi-domains approach and ICT solutions) to better and support the healthy ageing. • Better understanding of strategies, methods, and tools to measure **usability, acceptance and user experience** of ICT solutions for elderly
Development of a Data Management Plan that complies with both the guidelines and requirements imposed by the GDPR, and, the use of data (personal and health) needed by the System.	Scientific: Development of strategies and methods to manage personal data in research and innovation processes, that complies with the GDPR
I. comparative analysis of existing cases and experimentations as case studies, II. development of a comprehensive list of policy recommendations based on the lessons learnt in the project; III. dissemination through multiple channels and means	Scientific & Socio-cultural : **Guidance** to promote healthy ageing through multi-domains coaching activities and ICT solutions
I. development of co-design focus group, to understand users' behaviors, attitudes, expectations toward ICT; II. development of a set of relevant indicators to understand the social determinants of ICT solutions' acceptance.	Scientific & Socio-cultural: Better understanding of **social determinants, factors and conditions**.
Bi-directional exchange of experiences and lesson learnt, networking activities and participation in the joint activities of PM-15 funded projects	Scientific: Knowledge sharing/transfer and increased exchanges among those who are active in **PM-15 projects**
Establishment of a **bi-directional exchange** among researchers and the FAS (Forum of Advisory Stakeholder), for developing and evaluating the system and its role in supporting healthy ageing.	Scientific & Socio-cultural: Improve the approach and the strategies to promote healthy ageing across a wide range of population
I. development of the co-design actions in 4 countries involved in the project; II. spreading the results of the co-design actions both inside the consortium and outside; III. Iterative development, testing, and refinement of prototypes to support the co-design actions	Scientific & Socio-cultural: **Diffuse the culture of co-design** and bridge the gap between **ideation and implementation** of ICT solutions for elderly, to support them in their ageing through a coaching system
Establishment of a **bi-directional exchange** among project partners and FAS (Forum of Advisory Stakeholder) for developing, implementing and evaluating the reliability and impact of the Nestore approach and system.	Scientific & Socio-cultural: Improve the approach and the strategies to promote healthy ageing across a wide range of population
Within the project activities, a fully functioning prototype of the system (e.g. app, devices, coaching strategies, etc.) was developed and tested by almost 60 users in their real environment.	Techno-economic & Socio-cultural Build an integrated coaching system for supporting healthy ageing.
I. Effective **collaboration with the project partners** that was later carried over; II. Development of a strong expertise in the **GDPR's issues for healthcare**; III. Development of a **strong knowledge related to usability**, **acceptance** and **UX** evaluation strategies for **ICT**; IV. Development of a **strong expertise in the project coordination and management**.	Scientific impact for the **research group**

NESTORE (Andreoni, coordinator)

OUTPUT	OUTCOME	IMPACT	TARGET
I. #analysis #knowledge base **theoretical background** and **knowledge base;** II. #co-design sessions #training session **iterative** co-design process for the development, testing and implementing of Nestore System and the process itself; III. #literatue review results #state of the art #recommendations #lesson learnt **triangulation** of literature review, findings from the project, and case studies to produce **recommendations and lesson learnt,** useful for improving the project itself and future actions and activities; IV. #usability test **continuous involvement and engagement** of users and stakeholders (FAS) through the entire project lifespan; V. #scientific publication #technical report dissemination of the **findings from the project, and from the real-life experimentations** > articles and an open-access book discussing the different aspects of the project development and the co-design process.	Evidence-based knowledge about how xxxx Experimentation of cross-sector xxx method to develop xxx effective solutions, considering matters of transferability and scalability for xxx I. LS7_12 Health care, including care for the ageing population	Scientific: #1 creating high-quality new knowledge Increasing knowledge of healthy ageing design-based solutions in diverse European context Socio-cultural: #6 Strengthening the uptake of research and innovation in society • Better understanding of **co-design processes** for developing strategies, methods and tools (including multi-domains approach and ICT solutions) to better and support the healthy ageing. • Better understanding of strategies, methods, and tools to measure **usability, acceptance and user experience** of ICT solutions for elderly	Txt
#datasets Development of a Data Management Plan that complies with both the guidelines and requirements imposed by the GDPR, and, the use of data (personal and health) needed by the System.	I. lis	Scientific: #3 Fostering diffusion of knowledge and open source Improving the development of strategies and methods to manage personal data in research and innovation processes, that complies with the GDPR	Txt
I. #case studies #analysis comparative analysis of existing cases and experimentations as case studies, II. #recommendationts #lesson learnt development of a comprehensive list of policy recommendations based on the lessons learnt in the project; III. #publication #event #scientific publication dissemination through multiple channels and means	I. lis	Socio-cultural: #5 Delivering benefits and impact through research and innovation missions **Guidance** to promote healthy ageing through multi-domains coaching activities and ICT solutions	Txt
I. #focus group #usability test Development of co-design focus group, to understand users' behaviors, attitudes, expectations toward ICT; II. #datasets #scientific publication Development of a set of relevant indicators to understand the social determinants of ICT solutions' acceptance.	I. lis	Scientific & Socio-cultural: #3 Fostering diffusion of knowledge and open source Better understanding of **social determinants, factors and conditions**.	Txt
#lesson learnt #networkingBi-directional exchange of experiences and lesson learnt, networking activities and participation in the joint activities of PM-15 funded projects	I. list	Scientific: #3 Fostering diffusion of knowledge and open source Knowledge sharing/transfer and increased exchanges among those who are active in **PM-15 projects**	Txt
I. #impact evaluation Establishment of a **bi-directional exchange** among researchers and the FAS (Forum of Advisory Stakeholder), for developing and evaluating the system and its role in supporting healthy ageing. II. #impact evaluation Establishment of a **bi-directional exchange** among project partners and FAS (Forum of Advisory Stakeholder) for developing, implementing and evaluating the reliability and impact of the Nestore approach and system.	Impact assessment of how xxxx in xxx frame impacted on xxx (for other projects #SH1_10 Management; strategy; organisational behaviour	Socio-cultural: #6 Strengthening the uptake of research and innovation in society Improving the approach and the strategies to promote healthy ageing across a wide range of population Technological/economic: #9 leveraging investment in research and innovation **Fostering the development of a design-led innovation strategy** through the use of xxx	Txt
I. #workshop #co-design session development of the co-design actions in 4 countries involved in the project; II. #guidelines #event #publication spreading the results of the co-design actions both inside the consortium and outside; III. #prototype Iterative development, testing, and refinement of prototypes to support the co-design actions IV. #brand identity #website development of the project's brand identity	Evidence on the effectiveness of xxx and adoption of design methodologies and tools for a better integration of xxx solution within society Process of learing by doing in real-life experimentations for researchers, innovators and users	Socio-cultural: #6 Strengthening the uptake of research and innovation in societ **Diffuse the culture of co-design** and bridge the gap between **ideation and implementation** of ICT solutions for elderly, to support them in their ageing through a coaching system Techno-economic: #7 Generating innovation-based growth **Diffuse the culture of co-design** and bridge the gap between **ideation and implementation** of ICT solutions for elderly, to support them in their ageing, through a coaching system	

Design from Ideas to Market (scheda completa)
PI: Maffei, coordinator

Duration: 16 months (Nov 2014 - Feb 2016)

Program & specific program: Bando Creatività: Eventi e Luoghi per l'innovazione nella moda e nel Design

Topic: Making Interactive Furniture & SMEs

5 keywords: hands-on experimentation, interactive furniture, technological upgrading, making, local SMEs

Issues/challenge: The main objective of Design From Ideas To Market is to increase the potential of the Lombard entrepreneurial tissue through the pursuit of new talents in the field of Design in the Wood-Furniture sector. The concrete aim, therefore, is to create a functional space for prototype experimentation that is situated in the phases of conception/design (designers) and production (companies/craftsmen), demonstrating its effectiveness through tangible design outputs.

Key idea and scope of the project: The project, as a whole, aims to stimulate the creation of new territorial supply chains "from idea to market" in the field of Design that integrate R&D, design, new forms of prototyping / production related to digital manufacturing, alternative processes of incubation and distribution of ideas. The key idea is to encourage new forms of innovation according to a bottom-up process; the aim is to feed this kind of synergistic approach between craftsmanship and digitalization through the role of designer.

Design from Ideas to Market (Maffei, coordinator)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
#construction of physical space **Technological upgrade of Polifactory**. Identification and buying of the most appropriate item(s) e technologies enabling the implementation of subsequent projects in an informed manner.	Creation and implementation of a space in which to conduct concrete experiments aimed at innovation, through the use of digital fabrication technologies (Polifactory). #new craftmanship #digital manufaturing #local craft #prototyping PE8_10 Manufacturing engineering and industrial design	Technological/economic: #7 generating innovation-based growth **Demonstrating the strategic value of digital fabrication** for SMEs growth in terms of innovation capabilities.	• 3 Dept of Polimi • Academic audience • SMEs in Italy and Europe
		Societal: #6 strengthening the uptake of r&i in society **Increase awareness and innovation capacity of SMEs** in a technological and socio-cultural innovation space	• 3 Dept of Polimi • Academic audience • Students/learners • SMEs in Lombardy and Italy
#hackathon Organization and implementation of a **3-day hackathon** with the aims of demonstrate: I. that adequate technological renewal is fundamental to Fab Lab efficiency II. the innovative and strategic functions of Fab Labs in the Lombardy region	Creation of a flexible replicable and scalable innovative education format for the spread of experimental knowledge related to the world of design for digital technologies. #design education SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Scientific: #2 strengthening human capital in research and innovation **Enhancing the impact and the quality of design education** with new forms of innovative teaching methods.	• Students/learners • Educators/teachers
	Creation of a solid community of researchers and MSc students interested on innovation through digital fabrication topic. #digital manufacturing #interdisciplinarity PE8_10 Manufacturing engineering and industrial design SH3_6 Social influence; power and group behaviour	Societal: #6 strengthening the uptake of r&i in society **Empowering design-related making culture** for an advancement of digital fabrication knowledge.	• Students • Researchers • Wide public
#prototype #pilot **3 pilot prototypes**, starting from the hacking of a table, a sofa and a led light source. These projects integrate sensor systems and hardware-software solutions transforming common furnishing elements in smart things.	Development of strategic projects in the field of making and design starting from partnerships with companies in the Lombardy region. #local craft #made in italy #case studies PE8_10 Manufacturing engineering and industrial design	Societal: #6 strengthening the uptake of r&i in society **Strengthening the perception of the importance of digital fabrication for production** to a broad audience, both general and specialized.	• Academic audience • Students/learners • Professionals • Wide public interested on the topic
I. #construction of physical space **Technological enhancement of Polifactory.** II. #prototype #pilot **3 pilot prototypes**, starting from the hacking of a table, a sofa and a led light source.	Creation of a demonstrable reputation for reliability and technical/developmental capacity within the regional network of Fab Labs and university research structures #interdisciplinarity #prototyping #product development PE8_10 Manufacturing engineering and industrial design	Scientific: #3 fostering diffusion of knowledge and Open Science **Raising learning-by-doing knowledge** and improving the technical reputation of the research group at the national level.	• Research group • Lombardy SMEs • Fab Labs network

DDMP / DD (scheda completa)
PI: Maffei, partner

Title: Distributed Design Market Platform - DDMP (since 2020 only Distributed Design - DD) (link)

Duration: 4 years (2017-2021; 1st year: *FabCare initiative*; 2nd year: *Next Steps initiative*; 3rd Year: *DELiCE initiative*; 4th year: *CTRL+ initiative*)

Program & specific program: Creative Europe - Support to European Platforms - EACEA 06/2017

Topic: Distributed Design & Platform for Making

5 keywords: distributed design, designers, makers, indie innovators, European Fab Lab network, openness, emerging creatives

Issues/challenge: The Platform's objectives aims at promoting and improving the connection of makers and designers with the market (Maker to Market).

Key idea and scope of the project: Distributed Design is one outcome of the intersection of two global trends: the Maker Movement and the digitisation of the design discipline. The overall strategy of the Distributed Design Market Platform (DDMP) project is to create both an online and offline "Distributed Design Market" for products, makers and designers in Europe, scalable to the world. The focus will be on the platform ecosystem for the Fab Lab network.
Activities of Platform Members are of these kinds: (1) Makers in Residence; (2) Makers Promotion and Showcase; (3) Contents and strategies for connecting Makers to Markets; (4) Maker to Market workshops; (5) Specific DDMP sections at established events (Maker Faire, FAB14, ...)

DDMP / DD (Maffei / Bianchini, partner)

OUTPUT	OUTCOME	IMPACT	TARGET
#scientific publications: I. 4 book chapters (not peer-reviewed); II. 2 conference paper (CV1)	To prove the role of design as discipline into the field of open and distributed production to a wider scientific community. #distributed and open microproduction PE8_10 Manufacturing engineering and industrial design	Scientific: #1 creating high quality new knowledge **Creating knowledge and clarifying the definition** of distributed design.	• Project partner • Academic audience
I. #scientific publications: 4 book chapters and 1 conference paper II. #co-creation activity Co-creation activities with designers, patient associations and caregivers	Demonstration of the effectiveness of "design through prototyping" scientific and projectual results to a broad and diverse audience to support the importance of prototype. #prototyping #product design PE8_10 Manufacturing engineering and industrial design	Scientific: #3 fostering diffusion of knowledge and Open Science **Strengthening the contribution of design and digital fabrication** in patient innovation to meet the needs of both patients and caregivers.	• Patient/caregivers • Society • Academic audience
#co-creation activity #workshops #interview results Co-creation of activities in which patient associations and caregivers have been involved with: I. questionnaires, II. workshops III. validation activities of the outcomes	Implementation of user and designer engagement process using participatory design for informed and conscious use of open and distributed manufacturing technologies. #deintermediation #distributed and open microproduction #design for subjective well-being #collaborative services SH3_6 Social influence; power and group behaviour	Societal: #6 strengthening the uptake of r&i in society **Strengthening and spreading the co-creation culture** in research and innovation for healthcare solution better integrating the voice of society in science and innovation.	• Healthcare sector in Italy and Europe • Makers and designers • Wide public
		Societal: #6 strengthening the uptake of r&i in society **Boosting the uptake of co-creation** to effectively engage society in science, technology and innovation.	• Users (mostly patients and caregivers) • Wide public
Testing of the "Talents in Residence" programme (one each year) for Polimi students and Ph.D students: I. #training Students' mentoring and tutoring II. #repository Documentation to help the acquisition of useful information for digital fabrication technologies application. III. #prototypes 14 Final prototypes	Implementation of learning-by-doing process in real-life. #prototyping #case studies PE8_10 Manufacturing engineering and industrial design	Societal: #6 strengthening the uptake of r&i in society **Deploying design-related making culture** for the advancement of digital fabrication knowledge and open and distributed design possibilities.	• Students/learners • Makers and designers
#guidelines for documentation and repeatability of open source projects: Polimi's contribution has generated a strategy (starting from the example of the Fab Academy) for the collection of material (instructions and files) to replicate the open-source projects.	I. Extension of structured guidelines to other open source projects to encourage the spread of distributed manufacturing #open and distributed microproduction #digital platforms #communication design PE8_10 Manufacturing engineering and industrial design II. Ensure replicability of projects in the European Fab Labs network, guaranteeing the functioning and quality of the resulting product. #interdisciplinarity #product design SH3_6 Social influence; power and group behaviour	Technological/economic: #7 generating innovation-based growth **Informing and nurturing the development and transferability of innovative solutions** by overcoming geographical and know-how limitations.	• Makers and designers • Fab Labs in Italy and Europe • Wide public
I. #prototype #pilot 14 projects in 4 pilot experiences which have generated several projects released under an open-source license and whose files are available for free download: Fabcare (5 open-source projects) Next steps (4 open-source projects) Delice (3 open-source projects) Ctrl+ (2 open-source projects) II. #guidelines for documentation and repeatability	To study and develop a series of functional products with direct digital manufacturing technologies, globally reproducible, in response to concrete needs. #digital manufacturing #prototyping #product development #product design LS7_12 Health care, including care for the ageing population PE8_10 Manufacturing engineering and industrial design	Technological/economic: #7 generating innovation-based growth **Strengthening the footprint of the European Fab Labs network** in direct and distributed manufacturing.	• Fab Labs in Italy and Europe
		Societal: #6 strengthening the uptake of r&i in society **Building awareness in patient innovation** through design and digital fabrication adoption.	• Patient/caregivers • Society • Academic audience
#co-creation activity #workshops #interview results Co-creation activities with patient associations and caregivers		Scientific: #3 fostering diffusion of knowledge and Open Science **Reinforcing collaboration** between makers/designers and patients/caregivers	

DDMP / DD (Maffei / Bianchini, partner)

OUTPUT	OUTCOME	IMPACT	TARGET
#exhibitions #conferences DD attended events to nurture interest in the subject in a wider audience: I. DD pilots participated in events to fuel interest in the topic in a broader audience: @ Maker Faire Rome 2018, 2019, 2020 (virtual). II. The projects "Palpatine" and "Mappanei" were selected for international prizes III. Next Steps won the Life Science Excellence Award 2020 IV. An article on Wired magazine	I. Pilots visibility across the Europe #product design II. Demonstration of the effectiveness of applied research through prototypes to third parties. #prototyping #product design PE8_10 Manufacturing engineering and industrial design	Societal: #6 strengthening the uptake of r&i in society **Strengthening the importance of the distributed design innovative solutions** created, to a broad audience both general and specialized.	• Professional and experts interested in the field • Wide public
#scientific publications #co-creation activity #workshops #interview results #training #repository #prototypes #guidelines #pilot #exhibitions #conferences In general **all the project's output**	Application of lessons learnt in other projects funded by competitive calls and in pro-bono projects. #prototyping #product design #interdisciplinarity LS7_12 Health care, including care for the ageing population PE8_10 Manufacturing engineering and industrial design	Technological/economic: #9 leveraging investment in research and innovation **Fostering the development of a design-led innovation strategy** through the use of digital fabrication	• Research group • Academic audience
	Consolidation of existing collaborations with other departments for Politecnico. #interdisciplinarity	Scientific: #2 strengthening human capital in research and innovation **Expanding the research team** and the Fab Lab's internal community.	Research group
	I. Improved skills and reputation of reliability (internal at the Politecnico and external towards the other partners) in terms of prototyping in relation to openness culture. #interdisciplinarity #digital platforms #digital manufacturing PE8_10 Manufacturing engineering and industrial design II. Reinforcement of effective collaboration with other international partners (collaboration that was then continued in other funded projects) #interdisciplinarity LS7_12 Health care, including care for the ageing population PE8_10 Manufacturing engineering and industrial design	Scientific: #3 fostering diffusion of knowledge and Open Science Reinforcing and improving the reputation of the research group in the field of innovation through design driven digital production at the national and European level.	• Research group • Academic audience

Includi.MI (scheda completa)
PI: Maffei coordinator

Full title: Includi.MI - Governo Locale e Imprenditoria Sociale per una Milano inclusiva (link)

Duration: 1 year (12 month)

Program & specific program: Fondazione Cariplo - Progetti territoriali per la città di Milano e provincia

Topic: Design for Policy & Social Impact Finance

5 keywords: social innovation, social entrepreneurship, design for policy, Milan, social impact investment

Issues/challenge: The project intended to improve the welfare conditions of local communities, creating territorial support networks through the strengthening and direct involvement of social entrepreneurship in policy making processes, in the belief that structurally inclusive policies and collaborative communities are essential elements to strengthen social cohesion. Accordingly, the project proposed to intensify collaboration between local administrations and social entrepreneurship for the management of public goods and the provision of social services

Key idea and scope of the project: The project identified the following specific goals: (1) the offer of new models of detection of suppliers/problem solvers; (2) the development and/or strengthening of skills aimed at: the design of policies in a pragmatic way, the definition of new tools, the measurement of the social impact; (3) the development and/or strengthening of competencies aimed at: understanding the processes with the PA, measuring the social impact generated by their own interventions, participating in innovative public-private collaboration schemes; (4) the strengthening, in the administration involved, of capacities that allow it to play a central role in amplifying and promoting active social entrepreneurship on the territory.

Includi.MI (Maffei, coordinator)

OUTPUT	OUTCOME	IMPACT	TARGET
I. #guidelines **Two guidelines** for conducting interviews with entrepreneurs and government professionals. II. #interview results Interviews (10) III. #school **Scuola di Design e Impatto Sociale**. IV. #seminar **Public event and seminar** "Rethinking the relationship between PA and social enterprise". V. #conference #workshop **Dissemination and events**: * Two days of open education for the general public; * Workshop to experiment the design for policy approach with civil servants and Social Innovators; * Video and posts on social network VI. #brand identity #website Includi.Mi **brand identity and website**	**Dissemination and exploitation of the policy actions** open and linked to the Lombardy territory through in-person events and sessions (exploring Participatory Planning, Impact Measurement, and Impact Finance topics) in order to improve the communication among PA, civil servants, social entrepreneurs. #design policy #local craft #collaborative services SH3_8 Social policies, welfare, work and employment	Societal: #4 addressing EU policy priorities and global challenges through r&i **Strengthening of social innovation policies,** linked to civil servants for an improvement of the local social innovation ecosystem	• Civil servants participating in the program • Stakeholders and public administration • Social entrepreneurs and other relevant professionals in Lombardy and Italy • Wide public interested in the issues
		Societal: #6 strengthening the uptake of r&i in society **Strengthening the perception of the importance of social entrepreneurship** for the management of public assets and the provision of social services.	• Civil servants • Social entrepreneurs • Wide public interested in the issues
I. #analysis **Preliminary analysis** and preparatory activities for setting-up the co-creation workshop II. #co-creation activity #workshop **Co-creation Workshop**: "Progettare il supporto all'impresa sociale" The goals of this event were related to raising awareness about the importance of Social Innovation in the urban context and to explore and connect existing initiatives, transforming them into a cohesive system. III. #analysis **Twenty policy actions analysis** in order to understand the trajectories of investment and social innovation activities by the municipality.	**Implementation of a network that makes the social innovation ecosystem** explicit and immediately accessible for the purpose of creating new collaborations within and at the margins of the ecosystem. **Evidence of the relevance of social entrepreneurship** initiatives in Milan was provided. #new craftmanship #collaborative services #welfare #local craft #service design #co-design SH3_1 Social structure, social mobility, social innovation	Societal: #4 addressing EU policy priorities and global challenges through r&i **Understanding better the barriers in PA procedures** to support social innovation.	Ecosystem of social innovation in Milan, Lombardy, and Italy
I. #school **Scuola di Design e Impatto Sociale**. Creation and experimentation of an innovative format in which the public administration and social entrepreneurs of Milan could discuss and align priorities. II. #seminar **Public event and seminar** "Rethinking the relationship between PA and social enterprise". III. #match-making **Match-making engagement** call	A **capacity-building path for new collaboration** that brings **public administration and social innovators closer together**. During the training, they can better understand each other's needs and build new collaborations. #welfare #desgin policy #service design #co-design SH3_8 Social policies, welfare, work and employment	Societal: #6 strengthening the uptake of r&i in society **Strengthening social innovation** among the different subjects involved, for better inclusion of various competences.	Subjects participating in the program (social entrepreneurs and civil servants of Milan municipality, but also representatives of the municipality of Bologna and Turin).
#analysis #co-creation activity #workshop #guidelines #interview results #analysis #school #seminar #conference #workshop #dissemination on SM #brend identity #website In general **all the project's output**	In general **all the project's outcome** #design policy #local craft #collaborative services #new craftmanship #welfare #service design #co-design SH3_1 Social structure, social mobility, social innovation	Scientific: #1 creating high quality new knowledge **Fostering** the proposal, advocacy, and experimentation of a **pragmatic policy making model,** and implementing a new model of policy making.	Academic audience
	New skills acquisition: increase of PA capabilities to work on social innovation creating a stronger local ecosystem and reinforcing existing initiatives. #welfare #service design #co-design SH3_8 Social policies, welfare, work and employment	Societal: #4 addressing EU policy priorities and global challenges through r&i **Aligning better policy priorities** to the real needs of the local social innovation ecosystem.	Public administration, social innovation ecosystem
#scientific publications: I. 1 article (RV3) II. 3 conference papers	Improved **academic reputation** in addressing the "Design for Policy" theme. #design policy SH3_8 Social policies, welfare, work and employment	Scientific: #1 creating haigh quality new knowledge **Deepening and expanding knowledge** on the theme "Design for Policy" and policies for Social Innovation in urban contexts.	Academic audience

Includi.MI (Maffei, coordinator)

OUTPUT	OUTCOME	IMPACT	TARGET
I. Overall **project management and coordination**. II. #analysis #co-creation activity #workshop #guidelines #interview results #analysis #school #seminar #conference #workshop #dissemination on SM #brend identity #website In general **all the project's output**	**Identification of possible strategic areas** of "Design for Policy" topic expansion, thanks to the new skills acquired and gained. #design policy SH3_8 Social policies, welfare, work and employment	Scientific: ##2 strengthening human capital in research and innovation **Expanding the research team** and subsequently attracting a **Ph.D student**	Research group
	Consolidation of the collaboration between the Design and Management departments. #interdisciplinarity SH3_8 Social policies, welfare, work and employment	Scientific: #3 fostering diffusion of knowledge and Open Science **Raising transdisciplinary knowledge** and improving the reputation of the research group at the national level.	Research group
#scientific publication I. 1 conference paper in ServDes 2018	The project was central inside a track at the ServDes 2018 conference.	Scientific: #3 fostering diffusion of knowledge and Open Science **Promoting and sharing** "Design for Policy" for academic research	• Research group • Academic audience

campUS (scheda completa)
PI: Davide Fassi, coordinator

Full title: campUS - Incubazione e messa in scena di pratiche sociali

Duration: 2014-2016 (2y)

Program & specific program: Polisocial Award 2013-2014

Topic: Design for Social Innovation and Social cohesion

5 keywords: social innovation, community-centred design, knowledge transfer management, co-design, participatory action research

Issues/challenge: Public universities are the bearers of public spaces, accessible by citizens; they are "**hidden public spaces**", therefore not always considered as “public” by the external community. They are generators of culture, centers of specialized knowledge, generally dedicated to niche users and **unable to create a dialogue with the social fabric** of short, medium and long range. This cultural heritage (material and intangible) can be put at the service of the surrounding area, here represented by the **NEETs** and the **Over75s**, through the good practices of social cohesion through design

Key idea and scope of the project: i) activation of the campuses’ spaces as incubators of social practices where to define, experiment and prototype **social actions** (services, spaces, communication systems) through co-design and participatory design for the elaboration of toolkit; ii) definition of a landscape of **permanent actions** that have the potential to lead to social enterprises, through a virtuous exchange with prototyping actions

campUS (Fassi, coordinator)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
i. #Co-design sessions #Construction of physical space (lab & building) #Event **Co-design of 3 community gardens** in kindergarten and middle schools in the Bovisa district ii. #Workshop #Prototypes #Networking #Co-creation sessions #Co-design sessions **16 workshops** distributed in 2 years (10 months) as an engagement process and community building activities through the co-design of **protyped infrastructures** for the realisation of the community gardens iii. #Event **4 Events** at neighbourhood scale as an engagement process, matched with the workshop activities	**Know-how sharing** with the ecosystem of local actors through a virtuous exchange thanks to prototyping and co-design processes #sustainable lifestyle #spatial design #co-design #design driven innovation #prototyping #private and public spaces #user centered design #collaborative services SH3_6 Social influence; power and group behaviour SH3_1 Social structure, social mobility, social innovation **Engagement** of local educators in the adoption of community building tools #design for subjective well-being #co-design #design driven innovation #user centered design SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Scientific: #3 fostering diffusion of knowledge and Open Science **Scaling-up of the co-creation processes towards a systemic approach** in the urban context for the diffusion of participatory action research methodologies in design for social innovation Societal: #5 Delivering benefits and impact through research and innovation missions **Boosting the proactive engagement of the civil society** in the transformation of the public spaces, such as green spaces and living environments to reinforce inclusion Societal: 6 Strengthening the uptake of research and innovation in society **Boosting the proactive engagement and participation of the civil society** in co-creation processes to reinforce social inclusion and integration	• Design students • Educators in kindergarten and middle schools • Children/kids/families
i. #Co-creation sessions #Co-design sessions #Construction of physical space (lab & building) **Co-design of 1 community garden** in the abandoned green space of an isolate residential buildings in Bovisasca (area of 5000 mq) ii. #Workshop #Prototypes #Networking #Co-creation sessions #Co-design sessions **8 workshops** distributed in 18 months as an engagement process and community building activities through the co-design of **protyped infrastructures** for the realisation of the community gardens iii. #Event **3 Events** at neighbourhood scale as an engagement process, matched with the workshop activities	Activation of a **virtuous engine of human and social relations** #design for subjective well-being #spatial design #urban spaces #spatial design #co-design #design driven innovation #prototyping #private and public spaces #user centered design #urban spaces #collaborative services SH3_6 Social influence; power and group behaviour SH3_1 Social structure, social mobility, social innovation **Uptake**, deployment, and use of project's results by direct target groups #sustainable lifestyle #co-design #design driven innovation		• Civil society (Inhabitants of the buildings, 50 families) • Charities, Policy makers (Municipio Zona 9) • Educators in middle schools, Children / kids/families
i. #Focus group #Networking **5 focus group** meetings with local actors and associations for the identification of local touch-points for the involvement of identified weak categories ii. #Co-creation sessions **1 Co-design activity** with local actors and associations as an engagement process distributed in 18 months iii. #Workshop **8 Workshops** on communication and movie design skills (video writing and production practices developed according to a participatory approach, meetings at Lab Immagine or at the Abelia association in Bruzzano)	**Transfer of skills and know-how** for the development of new competences #communication process #co-design #design driven innovation #user centered design #communication design #media studies #movie design #collaborative services SH3_4 Social integration, exclusion, prosocial behaviour SH3_1 Social structure, social mobility, social innovation **Exploitation of the acquired skills**: independent development of further web formats and videos #design for subjective well-being	Societal: 6 Strengthening the uptake of research and innovation in society **Empowering NEETs** with know-how to transfer specialised knowledge with the purpose of strengthening their **employment potential**	• NEET engaged through local associations

campUS (Fassi, coordinator)

<table>
<tr><th>OUTPUT</th><th>OUTCOME</th><th>IMPACT</th><th>TARGET</th></tr>
<tr><td>i. #Toolkit/Toolbox
Realisation of 1 toolkit on how to conduct co-design activities and prototypes

ii. #Website #Dissemination on SM
Visual narrative of the project as a whole and sharing of the toolkits</td><td>Uptake, diffusion, deployment, and use of project's results by direct target groups
#sustainable lifestyle #co-design #prototyping
SH7_6 Environmental and climate change, societal impact and policy</td><td>Scientific: #3 fostering diffusion of knowledge and Open Science
Reinforcing synergies between university (educators and students) and civil society through knowledge transfer on transformation of the public spaces, such as green spaces to reinforce inclusion</td><td>• Civil society
• Scientific community</td></tr>
<tr><td>#Guidelines #Publication (handbook, booklet, manifesto)
Development of 1 handbook with guidelines for shared urban gardens (document required during the project development and contents/approach shared in meetings)</td><td>Know-how sharing of perceived policy recommendations based on the activities and experiences from the project
#sustainable lifestyle #co-design #prototyping #design policy
SH7_6 Environmental and climate change, societal impact and policy
SH3_8 Social policies, welfare, work and employment</td><td rowspan="3">Scientific: #3 fostering diffusion of knowledge and Open Science
Reinforcing the advancement of knowledge and diffusion of strategies for quality transformation in a green and sustainable way of urban environments

Societal: #4Addressing EU policy priorities and global challenges through research and innovation
Strengthening the exploitation of the co-creation processes of public spaces to provide evidence-based policy options

Scientific: #1Creating high-quality new knowledge
Deepening and expanding knowledge on practice-based experimentations in design for social innovation research

Scientific: #3 fostering diffusion of knowledge and Open Science
Reinforcing collaboration with a multi-actors ecosystem at local level for further collaborations and projects in design for social innovation</td><td>• Policy maker (Assessorato del Verde e Territorio del Comune di Milano nel 2016)</td></tr>
<tr><td>i. #Scientific publication
7 conf. papers (International, Design), 1 book (Springer), 2 book chapters (Springer), 2 journal articles (Rivista scientifica)

ii. #Award
3 awards (Compasso d'Oro, ADI Design Index, Premio Eccellenze Lombarde di Regione Lombardia con ADI)</td><td></td><td>• Scientific community</td></tr>
<tr><td>i. #Internship
10 curricular internships at the research lab

ii. #Master thesis
15 design master thesis

iii. #Master courses/class/school
1 masterclasses for design students for prototyping activities</td><td></td><td>Societal: #2 Strengthening human capital in research and innovation
Enriching design curricula, with an emphasis on students' active participation and engagement in design research activities</td><td>• Design students</td></tr>
</table>

campUS (Fassi, coordinator)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
i. #Co-design activity #Construction of physical space (lab & building) #Event #Workshop #Prototypes #Co-creation activity #Focus group #PhD Thesis #Master courses/class/school #Internship #Networking #Exhibition **5 years of engagement process** in the NoLo district through co-creation and co-design activities, prototyping events, 5 master courses, internships, master thesis, 3 PhD thesis, 1 MSCA Seal of Excellence researcher, 1 physical space (Off-Campus NoLo), 3 exhibitions (at Triennale and at Mercato Comunale di Viale Monza, Milano) *>> this is a brief overview of the process that followed in NoLo. campUS has been one of the foruning research projects that, with its activities, had an impact to set up the Off Campus Nolo.*	**Replicability of the approach** and of the modus operandi in NoLo district #sustainable lifestyle #co-design #prototyping #co-design #prototyping #spatial design #design driven innovation #prototyping #private and public spaces #user centered design SH7_6 Environmental and climate change, societal impact and policy SH3_6 Social influence; power and group behaviour SH3_1 Social structure, social mobility, social innovation SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Scientific in the research team: #3 fostering diffusion of knowledge and Open Science **Further developing a research group approach**, feeding the debate on the application of research and training expertises outside the university boundaries for participatory action research methodologies in design for social innovation Societal in the research team: #6 Strengthening the uptake of research and innovation in society **Exploring the replicability of the approach and of the modus operandi** of the methodology applied and of the multi-actors network of local stakeholders towards a long-term uptake in society	• Research team • Civil servants participating in the program • Stakeholders and public administration • Civil society • Design students • Scientific community
I. Invited to be partner for **funded projects** (“Cascina 9”, Piredda, and “La mia scuola è differente”, Fassi) II. Request of **endorsement** letters III. **Invitation** to be speakers at conferences/seminars (Milan scale and National scale)	I. **Activation and strengthen of networking locally** (researchers and local stakeholders) and **Nationally** (associations, institutions) to facilitate new research opportunities #design for subjective well-being #design driven innovation #user centered design II. Enhancement of the **visibility** of the research team in the local and national context among institutions and other possible stakeholders	Scientific in the research team: #2 Strengthening human capital in research and innovation Strengthening **collaboration with cross-sector actors** (researchers/academia, HEIs, associations/NGOs)	• Research team

Human Cities (scheda completa)
PI: Davide Fassi, partner

Full title: Human Cities, Challenging the city scale

Duration: 2014-2018 (4y)

Program & specific program: Creative Europe, Category 2 – Large scale cooperation projects

Topic: Design for social innovation, Participatory Design for urban public spaces via short-term actions

5 keywords: participatory design; co-design; design for social innovation; community-centered design; public spaces

Issues/challenge: HC explores the development of practice-based processes to help, improve and implement social innovation using design thinking and community-centered design to co-design and prototype temporary solutions in the urban public spaces with citizens and local associations to make them more hospitable and more appropriate for the needs of a specific neighbourhood, up to figure out possible long-term scenarios.

Key idea and scope of the project: HC analysed, tested and implemented the process of engaging people in co-creating bottom up initiatives and activities through a co-design process to experiment (to challenge) innovative, alternative and experimental uses of urban spaces involving local associations and citizens.

Human Cities (Fassi, partner)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
i. #Co-creation sessions #Co-design sessions #Construction of physical space (lab & building) #Workshop #Event **4 experimentation labs** in Milan public spaces (La Piana and NoLo neighbourhood), structured as 2 engaging processes made up of **1 co-creation activity, 2 co-design activities, 1 construction and 4 workshops**	Implementation of the **stakeholder engagement process** using participatory design #deintermediation #sustainable lifestyle #spatial design #co-design #design driven innovation #prototyping #private and public spaces #user centered design #urban spaces SH3_6 Social influence; power and group behaviour SH3_1 Social structure, social mobility, social innovation Support to the establishment in the neighborhood of **counter-narrative of public space** in peripheral areas #design for subjective well-being #temporary living #urban spaces SH3_4 Social integration, exclusion, prosocial behaviour	Scientific: #3 fostering diffusion of knowledge and Open Science **Scaling-up of the co-creation processes** towards a systemic approach in the urban context for the diffusion of participatory action research methodologies in design for social innovation Societal: 6 Strengthening the uptake of research and innovation in society **Boosting the proactive engagement and participation of the civil society** in co-creation processes to reinforce social inclusion and integration Societal: 6 Strengthening the uptake of research and innovation in society **Improving the civic engagement of vulnerable groups** for encouraging and facilitating active participation and for improving integration	• Local inhabitants; • Local associations (engaged in services for kids, elderly people and people with disabilities)
i. #Master courses/class/School **2 masterclasses** (brief and context of application linked to the experimentation labs) ii. #Internship **4 curricular internships** at the research lab	Implementation of the **teaching methods** linking participatory design practices and design thinking methods (co-briefing, co-creation, co-design and prototyping) #spatial design #co-design #design driven innovation #prototyping #private and public spaces #user centered design #urban spaces SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Societal: 6 Strengthening the uptake of research and innovation in society **Strengthening the impact and the quality of design education** in order to reinforce training strategies of design educators, and to widening the visibility and academic influence Societal: #2 Strengthening human capital in research and innovation **Enriching design curricula,** with an emphasis on students' active participation and engagement in design research activities	• Design students • Design educators
i. #Exhibition #Seminar #Event #Dissemination on SM **4 exhibitions o**f the collected case studies and of the project advancements (methodology and applied activities and **3 open seminars** in international events (Design Week) or dedicated local events ii. #Website Contents update (narratives, activities sheets, case studies)	**Increased awareness** on the Dip. research projects #design driven innovation **Activation of new synergies** in the socio-cultural context #networks **Networking** within the Unesco Cities of Design #networks	Scientific: #3 fostering diffusion of knowledge and Open Science **Reinforcing collaboration between a multi-actors ecosystem at local level** with higher education/design centers internationally and with international entities	• Scientific community, policy makers, cultural professionals, general public

Human Cities (Fassi, partner)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
i. #State of the art #Case study result #Interviews Collection and analysis of **10 Italian case studies as best practices** of participatory design projects in urban public spaces. Data collected and structured in quality analysis sheets, through desk research and interviews to social activists and designer	**Evidence-based knowledge** about how local factors and conditions can influence the successful deployment of co-creation in specific socio-cultural contexts #cultural heritage #case studies SH3_6 Social influence; power and group behaviour SH3_1 Social structure, social mobility, social innovation SH3_4 Social integration, exclusion, prosocial behaviour	Scientific: #3 fostering diffusion of knowledge and Open Science **Increasing the understanding of dynamics** and circumstances that favor co-creation processes in participatory design for urban public spaces	• Scientific community, cultural professionals, general public
i. #Analysis (Benchmarking/Comparative analysis/etc) Interim impact analysis	**Analysis of the legacy** of temporary / medium-term cultural interventions in the public space #design for cultural heritage		• Consortium partners
i. #Scientific publication **3 books chapters in 3 books** (general audience, with ISBN or ISNN. Publishers: Cité du design, Urban Planning institute of the Republic of Slovenia, Birkhäuser)		Scientific: #1Creating high-quality new knowledge **Deepening and expanding knowledge** on practice-based experimentations in design for social innovation research	• Cultural professionals, general public

Human Cities (Fassi, partner)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
I. Application to the 2018 and 2019 Creative Europe **call as coordinator** (2019 won) II. **Invitation** to be speakers at conferences/seminars (International scale)	Enhancement of the **visibility** of the research team in the international context among institutions and research centers #networks	Scientific in the research team: #2 Strengthening human capital in research and innovation Strengthening **collaboration with cross-sector actors** (researchers/academia, HEIs, associations/NGOs) internationally and with international entities (i.e Unesco cities of design)	• Research team
i. #Co-design activity #Construction of physical space (lab & building) #Event #Workshop #Prototypes #Co-creation activity #Focus group #PhD Thesis #Master courses/class/school #Internship #Networking #Exhibition **5 years of engagement process** in the NoLo district through co-creation and co-design activities, prototyping events, 5 master courses, internships, master thesis, 3 PhD thesis, 1 MSCA Seal of Excellence researcher, 1 physical space (Off-Campus NoLo), 3 exhibitions (at Triennale and at Mercato Comunale di Viale Monza, Milano) *>> this is a brief overview of the process that followed in NoLo. Human Cities has been one of the foruning research projects that, with its activities, had an impact to set up the Off Campus Nolo.*	**Replicability of the approach** and of the modus operandi in NoLo district #sustainable lifestyle #co-design #prototyping #co-design #prototyping #spatial design #design driven innovation #prototyping #private and public spaces #user centered design SH7_6 Environmental and climate change, societal impact and policy SH3_6 Social influence; power and group behaviour SH3_1 Social structure, social mobility, social innovation SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Scientific in the research team: #3 fostering diffusion of knowledge and Open Science **Further developing a research group approach**, feeding the debate on the application of research and training expertises outside the university boundaries for participatory action research methodologies in design for social innovation Societal in the research team: #6 Strengthening the uptake of research and innovation in society **Exploring the replicability of the approach and of the modus operandi** of the methodology applied and of the multi-actors network of local stakeholders towards a long-term uptake in society	• Research team • Civil servants participating in the program • Stakeholders and public administration • Civil society • Design students • Scientific community

Tango-Down Athena (scheda completa)
PI: Davide Fassi, coordinator

Full title: Tango-Down Athena, Il teatro come hackeraggio del mito urbano

Duration: 2019/2020 (18 months + 9 months extension Covid)

Program & specific program: Call “Ora! - Produzione di cultura contemporanea” of Compagnia di San Paolo (Regione Piemonte)

Topic: Envisioning through participated processes, Design anticipation

5 keywords: participatory design; storytelling; context-based research; situated research; design futures

Issues/challenge: The research project explored the need in developing greater **awareness among citizens** of the influence that culture, tradition, politics, advertising and economy have on the definition of urban models, which determine the development of the social context within which they act. This has been done in **Ivrea**, with a strong cultural and economic past that have made cultural growth and social ties flourish around the production center and that had gone through an **economic decline** due to economic crises and the decentralization of production centers

Key idea and scope of the project: generation and test of a **civic game** meant as a tool to **co-create future scenarios** for the city of Ivrea by imagining alternative pasts and presents, as a way to experiment forefront methodologies with a cross-disciplinary approach and through a **participatory foresight process**

Tango-Down Athena (Fassi, coordinator)

<table>
<tr><th>OUTPUT</th><th>OUTCOME</th><th>IMPACT</th><th>TARGET</th></tr>
<tr><td rowspan="2">i. #Co-creation sessions #Workshop
2 co-creation workshops with local associations and experts, and citizens to test the story-making toolbox and develop the codesigned fictional stories

ii. #Literature review results
Literature review on design fiction, storytelling and structural analysis of narrative, linked to participatory design practices and Future Studies

ii. #Toolkit/Toolbox
1 Toolbox to co-create future scenarios</td><td>Support in the development of a counter-narrative of the local history and heritage to support scenario making and the setting of participatory practices as well as to support new forms of social integrations
#design for subjective well-being #urban spaces #cultural heritage #co-design #design driven innovation #envisioning #interdisciplinarity #scenarios #storytelling #cross-cultural research #reflective practice
SH3_6 Social influence; power and group behaviour
SH3_1 Social structure, social mobility, social innovation
SH3_4 Social integration, exclusion, prosocial behaviour

Implementation of the stakeholder engagement process using participatory design with design futures methods and tools
#co-design #ethnography #user centered design #networks
SH3_6 Social influence; power and group behaviour
SH3_1 Social structure, social mobility, social innovation
SH3_4 Social integration, exclusion, prosocial behaviour</td><td rowspan="2">Societal: #6 Strengthening the uptake of research and innovation in society
Identifying and overcoming social barriers and divisions among citizens for re-invigorating and enhancing the public dialogue linked to local cultural heritage and identity

Scientific: #1Creating high-quality new knowledge
Contributing to the discourse on the cross-fertilization and integration between the design discipline and Future Studies, Anticipation and Future Narration perspectives

Scientific: #1Creating high-quality new knowledge
Deepening and expanding knowledge on practice-based experimentations in design for social innovation research</td><td>• Local associations (engaged in cultural heritage, services for kids, promotion of local events)
• Experts of the local history/heritage</td></tr>
<tr><td></td><td>• Scientific community</td></tr>
<tr><td>i. #Scientific publication
1 conference paper (International conference), 1 journal article (Classe A)</td><td></td><td></td></tr>
<tr><td>(not by the Dept.team) production of dramaturgic text and theatre show from the stories build through the co-design workshops</td><td></td><td>Scientific: #3Fostering diffusion of knowledge and Open Science
Promoting a cross-fertilization between the design discipline and creative writing/theatre towards promoting the contribution of cultural heritage to social cohesion and inclusion</td><td>• Professionals in the theatre sector
• Civil society</td></tr>
</table>

Tango-Down Athena (Fassi, coordinator)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
i. #Literature review results Core approach for the **task** "Process methodology set-up" of the lead "WP Methodological Framework" of the coordinated project **SMOTIES** - Human Cities, Creative works with small and remote places (Creative Europe 2020/2024) >> *Tango-Down Athena has been the main foruning research project that, thanks to the literature review results, had an impact to set up the Process methodology of SMOTIES project*	I. **New synergies** within the Department, namely with the Fuel4Design (ongoing Erasmus+ project - Celi/Colombi) and also among other team members of Polimi DESIS Lab #networks	Scientific in the research team: #3 fostering diffusion of knowledge and Open Science	• Research team
	I. **Implementation of the teaching methods** in master classes with design students (Polimi) and business/entrepreneurship students (Cattolica) #cultural heritage #co-design #design driven innovation #envisioning #interdisciplinarity #scenarios SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Societal in the research team: #6 Strengthening the uptake of research and innovation in society ***Contributing to the capacity building*** *to university students enhancing the impact of design education in social innovation environment through design thinking, participatory design, design futures*	• Research team • Design students • Entrepreneurship students
i. #Framework Test of a framework for envisioning in participatory design processes for civic sense-making (frame a Foresight Process using storytelling, spatial and service design tools) ii. #Toolkit/Toolbox **1 Toolbox** to co-create future scenarios		Scientific in the research team: #3 fostering diffusion of knowledge and Open Science **Contributing to the discourse on the cross-fertilization and integration** between the design discipline and Future Studies, Anticipation and Future Narration perspectives **for the development of future approaches and methodologies on situated futures**	• Research team

CIMULACT (scheda completa)
PI: Anna Meroni, partner

Full title: Citizen and Multi-Actor Consultation on Horizon 2020

Duration: 2015-2017 (38m)

Program & specific program: H2020-ISSI-2014-1 (INTEGRATING SOCIETY IN SCIENCE AND INNOVATION)

Topic: Participatory consultation process, Policy recommendations

5 keywords: Public engagement, Participatory/Participation, Responsible Research and Innovation (RRI), Public participation

Issues/challenge: exploration on how to establish and improve the **engagement of citizens** in the process of formulation of the research agenda in Europe by **providing inputs to the Horizon 2020 Work Programme 2018/20** and consequently to the preparation of the Framework Programme 9, by adopting co-creation and **multi-actor (citizens, stakeholders, scientists, policymakers)** procedures where **visions and scenarios** for desirable and sustainable futures could be developed, debated, and transformed into **recommendations** and suggestions for research and innovation policies and topics

Key idea and scope of the project: Create vision and scenarios that connect societal needs with future expected advances in Science and their impact on technology, society, environment, engaging citizens and stakeholders in a highly participatory consultation process and facilitating dialogue and shared understanding between policymakers, citizens, and stakeholders

CIMULACT (Meroni, partner)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
i. #Co-creation sessions #Workshop **30 workshops** held across Europe, with more than **1000 citizens** involved (national citizens' consultations). They produced 179 citizen visions for desirable and sustainable futures, from which 29 societal needs were extracted and 48 research programme scenarios were co-created. ii. #Online consultation An online consultation in 30 EU countries (local languages), involving 3.458 participants iii. #Methodology Development of a **set of methods** for cross European citizen consultations iv. #Publication (handbook, booklet, manifesto) 1 handbook published on the project website (without ISBN) v. #Website	Development of **visions and scenarios** for desirable and sustainable futures, that connect societal needs with future expected advances in science and their impact on technology, society, environment #deintermediation #communication process #design policy #co-design #design driven innovation #user centered design #envisioning #scenarios #sustainable lifestyle #SH3_6 Social influence; power and group behaviour #SH3_4 Social integration, exclusion, prosocial behaviour **Independent organization** of similar events or debates by former participants since seen as a great opportunity to share their views for the benefit of the society, boosting thinking of themselves as part of a community for the first time #networks **New participatory methods development** and testing to impact governance and policy recommendations #collaborative services #user centered design #design driven innovation #co-design #SH3_8 Social policies, welfare, work and employment #SH3_6 Social influence; power and group behaviour #SH3_4 Social integration, exclusion, prosocial behaviour #SH2_1 Political systems, governance	Societal: #6 Strengthening the uptake of research and innovation in society **Developing strategies** to address the demands and needs of citizens expressed in other, non-electoral forms of **political participation**, with a view to active engagement and inclusion Societal: #6 Strengthening the uptake of research and innovation in society **Boosting the capability building** and the engagement of civil society in processes of **direct democracy** by establishing genuine dialogue between citizens, stakeholders, scientists, and policymakers Societal: **Facilitating the dialogue** and shared understanding between policymakers, citizens, and stakeholders for the uptake of R&I in society moving a step forward **from scenario building to policy recommendations** to increase their impact in EU research agenda Societal: #6 Strengthening the uptake of research and innovation in society Foster participants' personal development and awareness for the others and for the ongoing scientific debate.	• Multi-actor (citizens, stakeholders, scientists, policymakers)
		Societal: #4Addressing EU policy priorities and global challenges through research and innovation **Deepening of "co-creation" and "validation" issues in the field of "Design for Policy"**, including the development and verification of methodologies for citizens' consultations and co-design methods towards a **legitimation** process	• Scientific community • Policymakers
i. #Scientific publication 1 book (Franco Angeli International, Open Access), 1 book chapter (Birkhauser), 1 book chapter (Mandragora)		Scientific: #1Creating high-quality new knowledge **Deepening and expanding knowledge** on the theme "Design for Policy" and participatory design methodologies in co-design processes	• Scientific community

CIMULACT (Meroni, partner)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
i. #Conferences #Focus groups #Networking Pan European Conference curated by François Jégou: highly **interactive conference** with 46 CIMULACT partners, 11 experts in different fields, 2 advisors, and 16 project officers from the EC that worked together and revised the suggestions of research topics in light of the results obtained from workshops and consultations ii. #Recommendations #Guidelines #Publication (handbook, booklet, manifesto) **1 booklet** with the comparison between the final 23 citizen-based research topics of the CIMULACT project with the H2020 WP 2018/20 topics (analysis of keywords): definition of the **final 23 research topics** and about **40 policy recommendations** iii. #Interview results #Technical Report Interviews/**data analysis**	Discussion, revision and distribution of the CIMULACT **results** and **assessment of the impact** of project's workshops and consultations. In fact, social needs and wishes of citizens were partially included in H2020 WP 2018/20 #design policy #storytelling #networks #design driven innovation #SH3_6 Social influence; power and group behaviour #SH2_1 Political systems, governance	Societal: #4Addressing EU policy priorities and global challenges through research and innovation **Informing the development of future policies** on the next EU Research and Innovation agendas	• Policymakers

CIMULACT (Meroni, partner)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
i. Invited to join other 3 Horizon **applications/projects** (as partners or as a part of the Scientific Board) and 1 Green Deal application ii. Invited to join as an expert the Europe's Research and Innovation policy RISE independent expert **advisory group** to Commissioner Carlos Moedas iii. #PhD thesis Nurtured a PhD thesis development iv. #Methodology Nurtured the design and development of methodology, approach and tools of **La Scuola dei Quartieri project**	Enhancement of the **visibility** of the research team in the international context among institutions and research centers #networks	Scientific in the research team: #2 Strengthening human capital in research and innovation Further developing a research team **approach and skills improvement** in designing the interaction in co-design sessions for the engagement of citizens and multiple stakeholders Scientific in the research team: #2 Strengthening human capital in research and innovation Reinforcing group knowledge and expanding the research team	• Research team
All outputs of the project	Further development of PSSD brief studios (use of Research scenarios) #co-design #design driven innovation #envisioning #interdisciplinarity #scenarios #product service system SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Scientific in the research team: #3 fostering diffusion of knowledge and Open Science	• Research team • PSSD students

SDIN (scheda completa)
PI: Daniela Sangiorgi, partner

Full title: Service Design for Innovation

Duration: 2015-2018 (4y)

Program & specific program: MSCA-ITN-2014-ETN: Marie Skłodowska-Curie Innovative Training Networks (ITN-ETN)

Topic: Research training framework integrating service design and service innovation

5 keywords: service design, service innovation, training framework, interdisciplinarity, doctoral program

Issues/challenge: Innovation has been set at the heart of Europe's strategy set by Horizon 2020. Service innovation becomes a strategic imperative for the Innovation Union, and service innovation professionals are in great need. However, **service design and service innovation frameworks are still dispersed**, lacking integration, systematisation and widespread usage across organisations.

Key idea and scope of the project: systematise these diverse approaches into a **research training framework** that integrates service design and service innovation in a multidisciplinary approach, creating a **critical mass of researchers** who can be agents of change, developing interdisciplinary competencies in the key service design for innovation area and integrating the competencies and infrastructures of key European universities and non-academic organisations to build the **ground for the emergence of European-wide doctoral programmes** in the novel area of service design for innovation

SDIN (Sangiorgi, partner)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
i. #PhD thesis **2 PhD thesis** on Service design for innovation frameworks and methods: Multidisciplinary contributions and Service logic and Emerging technologie ii. #Networking **9 Early-Stage Researchers engaged** in a training process across partner institutions research labs	**Laying the ground** for a deeper understanding on how Service Design, as a human-centred, collaborative, creative and multidisciplinary approach to Service Innovation, can be better adopted and implemented in organizations and the complex service systems where they operate. #service design #networks SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies SH1_9 Industrial organisation; entrepreneurship; R&D and innovation	Scientific: #2 Strengthening human capital in research and innovation **Improving the research skills of early career researchers** towards increased individual impact of a widespread application of service design approaches to leapfrog service innovation Scientific: #2 Strengthening human capital in research and innovation **Developing interdisciplinary competencies** in the key service design for innovation area and in key service sectors (ICT, public services/health care and utilities) Societal: 6 Strengthening the uptake of research and innovation in society **Increasing awareness and producing spillover effects** to the other sectors of the economy and society linked to the service design for innovation area, contributing to EU smart specialization strategy	• Early-Stage Researchers in service design • Professionals in the service innovation sector
i. #Curricula/Learning modules #Educational programme #Training sessions Educational and training framework (SDIN Fundamental Courses, Workshops) structured in **fundamental courses** (theory-based) and **training workshops** (on entrepreneurship and other transferable skills	**Systematisation of a framework** integrating service design and service innovation in a multidisciplinary approach to fully leverage the creative power of service design to foster innovation #design theory #service design **Building a robust research competence training** for the exploitation of results and the improvement of career perspectives #service design #design theory SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Scientific: #3 fostering diffusion of knowledge and Open Science **Integrating the competences and infrastructures** of key European universities and non-academic organisations **for grounding a European-wide doctoral programmes** in the novel area of service design for innovation Societal: #6 Strengthening the uptake of research and innovation in society **Strengthening the quality of PhD in design curricula** in the novel area of service design for innovation by developing and testing a cross-institutions educational programme	• Early-Stage Researchers in service design • Researchers involved in design PhD programmes • Scientific community
i. #Conference First annual SDIN Conference	**Activation of the ESRs own network** outside academia, potentiating their employability opportunities #competitive advantage #networks SH3_8 Social policies, welfare, work and employment	Techno-Economic: #7 Generating innovation-based growth **Favouring the employability as a spillover effect** of supporting ESRs to start building their own network of contacts outside academia, potentiating their employability opportunities	• Early-Stage Researchers in service design • Professional in the service innovation sector • Scientific community
i. #Scientific publication **1 journal article** (Journal of Service Management, Emerald Publishing - non in lista scientifica/classeA) **2 book chapters** (Springer) **2 conference papers** (ServDes Conference)	#service design #networks **Knowledge development on the advances** in the understanding on SD approaches for service logic innovation, SD methods for technology-enabled services and for engaging stakeholders, stakeholder participation and engagement in value co-creation	Scientific: #1Creating high-quality new knowledge **Reinforcing and advancing knowledge on interdisciplinary contributions** to service design and innovation through peer-reviewed publications	• Scientific community

SDIN (Sangiorgi, partner)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
i. #Networking Get the host of the **ServDes 2018** international conference	**Furthering collaborations** in multidisciplinary publications and international events #service design #networks	Scientific in the research team: #2 Strengthening human capital in research and innovation **Developing and reinforcing group knowledge and skills improvement** in key service sectors for the development of future approaches and methodologies Scientific in the research team: #3 fostering diffusion of knowledge and Open Science **Reinforcing group** networking in the service design scientific community by curating, managing and hosting an international conference, specifically relevant for the field	• Research team • Scientific community
i. #Networking Creation of a **subgroup** of partners **publishing** together on mental health research, and working on **research bids for Marie Curie Doctoral Network** (Polimi as coordinator)	**Networking among consortium partner** for the exploration of of future approaches and methodologies into the healthcare field #service design #networks #design for subjective well-being SH1_9 Industrial organisation; entrepreneurship; R&D and innovation SH3_8 Social policies, welfare, work and employment	Scientific in the research team: #2 Strengthening human capital in research and innovation Reinforcing group knowledge and networking towards the further development of research areas and topics Scientific in the research team: #3 fostering diffusion of knowledge and Open Science **Reinforcing group** networking in the service design scientific community by developing international research teams for further collaborations	• Research team • Researchers involved in design PhD programmes

L’architettura in Lombardia dal 1945 ad oggi (scheda completa)
PI: Fulvio Irace (ref. Feraboli), coordinator

Full title: L’architettura in Lombardia dal 1945 ad oggi. Selezione delle opere di rilevante interesse storico-artistico

Duration: 2012-13 and 2014/15

Program & specific program: Programma Regionale di Sviluppo, POR FSE della Regione Lombardia, Ob. 2 Asse IV 2007-2013

Topic: Systematisation of architecture census linked to architectural archives census for the construction of a digital open access platform

5 keywords: design for cultural heritage, digital archives, art and architecture catalogue, design history, digital platforms

Issues/challenge: This kind of research at a regional level is based on the awareness that, in recent years, the concept of "cultural asset" has slowly changed towards the idea of a **widespread heritage over a territory** made up of single assets, connected and connectable to each other not only by geographical proximity, but also in a **systemic** way. Furthermore, now it is possible to historise a construction cycle that until a few years ago still seemed too close to be the object of study and conservation

Key idea and scope of the project: The project has as its objective the knowledge, promotion and enhancement of Lombard architecture of the second half of the 20th century through the systematization and implementation of two censuses for the creation of a free available digital archive online in relation to the building conservation and, in a second moment, to the tourist offer. It is structured in: **systematize and link two census researches** (architectural works and archives); implement and link together online **databases**; creation of a new **digital platform**, mainly aimed to inform professionals of the historical significance of the buildings they may have to work; adding “author analysis sheets” to connect works and archives. It is designed to be further implemented in the future.

L’architettura in Lombardia dal 1945 ad oggi (Irace, coordinator) (ref. Feraboli)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
i. #Repository #Data collection (repository) #Datasets **Systematisation of 2 census** of 500 works (buildings) and **178 archives** ii. #Data exchange **Contents structure and methodology** for the digital archive through data exchange between census and archives. Provision of data in the national Atlas “Atlante di architettura contemporanea”	**Establishment of evaluation criteria** for the selection of the works, based on a proven methodology developed by MIBACT Selection of the 500 buildings and visual survey of them, **descriptive indexing and photographic indexing** #digital archives #cultural heritage #design history #mapping **Check and updating** of the 178 descriptive cards of the architecture archives #digital archives #cultural heritage #design history Verification of the information already existing online on the web relating to the 178 archives #digital archives **Comparison of the methods** of filling in the **printed** forms with those published **online** on the portals #digital archives SH6_1 Historiography, theory and methods in history, including the analysis of digital data SH5_8 Cultural studies, cultural identities and memories, cultural heritage SH5_6 History of art and architecture, arts-based research	Scientific: #3 fostering diffusion of knowledge and Open Science **Increasing the diffusion of open access knowledge** about Lombard architecture of the late twentieth century towards a historicization process of the recent constructive cycle and its promotion and enhancement	• Scientific community • General public
	Systematisation of diversified data about Lombard architecture of the late twentieth century also intended for professionals who have a role on the preservation or transformation of buildings for **functional adaptation works** #digital archives #digital platforms PE6_10 Web and information systems, database systems, information retrieval and digital libraries, data fusion	Scientific: #3 fostering diffusion of knowledge and Open Science **Promoting the diffusion of a renewed concept of "cultural heritage"** towards a renewed approach to preservation or transformation of buildings	• Public administrations • Designers • Architects • Architectural historians • Technicians/Specialists
i. #Platform **Realisation of the digital platform** “L’architettura in Lombardia dal 1945 ad oggi”	Construction of **itineraries** for the **promotion, communication and enhancement** of "Italian assets" such as cultural heritage and local cultures (whose value and quality are often ignored) in relation to the conservation and possibly to the tourist offer #digital platforms #cultural heritage #design history SH5_8 Cultural studies, cultural identities and memories, cultural heritage	Societal: #4 Addressing EU policy priorities and global challenges through research and innovation **Increasing the diffusion of strategic cultural itineraries** of modern/contemporary Italian architecture towards the **activation of actions for its protection and promotion**	• Scientific community • General public • Public administrations
i. #Scientific publication **2 conference papers** (1 national: printed proceedings with Skira; **1 international (**seminar of a Creative Europe project, printed proceedings with ISBN) ii. #Networking **Participation to 10 (ca) seminars** after the end of the project	**Reinforced knowledge diffusion** and **dissemination of projects results** #cultural heritage #design history		• Scientific community

L’architettura in Lombardia dal 1945 ad oggi (Irace, coordinator) (ref. Feraboli)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
i. The project further developed the work begun within the **participation to the broader project** “Census of Italian architecture of the second half of the 20th century”, launched in 2002 and 2004 by the former General Directorate for Contemporary Architecture and Art (DARC) of the MIBACT. ii. The project is also **in continuity** with the “Census of architectural archives in Lombardy”, launched by the Soprintendenza Archivistica per la Lombardia, in collaboration with the Politecnico di Milano in 1998-2003 and 2011, based on the project “Gli archivi di architettura”, launched by the Direzione Generale per gli Archivi iii. The project is **linked to PRIN 2008** ("Il design del patrimonio culturale tra storia, memoria e conoscenza. L’Immateriale, il Virtuale, l’Interattivo come materia di progetto nel tempo della crisi”)	Further expansion of the research group Enhanced collaboration with DoCoMoMo (Documentation and conservation of Modern Movement) and Diap, University “La Sapienza”, Rome #networks #digital archives SH6_1 Historiography, theory and methods in history, including the analysis of digital data SH5_6 History of art and architecture, arts-based research	Scientific in the research team: #2 Strengthening human capital in research and innovation **Reinforcing group knowledge and networking** in the development of criteria for data collection and archives development for architecture census Scientific in the research team: #3 fostering diffusion of knowledge and Open Science **Reinforcing group** networking in the service design scientific community by developing further research activities teams in collaborations with national institutions	• Research team • Public administrations • Scientific community

DigiMooD for CCI (scheda completa)
PI: Paola Bertola, coordinator

Full title: Digital Module of Didactics for Cultural and Creative Industry

Duration: 2017-2021 (4y)

Program & specific program: Creative Europe Programme Audiovisual Industry and Media Support (Connect/2017/3346110)

Topic: Digital Entrepreneurship for the Creative Industries

5 keywords: Digital Entrepreneurship, Fashion Industry, Creative Industries, educational module, design-led research

Issues/challenge: EU R&D funding for projects and innovation in the Fashion Industry is mostly pushed by technology and not led by design. Much is therefore left to be done in the exploration of design innovation: there is a lack of understanding on the impact of digital technology (and their human dimension) on the whole fashion system, supply chain, business and service models; at the same time, Universities are called to developing new dedicated curricula

Key idea and scope of the project: developing and testing the offer of a set of innovative and interdisciplinary **educational modules** in "Digital Entrepreneurship for the Creative Industries", with a specific application to the Fashion Industry; linking **creativity, business and technology**, enabling personalised learning (**MOOCs**) and supporting the development of **soft skills**

DigiMooD for CCI (Bertola, coordinator)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
i. #Framework #Focus group Definition of a **transferable digital skill-set** for CCIs starting from outputs developed by other partners through focus groups with 10 companies	**Definition of the skills** needed to leverage on the digital opportunities #user centered design #creativity #cross-cultural research #design driven innovation #fashion design **Definition of the learning objectives and outcomes** of a transferable digital skill-set for CCIs: technical skills, business acumen, creative attitude #cultural and creative industries #change management #creativity #design driven innovation #cross-cultural research #fashion design #SH1_9 Industrial organisation; entrepreneurship; R&D and innovation	Scientific: #3Fostering diffusion of knowledge and Open Science **Reinforcing cross-sector knowledge for supporting digital transformation** (digital skill-set) in the Fashion Industry and education, contributing to mitigate the gap between market demands and skills supply	• Design educators • Design students • Entrepreneurs and professional in the CCS (fashion industry)
i. #Curricula/Learning modules DigiMooD **curricula:** cross-cutting curricula joining offers/competences and faculty/students already working or enrolled in one of the 3 disciplines - design, management, informatics - in direct collaboration with CCIs ii. #MOOC #Toolkit/Toolbox #Website **6 MOOCs** (18 ECTS) and **130 video lessons** recorded (with the support of POK Polimi) and **1 toolkit** about MOOC development iii. #Master courses/class/School **Field projects** for design students in collaboration with CCIs	**Knowledge on** cultural and creative sectors, business and technology disciplines in **education and entrepreneurship** #cultural and creative industries #change management #competitive advantage #creativity **Multi-disciplinary and international collaboration** of different cohorts of students coming from different universities, working jointly and stimulating a process of **learning-by-doing** between students and students and teachers #networks Enabled **personalised learning** #digital platforms #fashion design #SH1_9 Industrial organisation; entrepreneurship; R&D and innovation #SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Societal: #6 Strengthening the uptake of research and innovation in society **Strengthening the impact and the quality of design education** to get a mutual reinforcement between educators and working system and to widening the visibility and academic influence Scientific: #2 Strengthening human capital in research and innovation **Favouring capability building in HEIs students** through new curricula that promote cross-sector knowledge among cultural and creative sectors, business and technology disciplines in the area of the Fashion industry	• Design students • Design educators

DigiMooD for CCI (Bertola, coordinator)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
i. #Framework #Educational programme **1 developed framework** built to organize knowledge and to define learning objectives and outcomes (technical skills, business acumen, creative attitude) ii. #Evaluation study #Workshop **3 co-creation & dissemination workshops** for validation of new curricula with design students	Experimentation of the **new teaching methods** #interdisciplinarity #design driven innovation **Up-grading teachers' skills**, encouraging them to use innovative/digital pedagogies (i.e. including digital content in their learning materials). #digital platforms #fashion design #SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Societal: #6 Strengthening the uptake of research and innovation in society **Strengthening the impact and the quality of design education** in collaboration with entrepreneurs in fashion companies in order to get a mutual reinforcement and to widening the visibility and academic influence Societal: #6 Strengthening the uptake of research and innovation in society **Increasing the awareness of the culture of cross-fertilization in applying entrepreneurial culture within design** as a driver for innovation and growth in the fashion system	• Design educators • Design students
i. #Scientific publication 1 **edited book** + chapters (Mandragora) 4 **conference papers** at international conferences (IATED, ICERI, GFC)			• Scientific community
i. #Repository **Curricula repository** of students available to Fashion companies in Milan ii. #Matchmaking **1 Matchmaking event** among design students and CCIs	**Increased networking and dialogue** among early career professionals and CCS for effective exploitation of new profiles #digital platforms #networks #competitive advantage #fashion design #SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies	Scientific: #1Creating high-quality new knowledge Promotion of the culture of **cross-fertilization** between **entrepreneurship, creative industries & ICT**, considered as new drivers for innovation and growth Techo/economic: #7Generating innovation-based growth **Favouring the employability** of design students in fashion design by improving their digital skill-set within the fashion system awareness in order to favour the industry growth	• Entrepreneurs and professional in the CCS (fashion industry)
i. #Interview results #Case Studies **12 cases of best practices interviewed** (start-ups) from the fashion-tech sector (6 from the Italian panorama, and 6 from the French one), **6 Case Studies** Video Narratives produced ii. #Questionnaire/Survey result Quantitative survey and qualitative **interviews to 50 companies** representing the present fashion market	Build a **knowledge repository** to frame the relevant competences at present, but also the changes needed in educational programs to effectively upskill the fashion industry. #digital platforms #networks #case studies	Scientific: #2Strengthening human capital in research and innovation Strengthening the awareness, diffusion and uptake of the **ideal profile for future fashion professionals** Scientific: #3 fostering diffusion of knowledge and Open Science **Reinforcing collaboration and synergies between university** (educators and students) and **entrepreneurs** (CCIs companies and start-ups) through exchange on digital skill-set for CCIs	• Scientific community • Companies and intermediaries in the fashion industry

DigiMooD for CCI (Bertola, coordinator)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
i. #Educational programme	Contribution to the **revision of the curriculum** of the **Master's** Degree in Design for the Fashion System #cultural and creative industries #change management #fashion design	Technological/economic: #8 creating more and better jobs **Favouring the employability** of design students in fashion design by improving their digital skill-set within the fashion system awareness in order to favour the industry growth	• Research team • Design students • Professionals in the fashion industry
i. #PhD thesis **2 PhD research** launched and started ii. Creation of **research fellows positions**	Reinforcement of the research team #networks	Scientific in the research team: #2 Strengthening human capital in research and innovation **Reinforcing group knowledge and expanding the research team** and subsequently attracting a PhD student	• Research team

DeFINE (scheda completa)
PI: Paola Bertola, coordinator

Full title: Developing a Fashion-Tech Innovation Network for Europe

Duration: 2018-2020 (3y)

Program & specific program: COSME Work Programme 2017 COS-2017-3-04-1 - EUROPEAN INCUBATION NETWORKS FOR CCIS

Topic: development of a network of incubators & accelerators, start-ups & SMEs, and financiers to build a European Fashion-Tech community for transnational collaboration

5 keywords: Design and Entrepreneurship, Fashion-Tech, Creative Industries, design-led research

Issues/challenge: the field of Fashion-Tech is still largely **dominated by multinational firms** such as Yoox-Net a Porter, Google and Apple. The majority of the European fashion industry, which is made up of start-ups and SMEs throughout the supply chain, have been **slow to adopt new technologies** that would allow them to **adapt** business models and **create** new products, services and market approaches. As a result, they are missing out on **opportunities for growth** and the industry risks becoming less competitive and less relevant in a global marketplace.

Key idea and scope of the project: Develop a European **network** of Fashion-Tech business support organisations through mapping and **networking events**; Develop a European Fashion-Tech Financier Network to support the growth and scaling-up of innovative Start-ups/SMEs; Deliver 8 **info days** and 4 **bootcamps** towards a **mentoring** process to **prototype** either products/services, processes or market approaches

DeFINE for CCI (Bertola, coordinator)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
i. #Networking #Data collection (repository) #Datasets #Platform Development of **1 European Fashion-Tech Financier Network** developed through a **web-search tool** ii. #Networking #Data collection (repository) Development of **1 European network** of Fashion-Tech **business support organisations** iii. #Tool #Platform #Website #Usability test #Datasets **1 "Map of European Fashion-Tech network"** displayed across 24 countries (Incubators, Accelerators, Academic institutions, Clusters, Hubs). **1 Website** developed for the map, working at the redesign of the user experience to support the developers iv. #Repository #Networking Development of the **community members repository**, accessible to all members	**Enlargement of the Fashion-Tech network** to establish a sustainable network of incubators, accelerators and other business support organisations and to connect with existing Fashion-Tech initiatives in a meaningful and impactful way with investors to collaborate with #mapping #cultural and creative industries #competitive advantage #fashion design **Development of capacity building activities** for trends analysis to support Fashion-tech start-ups #cultural and creative industries #competitive advantage #fashion design **Engagement and interaction** with the Fashion-Tech community to support the growth and scaling-up of innovations #cultural and creative industries #competitive advantage #fashion design **Increased networking and dialogue** through the promotion of the map as a useful resource and tool #digital platforms #mapping #user centered design SH1_9 Industrial organisation; entrepreneurship; R&D and innovation SH3_8 Social policies, welfare, work and employment	Scientific: #3Fostering diffusion of knowledge and Open Science **Increasing awareness and innovation capacity** of SMEs in Fashion-Tech industry and business support organisations through a dedicated training process and networking in order to reinforce cross-sectoral knowledge and transnational collaboration Societal: #6 Strengthening the uptake of research and innovation in society **Favouring networking and reinforcing synergic cooperation** of incubators, accelerators and other business in Fashion-Tech industry with financiers to spread awareness about the value of investing in Fashion-Tech businesses Techno-economic:#7. Generating innovation-based growth **Demonstrating the strategic value of the adoption of new technologies** in the Fashion-Tech businesses for SMEs growth and competitiveness	• Investors • Start-ups • Incubators • Accelerators • Academic institutions • Clusters • Hubs
i. #Workshop #Networking **1 Investment Readiness Programme** workshops and **4 Bootcamps** for innovators/start-ups ii. #Event #Exhibition **2 Annual Networking events** **1 Final Fashion-Technology showcase** **1 exhibition** of start-ups supported, showing their expertise and projects	**Increased support to the growth and scaling-up** of innovative Start-ups/SMEs #cultural and creative industries #competitive advantage Increased support to start-ups in **incubating business ideas** to get follow-up requests from financiers #cultural and creative industries #competitive advantage SH1_9 Industrial organisation; entrepreneurship; R&D and innovation SH3_8 Social policies, welfare, work and employment	Scientific: #2Strengthening human capital in research and innovation **Favouring capability building** of innovators in Fashion-Tech to improve their access to finance and submit for mentoring Techno-economic:#7. Generating innovation-based growth Informing and nurturing the **development and transferability of new technologies** in the Fashion-Tech businesses through incubation of business ideas to prevent low competition risks	• Innovators • Start-ups • Financiers

DeFINE for CCI (Bertola, coordinator)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
i. #Seminar 1 **Info Day organised and contribution to the organisation and delivery of** 9 Info Days 2 thematic **webinars** published ii. #Networking 4 **Bootcamps** involving more than 400 start-ups or SMEs iii. #Training sessions #Lesson learnt 2 rounds of **Mentoring programme** for 27 selected start-ups iv. #Toolkit/Toolbox **1 toolkit** to guide Lead Supervisors, mentors and Mentees to focus on the objectives of the Mentoring programme	**Stimulation of knowledge sharing** to further support the transition of business ideas to market #cross-cultural research #competitive advantage **Review of the business model and market entry** to valorise traction (marketing) and identification of investment needs #cross-cultural research #competitive advantage **Stimulation of interaction** between large numbers of interested parties working in fashion and technologies SH1_9 Industrial organisation; entrepreneurship; R&D and innovation	Techno-economic: 7. Generating innovation-based growth **Shaping innovative visions into business opportunities** and promoting the participation and preparation of innovators through mentoring programmes towards the Fashion-Tech community development. Societal: #6 Strengthening the uptake of research and innovation in society **Increasing the awareness of the ecosystem of the Fashion-Tech sector** as new driver in developing entrepreneurial business ideas for creating innovation and growth in the society	• Start-ups • SMEs
i. #Impact evaluation #Technical Report impact evaluation **methodology and framework** ii. #Technical Report #Impact evaluation #Guidelines #Recommendations #Lesson learnt **1 report** with lessons learnt from the case studies and interviews evaluation	**Facilitation of impact evaluation** by establishing the information collected in each link in the chain as well as the outcome indicators for the project evaluation. **Generation of guidelines and recommendations** for the creation of development policies and entrepreneurial support dedicated to the Fashion-Tech sector #cultural and creative industries #competitive advantage #fashion design SH1_9 Industrial organisation; entrepreneurship; R&D and innovation SH3_8 Social policies, welfare, work and employment	Societal: #6 Strengthening the uptake of research and innovation in society **Producing and sharing knowledge** on the nature and opportunities of the fashion-tech sector Societal: #4Addressing EU policy priorities and global challenges through research and innovation **Nurturing policy development and entrepreneurial support** dedicated to the Fashion-Tech sector through the generation of guidelines and recommendations	• Investors • Start-ups • Incubators • Accelerators • Academic institutions • Clusters • Hubs
i. #Questionnaire/Survey result #Online consultation #Case studies Collection and analysis of extensive and detailed feedback to Start-ups and Innovators participating to the Mentoring programme	**Assessment of the needs and the definition of smart objectives**: understanding of development status, business model, traction and time to market #cross-cultural research #competitive advantage #case studies		
i. #Scientific publication **2 papers** in international conference ii. #Intership **7 Internships**		Scientific: #1Creating high-quality new knowledge **Reinforcing and advancing knowledge on the design contributions** to Fashion-Tech research and innovation	• Scientific community

DeFINE for CCI (Bertola, coordinator)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
i. **Application to an Horizon Europe call** as coordinator involving one of the DeFINE start-up for the mentoring process for the new project ii. **Invited to join as partner a EU project** for the specific expertise developed through the project: the coordinator needed to expand its network, to coach expertise between investors and accelerators, and to be supported in the organisation of pitching sessions and acceleration days iii. The project has launched the **fashion-tech research area** for the research team for future developments	Enhancement of the **visibility** of the research team in the international context among institutions and research centers #networks Activation and strengthen of networking at European level to facilitate new research opportunities and new research areas #cultural and creative industries #cross-cultural research #fashion design	Scientific in the research team: #2 Strengthening human capital in research and innovation **Reinforcing group knowledge and expanding the research team** and subsequently attracting a PhD student	• Research team

WeMi
PI: Valeria Bucchetti, partner

Full title: WeMi - WELFARE DI TUTTI

Duration: 2015-2018 (3y)

Program & specific program: Progetto Welfare di comunità e innovazione sociale. Bando Welfare in azione – Fondazione Cariplo

Topic: development and promotion of a City Platform of Home Care Services, and of territorial platforms to easy access to a new system of home care services in the City of Milan

5 keywords: welfare for and with all, design for policy, social impact design, communication and digital design, brand identity for complex systems

Issues/challenge: The articulation of the **Milanese welfare system** is characterised by **fragmentation** of responsibilities, functions, funding sources and supply units. Today, however, faced with situations in which people's social needs do not necessarily coincide with economic hardship, there is a need to **develop a model of access to services** by public administrations and community welfare networks.

Key idea and scope of the project: The aim of the project is to build a **welfare "for and with all"**, aimed at overcoming fragmentation, breaking down the barriers created between citizens and generating value, social capital and links. Interventions will be aimed at recomposing resources (formal and informal), enhancing and connecting the skills that the city has and will have generated.

WeMI (Bucchetti, partner)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
i. #Platform #Repository #Networking #Website #Brand identity Development of a **1 unified interface** to access the offer of the home services system, also promoting peripherals and innovative services and to aggregate supply and intersect demand ii. #Construction of physical space (lab & building) #Brand identity Realisation of common and unitary elements necessary for the establishment of **3 physical places** in two areas of the city as unified interfaces for access to the provision of the zonal home services system iii. #Framework #Guidelines #Brand identity #Tool Realisation of **1 framework** and **1 guideline** for the development of spatial identity (declination of identity elements and integration model of different functionalities) and realisation of **1 tool** for automated logo generation, to enable the expansion of the network of spaces after the end of the project. iv. #Co-creation sessions #Focus groups Development of a listening process and active involvement of the platform's various stakeholders through **4 focus groups** and **3 co-creation sessions** v. #Datasets **Database** of the provided services for the definition of connection methods between the territorial platform and the accredited bodies for home services	**Recomposition and integration** of the offer of the Milanese welfare system to contribute to the reduction of fragmentation (institutional and territorial) and to the recomposition of interventions and resources with a view to transforming the system #change management #digital platforms #welfare #design driven innovation #user centered design #communication design **Creation of a tool for promotion and visibility** to the providers of the system #communication process #communication design **Broadening the target group** to enable the system to progressively overcome the flattening of services on performance and to reach the needs of specific communities, promoting their dissemination and replication on the territory and the demand aggregation #design for subjective well-being #networks #user centered design **Improvement of the territorial governance** of the service provision system, enhancing the capacity to offer integrated responses, initiating integration practices #change management #welfare #design driven innovation SH7_4 Social aspects of health, ageing and society SH3_8 Social policies, welfare, work and employment SH3_4 Social integration, exclusion, prosocial behaviour SH3_12 Communication and information, networks, media	Societal: #6 Strengthening the uptake of research and innovation in society **Strengthening the listening and gathering** of widespread needs in order to promote the emergence of unexpressed social demand and needs not (re)known by the system today Social: #6 Strengthening the uptake of research and innovation in society Improving the **quality of life** of citizens, supporting and boosting the local welfare ecosystem Social: #6 Strengthening the uptake of research and innovation in society **Reinforcing inclusion** of increasingly large sections of the population through **access to integration and support services** by public administrations and community welfare networks Societal: #5 Delivering benefits and impact through research and innovation missions **Boosting the proactive engagement of the civil society** in the transformation of the public welfare system to reinforce inclusion and integration Societal: #5 Delivering benefits and impact through research and innovation missions **Ensure the implementation and development of a widespread welfare system** capable of reaching more and more segments of the population	• Families • Companies • Condominiums • Associations of parents and/or citizens • Schools • Workers in home care services

WeMI (Bucchetti, partner)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
i. #Evaluation study #Protocol (method) Defining the **monitoring parameters** for verifying the usability and effectiveness of the tools ii. #Tool #Platform Collaboration in the conception, design and implementation of the platform's **back-end functionality for the collection, monitoring, analysis and reporting of data** related to home care services in collaboration and connection with the information systems of the Municipality of Milan and ASL Milano iii. #Technical Report **Systematization of identity qualities** and values into appropriate graphic formats collected in **1 technical report**	**Enabling an accounting** of the home services actually provided throughout the city, whether free, shared or fee-paying, to allow the territorial system to better segment social priorities and, if necessary, to redefine strategies and the use of resources. #change management #welfare #design driven innovation **Growth of the systematisation** of the collection of quantitative and qualitative data through the reporting of the whole system of home-based services towards a transparent and effective accountability of the territorial system #design driven innovation **Improvement of the communication processes** to increase the recognisability and the percentage of citizens accessing the service system through the planned communication channels #design driven innovation #communication process #communication design SH3_8 Social policies, welfare, work and employment SH3_12 Communication and information, networks, media PE6_10 Web and information systems, database systems, information retrieval and digital libraries, data fusion	Societal: #4 Addressing EU policy priorities and global challenges through r&i **Aligning better policy priorities** to the real needs of the local ecosystem. Societal: #4Addressing EU policy priorities and global challenges through research and innovation **Nurturing policy development** dedicated to the welfare sector to improve the overall quality of services and the capacity to increase the rates of coverage of needs. Scientific: #3 fostering diffusion of knowledge and Open Science **Strengthening adherence to system values** to foster multi-actor collaboration at the local level and improve the welfare ecosystem	• Service operators • Service providers • Policy makers
	Facilitation in matching services demand (individual and collective) **and supply** in an aggregate way, enabling all potential beneficiaries to access the existing offer. #design for subjective well-being #user centered design #change management #welfare **Strengthening of proactive listening devices** and **collection of needs** to bring out individual/collective demands both expressed and unexpressed, enabling all potential beneficiaries to access the existing offer. #design for subjective well-being #user centered design #welfare SH3_8 Social policies, welfare, work and employment SH3_4 Social integration, exclusion, prosocial behaviour	Societal: #5 Delivering benefits and impact through research and innovation missions **Promoting better quality of the offer and facilitating access** to services by contributing to the welfare of citizens and workers. Social: #6 Strengthening the uptake of research and innovation in society **Promoting the inclusion** of the middle and upper income classes in welfare services, **improving the quality of services and places, establishing economic support tools** for lower income groups.	• Families • Companies • Condominiums • Associations of parents and/or citizens • Schools

WeMI (Bucchetti, partner)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
i. #Scientific publication **1 edited book** (Franco Angeli) with chapters made by Polimi authors, **1 journal article** (Rivista scientifica) ii. #Award **3 awards** (Adi Design Index 2017, Menzione d'onore XXV Edizione Compasso d'oro ADI, Regione Lombardia, riconoscimento "Eccellenze della Lombardia" nella sezione "Design per la comunicazione")	New knowledge creation	Scientific: #1Creating high-quality new knowledge **Deepening and expanding knowledge** of welfare sector and ecosystem through experimentation activities	• Scientific community

WeMI (Bucchetti, partner)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
• Invited to be partner for **funded projects** (*Polisocial 2017. Periferie di talento. Nuovi spazi di azione tra giovani NEET e anziani* and *WISH MI. Wellbeing integrated System of Milan – Unione Europea, bando UIA – Urban Innovative Actions.*) • **Invitation to be speakers at conferences/seminars and scientific boards** • **Development of other research projects** building on the WeMi further development and on its partnership • **Creation of new research directions** (Research group: DCxW Communication Design for Welfare. Research and design of complex communication systems for social and community settings, and design of participatory tools and methods for their development. • **Creation of new PhD research streams** (Communication Design for Welfare) • **Creation of new research fellowships** (3 research grants currently active (11 years activated since 2015)	**Activation and strengthen of networking locally** (researchers, local stakeholders, policy makers) and **nationally** (associations, institutions) to facilitate new research opportunities #change management #digital platforms #welfare #design driven innovation #user centered design #communication design Enhancement of the **visibility** of the research team locally and nationally among institutions and policy makers	Scientific in the research team: #3 fostering diffusion of knowledge and Open Science **Developing research directions,** geared toward the application of communication design skills to support the welfare ecosystem Societal in the research team: #6 Strengthening the uptake of research and innovation in society **Verifying the replicability and effectiveness of the implemented methodology** through a long-term adoption in the city context	• Research team

CREA (complete scheme)
PI: Zurlo, coordinator

Full title: CREA - Network of summer academies for the improvement of entrepreneurship in innovative sectors (link)

Duration: 28 months (01/01/2015 - 30/04/2017)

Program & specific program: H2020-ICT-2014-1 INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies, ICT-35-2014 - Innovation and Entrepreneurship Support (H2020-ICT-2014-1 **IA)**

Topic: Design for entrepreneurship, bridging creativity, ICT and entrepreneurship

5 keywords: Innovation and Entrepreneurship; Design Thinking; ICT; Educational model; Creative industries

Issues/challenge: Innovation and entrepreneurship development and training, especially for young students (high school and university students) at early stage of business. CREA project promotes ICT development and creativity **as new drivers** able to produce specific structural changes and arrangements in the **European entrepreneurial base**, **to influence the future paths of social change and innovation to a large extent.**

Key idea and scope of the project: .CERA projects aims at: 1) creating **a European wide system of Summer Academies** for university and last year high school students entirely focused on ICT entrepreneurship. 2) offering a rich offer of **mentoring, support for business planning, matchmaking opportunities and generation of ICT related business ideas** 3) stimulating the development of **new start up business ideas boosting ICT and creativity**

CREA (Zurlo, coordinator)

OUTPUT	OUTCOME	IMPACT	TARGET
I. *#Methodology* **Methodological dossiers** for training activities II. *#MOOC* Dossier of **training programme** of Italian Summer Academy III. *#Toolkits* Online tools for **mentoring** and **coaching** entrepreneurship skills IV. *#Toolkits* Toolkits for the business model development V. *#Summer school #Training* **Summer Academies implemented** in Italy (twice, once a year) VI. *#Technical report* **Dossier** of Italian Summer Academy (list of pesentations of the projects + video of pitch sessions + evaluation of the faculty&results + list of all the info of participants + list of the selected teams) VII. *#New project* developed and Pitch presentations (10 first year + 9 second year)	#creativity #design driven innovation #strategic design #user-centred design #SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies **Diffusion the application** and **use** of Summer Academy, in which design/creativity methods and tools for new business idea creation are taught and practiced	Societal:#6 Strengthening the uptake of research and innovation in society **Capability building, empowering** university and high school students to apply **Creativity** & **Design-driven methods** on **ICT entrepreneurship** to produce business ideas through Summer Academies.	**Young students** (university & high school);
I. *#Methodology* **Methodological dossiers** for training activities II. *#Toolkits* Online toolkit for **mentoring** and **coaching** entrepreneurship skills III. *#MOOC* Online **training programme** on EU startuper ecosystems & intellectual property for startupers IV. *#Case study result* Report of best practice of summer schools focus on entrepreneurial skill V. *#Scientific publication* **Publications** on "entrepreneurship education", highlighting the importance of including "creativity" "technology" and "design approach" VI. *#Publication #Website* Project website, social media, local events open to the public	#design driven innovation #cultural and creative industries #interdisciplinarity #design thinking #SH1_9 Industrial organisation; entrepreneurship; R&D and innovation **Creation and diffusion** of **Knowledge** on bridging Creative Industries and ICT in business innovation and entrepreneurship	Scientific: #1Creating high-quality new knowledge #3 Fostering diffusion of knowledge and Open source **Creating new knowledge** of the **cross-fertilization** among creative industries, ICT and entrepreneurship disciplines Societal: #6 Strengthening the uptake of research and innovation in society **Fostering the diffusion** of the **culture of cross-fertilization** through implementing training activities for bridging creative industries, ICT, and entrepreneurship disciplines	**Scientific community**; **Young students** (university & high school);
I. *#Networking* **Local meetings** of stakeholder engagement with High schools, Universities, Incubators and Student Associations II. *#publication #Website* Project website, social media, local events open to the public III. *#Conference #Publication* **Conferences** to communicated the final outputs locally - brochure, audiovisual presentations and videos (12 videos) were used to communicate the project's results	#competitive advantage #networks #digital platforms #SH3_8 Social policies, welfare, work and employment **Networking and community building** locally to facilitate new business opportunities creation	Technological/economic (*especially at local level*): #7 Creating more and better jobs **Increasing** of the number of offered opportunities for entrepreneurs, new initiatives, more opportunities of collaboration **between different actors of the entrepreneurial ecosystem**	**Entrepreneurs** & **SMEs** in different industries; Other actors in the relevant sectors; Young students (university & high school); society in general
I. *#Framework* **A replicable model** for the European System of Summer Academies which can be sustained and further implemented beyond the funded period II. *#Guideline* Model for oragnzing CREA summer academy III. *#Publication* Project website, social media, local events open to the public IV. *#Conference* **Conferences** to communicated the final outputs (both EU Level & local level)	#design policy #interdisciplinarity #networks #SH3_8 Social policies, welfare, work and employment PE7_8 Networks (communication networks, sensor networks, networks of robots...) An **established network** of Summer Academies well connected both at EU level and within local innovation ecosystems	Societal: #4 addressing EU policy priorities and global challenges through r&i **Strengthening the policy priority** on enabling an innovative entrepreneurial ecosystem through the creation of a bottom-up approach to link different local actors.	**Local government** (policy makers) Young students (university & high school); universities; Entrepreneurs & SMEs in different industries; Other actors in the relevant sectors; society in general

CREA (Zurlo, coordinator)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
I. *#Scientific publication* **Scientific outputs** (methodologies, report of case studies, publications) II. *#lesson-learnt* Practical experiences in training actors without design background on the design-driven approach, methods and tools. III. *#Toolkits* Online tools for **mentoring** and **coaching** entrepreneurship skills	#design driven innovation #strategic design #cultural and creative industries #interdisciplinarity #SH1_9 Industrial organisation; entrepreneurship; R&D and innovation I. Creating a specific research direction: **design-driven approach** in ICT and Entrepreneurship #SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies II. development of **training methods and tools** on the design-driven entrepreneurship III. Gaining knowledge basis for conducting other research projects	Scientific in the research team #1Creating high-quality new knowledge #3 fostering diffusion of knowledge and Open Science I. Fundamental basis creation of CI.lab inside department II. Reputation and recognition on the research topic: design-driven approach for business and innovation	Research group

CO-CREATE (complete scheme)
PI: Vignati, partner

Full title: CO-CREATE - Setting up a network of COmpetitive MED Clusters with the contribution of CREATive industriEs (link)

Duration: 39 months (01/11/2016 - 31/01/2020)

Program & specific program: MED interreg

Topic: building innovation capability through bridging creative sector with traditional MED sectors

5 keywords: cross-fertilization, design driven innovation, creative industries, SMEs and entrepreneurship, knowledge transfer

Issues/challenge: *Mechanics*, *building* and *furniture* are **traditional MED sectors** with a great impact in terms of GDP and employability but are suffering a lack of innovation. 1) strongly need to contribute to reach the **Europe 2020 goals of smart, sustainable and inclusive growth**. 2) need to be supported in the development of technological innovations and **research activities**. 3) SMEs, clusters and public administration all need to progress the innovation capacity by improving their connections among different sectors, at different levels and promoting interdisciplinary approaches going beyond local boundaries.

Key idea and scope of the project: The overall objective of CO-CREATE project is to **support the competitiveness** and **enhance the innovation capacity** of MED traditional sectors, stimulating **cross-industries/sector cooperation** and enabling the promotion of innovative products and services. CO-CREATE aims at increasing transnational activity of bridging creative clusters and networks in MED key sectors through t**esting and capitalizing a cross-fertilization model** addressed to the traditional clusters **receiving inputs from the creative industries**.

CO-CREATE (Vignati, partner)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
I. *#Co-creation activity* *#Guideline* *#Toolkits* **Cross-fertilization** activities/services for bridging creative industries and traditional sectors with specific programs, timelines, activities, toolkits. II. *#Networking* **Networking among different actors** in the same region (Clusters, SMEs in different sectors, Creative Industries, Local/Regional Authorities) III. *#Publication* *#Website* **Project communication materials** (website, brochure, information on social media) IV. *#New projects* **Innovative projects** created together by SMEs from traditional sectors and creative industries (signed agreements) V. *#Seminar* *#Conference* **Public events** of communicating the final results and agreed collaborations (innovation projects)	#design driven innovation #strategic design #cultural and creative industries #design thinking #SH1_9 Industrial organisation; entrepreneurship; R&D and innovation **Diffused applications and implementation of** design-driven innovation approach in different traditional sectors	Scientific & Societal: #3 Fostering diffusion of knowledge and Open source #6 Strengthening the uptake of research and innovation in society **Strengthening and promoting** the **culture and values** of : I. **creative industries & design-driven innovation** in the traditional sectors/clusters II. **cross-fertilization innovation method and tools** in both creative industries (design-driven) and the traditional sectors/clusters	Cluster managers; SMEs in traditional sectors; Creative Industries; research communities; society in general
I. *#Methodology* Cross-fertilization **methodology** (training the train + training the SMEs + train the creatives + Creative Camp) II. *#Scientific publication* **Publications** - 1 conference proceeding	#design driven innovation #strategic design #design thinking #SH1_9 Industrial organisation; entrepreneurship; R&D and innovation **New knowledge creation** on how to foster creativity and design-driven innovation in traditional SMEs	Scientific: #1Creating high-quality new knowledge **Creating new knowledge** of **cross-fertilization** among creative industries and traditional industries through design-driven innovation approach	Research communities;
I. *#Methodology* Cross-fertilization **methodology** II. *#Guideline* *#Toolkits* Cross-fertilization **services & toolkits** III. *#Training* **Training events** organized in form of seminar sections on Design-Driven Innovations and innovation capabilities to SMEs in traditional sectors + training session (online) for SMEs in creative sector + Train the trainers in the project IV. *#Co-creation activity* *#Matchmaking* **Creative Camp / Matchmaking sessions** (workshop) between traditional sectors and Creative sector (local + transnational) V. *#Networking* *#Seminar* **Networking among different actors** in the same region (Clusters, SMEs in different sectors, Creative Industries, Local/Regional Authorities)	#design driven innovation #interdisciplinarity #SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies I. **Implemented training** methods and activities on design-driven innovation for SMEs and managers in traditional sectors #competitive advantage #cultural and creative industries #SH1_9 Industrial organisation; entrepreneurship; R&D and innovation II. **Transferred know-how** and **gained practical experiences** on using cross-fertilization methods and design-driven innovation tools to collaborate with creative industries	Societal: #6 Strengthening the uptake of research and innovation in society I. **Capacity building**, **empowering** SMEs and managers in the traditional sectors to benefit from **cross-fertilization & cross-sector collaboration** with **creative sector** in different EU region Economic: #7 Generating innovation-based growth II. **Increasing the competitiveness** and **performance** of SMEs in the traditional sectors	Cluster managers; SMEs in traditional sectors;

CO-CREATE (Vignati, partner)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
I. *#Publication* Launch of **Cross-fertilization Manifesto** II. *#Guideline #Policy-related activities* **Guidelines** for policymakers III. *#Co-creation activity #Matchmaking* **Creative Camp / Matchmaking sessions** IV. *#Networking #Seminar* **Networking among different actors** in the same region (Clusters, SMEs in different sectors, Creative Industries, Local/Regional Authorities) V. *#Seminar #Conference* **Public events** of communicating the final results and agreed collaborations (innovation projects)	#design policy #SH3_8 Social policies, welfare, work and employment I. **Established** and **perceived policy recommendations** based on the activities and experiences from the project #networks #competitive advantage #interdisciplinarity #collaborative services II. Cross-sector networks are formed	Societal: #4 addressing EU policy priorities and global challenges through r&i I. **Promoting** the **cross-sector innovation** & **cooperation policies** to foster an **environment** and a new **approach** of innovation in local ecosystems Technological/Economic: #7 Generating innovation-based growth I. **Facilitating** and **enhancing networking** and collaboration opportunities among different sectors #8 Creating more and better jobs II. **Increasing the new job offering** in different local ecosystems (cross-sector opportunities)	Policy makers; SMEs in traditional sectors; Creative industries; society in general
I. *#Methodology #Guideline #Toolkits* Cross-fertilization **methodology, activities/services & toolkits** II. *#Networking* **Networking among different actors** in the same region (Clusters, SMEs in different sectors, Creative Industries, Local/Regional Authorities) III. *#Scientific publication* **Publications** - 1 conference proceeding	#design driven innovation #strategic design #cultural and creative industries #competitive advantage #SH1_9 Industrial organisation; entrepreneurship; R&D and innovation I. **Gained knowledge** and **experiences** on training the design-driven approach and tools to SMEs in different sectors/clusters II. A good **relationship** with local SMEs and industries for collaboration in the future III. A strong **connection** with the project coordinator to collaborate for other EU calls and proposals	Scientific in the research team: #3 fostering diffusion of knowledge and Open Science **Scaling up the research line** dedicated to cross-fertilisation between Creative Industries (especially the design-driven innovation approach) and individuals, SMEs and big organizations in other sectors/industries/domains	Research group

BRIEFING (complete scheme)
PI: Zurlo, partner

Full title: BRIEFING – Bridging the FET Innovation Gap (link)

Duration: 30 months (1 December 2018 - 31 May 2021, with extension)

Program & specific program: H2020-FETOPEN-2018-02, FET-Open Coordination and Support Actions (**CSA**)

Topic: transfer Future and Emerging Technologies into tangible innovative potentials

5 keywords: Future and Emerging Technologies (FET), Training, Business value creation, innovation ecosystem

Issues/challenge: Studies have identified that there is a number of **shortcomings in terms of creation of societal and economic impact** of FET program and projects: 1) Extend the FET community to SMEs; 2) Close the gap between early stage funding and **market exploitation** 3) Facilitate the **use of the generated knowledge** 4) Enhance **entrepreneurship & business communities** training to FET researchers 5) Open up to communities beyond traditional stakeholders of H2020 7) Broaden the definition of innovation beyond technology to include for example social sciences.

Key idea and scope of the project: The main objectives of BRIEFING project are: 1) Identify the **needs of FET researchers** and design a tailored services portfolio; 2) Creation of a vibrant space **where technologies and business cases are exposed**; 3) Supporting researchers to **identify innovation opportunities** in FET projects and to develop **concrete use cases** on top of FET technologies; 4) Stimulate the creation of the FET Innovation Community by facilitating **mutual understanding** between research and business world

BRIEFING (Zurlo, partner)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
I. *#Framework #Guideline #Toolkits* **Innovation Opportunity Training framework** creation - including specific program and tools II. *#literature review result #case studies* **list of variables** about essential elements for creating the framework for Innovation Opportunity training III. *#Training #Workshop* 12 remote **Innovation Opportunity workshops** (lead)	#design driven innovation #strategic design #SH1_9 Industrial organisation; entrepreneurship; R&D and innovation **Implementation and application** of innovation opportunity identification methods and tools in the FET community	Scientific: #3 Fostering diffusion of knowledge and Open source **Diffusing** the **knowledge** of and **awareness** on commercialization and business opportunities in the FET community	FET researchers; Research communities on commercialization technology development
	#design thinking #user-centred design #SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies **Tested and implemented** training methods and tools to FET researchers (with a high number of participants) on the innovation and commercialization potentialities	Societal: #6 Strengthening the uptake of research and innovation in society **Capacity building, transferring** the mindset, methods and tools of identifying the innovation potential of FET researches at a very early stage.	
I. *#New concept* creation of around 40 new ideas (FET technologies transferred into novel business ideas) on how to commercialise their researches and technologies	#competitive advantage #strategic design #SH1_9 Industrial organisation; entrepreneurship; R&D and innovation #SH3_8 Social policies, welfare, work and employment **Recognition and acknowledgement** on the values of innovation projects driven by FET research projects	Societal & Technological/Economic: #6 Strengthening the uptake of research and innovation in society #7 Generating innovation-based growth **Building up the long-term innovation potential** in Europe both from the abundance of novel ideas and the range of actors ready to take them forward (creating an **ecosystem**)	FET researchers; SMEs in the industries and any organizations who are interested to invest; society in general
I. *#Knowledge base* Published study report of FET ILP projects on all FET official channels (as for instance the http://www.fetfx.eu website)	#case studies #SH3_14 Social studies of science and technology Gained knowledge on a specific area - FET research	Scientific: #1Creating high-quality new knowledge **Creating knowledge** on FET ILP projects, future CSA projects to identify the needs of FET projects and design supporting activities might be built based on that.	Scientific communities

BRIEFING (Zurlo, partner)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
I. *#Framework* *#Guideline* *#Toolkits* Updated **framework** and **toolkits** on innovation opportunity training activities, which was a further development on design-driven approach and tools for new business ideas and opportunities	#design thinking #user-centred design strategic design #SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies #SH3_14 Social studies of science and technology **continuum** of applying design-driven approach and methods (tools), opening up a new sector/to a specific target group	Scientific in the research team: #3 fostering diffusion of knowledge and Open Science I. **Strengthening** the research on developing design-driven approach & methods in training activities for new business opportunities in different sectors (cross-fertilization innovation) II. **Gaining reputation** and more opportunities on applying design-driven approach (methods and tools) in different research communities and topics	Research group

LeNSin (complete scheme)
PI: Vezzoli, coordinator

Full title: LeNSin - the international Learning Network of networks on Sustainability (link)

Duration: 44 months (Oct. 2015 - Jun. 2018)

Program & specific program: ERASMUS+ | **Capacity Building** in higher education

Topic: capability building on design for sustainability

5 keywords: design for sustainability (DfS), Open access learning resources, curriculum development, Sustainable Product-Service Systems (S.PSS), Distributed Economies (DE)

Issues/challenge: The project topic of Design for Sustainability (DfS) focused on Sustainable Product-Service Systems (S.PSS) applied to Distributed Economies (DE) is an innovative field of research. These two models are promising opportunities to **address the Sustainable development being win-win opportunities to couple economic sustainability with Environmental protection** (priority) while representing an opportunity to enhance social equity and cohesion especially in low and middle-income contexts.

Key idea and scope of the project: LeNSin fostered **capacity building in each region through five Seminars and ten Curricular Courses**, designed and implemented by the Partner countries' and European HEIs in close collaboration and involving local companies/NGOs/organisations. The **two supporting structures** of the project are: 1) The **distributed Open Learning E-Platform** (d.OLEP, www.lens-international.org); 2) **A set of labs** (LeNS_labs)

LeNSin (Vezzoli, coordinator)

OUTPUT	OUTCOME	IMPACT	TARGET
I. *#Platform/website #E-learning courses #Toolkits* **A decentralised Open Learning E-Platform** (d.OLEP) allowing the visualization/download and upload of Open Access resources, both for any students, designer, professional as well for researchers/teachers to download and re-use, remix, translate on design for sustainability (DfS). II. **A set of learning/teaching resources**: *#E-learning course* full courses (video, slides, texts, etc.), *#Toolkits* design tools, *#case studies* case studies and *#new concept* projects. III. *#Conference* **3-day decentralized conferences** (6 in total and 1 organized by department) held at the same time in different partner countries to communicate final results IV. *#Award* **An international students award** and winner exhibition V. *#Scientific publication* **Publications** - 1 open access and indexed book, 1 edited conference proceeding, and 1 journal and 3 conference papers VI. *#Educational programme* **new and innovative education programmes** (curriculum development, in terms of structure, duration, student's project delivery formats and evaluation, etc.)	#digital platforms #networks #life cycle design #sustainable lifestyle #sustainable energy #design driven innovation #strategic design #collaborative services #deintermediation #scenarios #PE8_11 Environmental engineering, e.g. sustainable design, waste and water treatment, recycling, regeneration or recovery of compounds, carbon capture & storage #PE6_10 Web and information systems, database systems, information retrieval and digital libraries, data fusion PE7_8 Networks (communication networks, sensor networks, networks of robots...) **Shared, cross-fertilised and diffused** knowledge-base and know-how (methods and tools) on Design for Sustainability (DfS) focused on S.PSS&DE through the decentralised Open Learning E-Platform	Scientific: #3 Fostering diffusion of knowledge and Open source **Diffusing knowledge** on Design for Sustainability (DfS) that benefits HEIs in design internationally	International design students and teachers in HEIs; Researchers;
I. *#Educational programme* **new and innovative education programmes** (curriculum development, in terms of structure, duration, student's project delivery formats and evaluation, etc.) II. *#Training* **support the implementation of curricular pilot courses** in the 5 non-EU countries, involving teachers from both 2 other non-EU and 1 EU partners III. *#Seminar* **5 locally-organized seminars presenting and debating preliminary understanding of S.PSS&DE design**, which representative from local design studio/enterprises/organisations/governmental institutions IV. *#Conference* **3-day decentralized conferences** (6 in total) held at the same time in Mexico, Brasil. South-Africa, India, China, and in EU(Italy), to communicate final results and set the agenda for next steps V. *#Publications* a catalogue of awarded projects developed in the project in different courses	#(design) education #cross-cultural research #SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies #SH7_5 Sustainability sciences, environment and resources **Implementation of new education programmes and courses** on Design for Sustainability (DfS) in international HEIs	Scientific: #2 Strengthening human capital in research and innovation I. **Increasing the numbers and quality of courses** on **Design for Sustainability** (DfS) in HEI internationally societal: #6 Strengthening the uptake of research and innovation in society II. **Capacity building**, **empowering** the teachers and students/future designers with both consolidated and cutting-edge knowledge (available trough courses, etc.) on Design for Sustainability (DfS)	International design HEIs; Teachers, Design students;
I. *#Platform/website #E-learning courses #Toolkits* **A decentralised Open Learning E-Platform** (d.OLEP) allowing the visualization/download and upload of Open Access resources, both for any students, designer, professional as well for researchers/teachers to download and re-use, remix, translate on design for sustainability (DfS). II. *#Networking* **HEI regional LeNS network and the LeNS international network** (6 by project proposal, eventually 16 at the end of the project). III. *#Pilot 10* **LeNS labs** at local level, each of them involving students, educators, researchers, designers, enterprises, organizations and governmental institutions. IV. *#New projects* **Design and implementation of potential collaboration/projects** *(best practices)* that are locally-based, renewable, resilient, economically viable and environmentally and socio-ethically on S.PSS & DE.	#distributed and open microproduction #gender issues #networks #product service system #SH3_8 Social policies, welfare, work and employment #SH3_1 Social structure, social mobility, social innovation #SH3_4 Social integration, exclusion, prosocial behaviour **Deployment** of Design for Sustainability (DfS) methods, tools and practices for solving specific problems in the local contexts	Societal & Technological/economic: (*especially at regional/local scale)* #8 Creating more and better jobs I. **Increasing opportunities for the employment** of design graduates with skills on DfS (specially on S.PSS&DE design) and new joint projects for the society #6 strengthening the uptake of research and innovation in society II. **Building up the awareness** and **priority** of sustainable development	Design students & graduates in HEIs; Local stakeholders (e.g. companies, non-for-profit) in different sectors; Researchers; Government institutions; Society in general;

LeNSin (Vezzoli, coordinator)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
I. **Researchers** dedicated to this topic and gained research experiences and knowledge II. *#Networking* HEI regional LeNS network and the LeNS international network III. *#platform/website* *#Guidelines* *#MOOC* A decentralised Open Learning E-Platform (d.OLEP) that provides new and innovative education programmes on DfS	#sustainable lifestyle #sustainable energy #(design) education #cross-cultural research #distributed and open microproduction #PE8_11 Environmental engineering, e.g. sustainable design, waste and water treatment, recycling, regeneration or recovery of compounds, carbon capture & storage #SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies #SH7_5 Sustainability sciences, environment and resources I. **Creation of a large and strong network** on supporting diverse partners to establish courses on DfS II. A recognized **leading role** on the topic DfS III. Gain experiences and reputation for drafting other proposal on the topic	Scientific in the research team: #2 strengthening human capital in research and innovation #3 fostering diffusion of knowledge and Open Science Paying **a leading role** and having a very **strong network** and **reputation** in the research communities related to the topic - Design for Sustainability (DfS)	Research group

DiDIY (complete)
PI: Canina, partner

Full title: DiDIY - Digital Do-It-Yourself (link)

Duration: 30 months (01/01/2015 - 30/06/2017)

Program & specific program: H2020 INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies. ICT-31-2014 - Human-centric Digital Age (H2020-ICT-2014-1 **RIA**)

Topic: Digital DIY-related technologies and social practices

5 keywords: Open Source hardware and software, Ethics of digital transformation, Do-it-yourself technologies, Individual and social creativity

Issues/challenge: DiDIY-related technologies and social practices amplify the **creativity** and **skills** of individuals who affordably develop digitally self-made objects. 1) how can the new dimensions of individual creativity and the lowered barriers to the production of physical artefacts be driven towards a better society? 2) How could schools, NGOs, companies and markets benefit from the new scenarios of open collaboration and innovation that constitute a critical component of DiDIY

Key idea and scope of the project: DiDIY project has the two fold objective: 1) to **establish a conceptual framework** that will enable the analysis, exploration and understanding of the **impact of DiDIY technologies for 4 specific areas in a human-centric digital age**; 2) to **produce well-founded transferable information, models and guidelines** to support both *education* and *policymaking* to make the best of DiDIY for society, and to provide a **roadmap fostering** a “DiDIY-based” “human-centric” European development.

DiDIY (Canina, partner)

OUTPUT	OUTCOME	IMPACT	TARGET
Creation of a **toolkit** called *Co-design in the DiDIY scenario* that supports people to generate innovative solutions by benefiting from Digital DIY phenomenon. - *#Guideline* The guidelines/instructions on how to use this toolkit, specific tools and provided cases, as well as on how to follow the whole process - *#Toolkits #Tools* The **toolkit** includes **19 tools divided into 8 activities,** it provides a guide to the strategic application of a co-design approach to the use of digital production and sharing technologies, therefore to activate new opportunities and innovative ideas. - *#Case study result* **4 cases** (one for each area:work; education&research; societies; laws, rights & responsibilities) as examples to start and inspirare the co-design workshop - *#protocol(method)* a **DiDIY co-design process** - 4 phases on how to develop ideas or strategies through co-design in the Digital DIY scenario	#co-design #creativity #design-driven innovation #design thinking #user-centred design #SH3_14 Social studies of science and technology SH1_9 Industrial organisation; entrepreneurship; R&D and innovation **Deployment** of co-design method and process by practitioners with diverse background in the Digital DIY scenario for creating diverse solutions	Scientific & Societal: #3 Fostering diffusion of knowledge and Open source #6 Strengthening the uptake of research and innovation in society **Promoting the diffusion** the **adoption** of a strategic approach and the human-centered mindset to the application of DIDIY technologies in the 4 domains/areas	Individual DiDIY users; Actors relevant in the 4 domains/areas Society in general;
#Scientific publication 6 **Scientific publications** on discussing the role of (co-)design process and methods/tools in the scenario of DiDIY/digital making for empowering people and creating innovative ideas, especially in the education sector. 6 conference proceedings published by Springer, DRS, Cumulus and other Design Education conferences *#Case study result* **4 case studies** (one for each area) collection of best practices analysis on DiDIY technologies 'impact in the 4 areas - work; education&research; societies; laws, rights & responsibilities (built the basis for generative WS) *#Toolkits #Tools* The **toolkit** includes **19 tools divided into 8 activities,** it provides a guide to the strategic application of a co-design approach to the use of digital production and sharing technologies, therefore to activate new opportunities and innovative ideas.	#co-design #creativity #design-driven innovation #design thinking #user-centred design #SH3_13 Digital social research **knowledge creation** in the research areas relevant to applying DiDIY technologies in innovation and development	Scientific: #1Creating high-quality new knowledge **Redefining** the ways in which **digital DIY tools can support and contribute to creativity process for** innovation and project development in organizations and society	Research communities on this topic
• *#Co-design activity #workshop* **16 workshops** conducted in Italy and Spain focused on the 4 selected areas: bidirectional interaction between DiDIY & CREATIVE SOCIETY, DiDIY & EDUCATION, DIDIY & WORK, DIDIY &LEGAL SYSTEM. The co-design workshops had the twofold objective of 1)investigating the impact of the DiDIY in the 4 area directly with people 2) and structuring the process and toolkit. 4 co-design workshops have been done involving both experts in digital making and in the 4 topic area: - 2 workshops for exploration activities (clarification – identify the fundamental elements of DiDIY) and 2 others for generation activities (ideation – apply the fundamental elements to build innovative projects) - 2 workshops in italy 2 others in Spain. • *#Technical report* **4 Project technical reports** have been produced *(one for each area:* Creative design and work (D3.4); Creative design and education and research (D4.7) ; Creative design and societies (D5.5); Creative design and laws, rights and responsibilities (D6.6)*).* They showed on how DiDIY has changed the area/topic and what have been produced in the workshops with actors in that area. The reports include also: - *#Case study result* **4 case studies** (one for each area) collection of best practices analysis on DiDIY technologies 'impact in the 4 areas - work; education&research; societies; laws, rights & responsibilities (built the basis for generative WS) - *#Toolkits #Tools* synthesised version of the **toolkit** (tools that used in the workshops) and the **process** followed in the workshops for each area are also included in the technical reports.	#interdisciplinarity #co-design #creativity #SH3_14 Social studies of science and technology I. **Generation of understanding** of the Digital DIY's impacts on diverse domains through co-design actions II. **Facilitation of** community building among different actors relevant to DiDIY in the 4 area	Socio-cultural: #6 Strengthening the uptake of research and innovation in society I. **Strengthening the awareness** of the importance of considering the human/users' aspect in the Digital DIY scenario in the 4 areas II. **Formulating of the multidisciplinary perspective** to approach the multifaceted issues related to Digital DIY scenario III. Promoting the **collaboration** among diverse actors in the DiDIY community/ecosystem in the future	Individual DiDIY users; Actors relevant in the 4 domains/areas Society in general;

DiDIY (Canina, partner)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
I. A researcher dedicated to this topic and gained research experiences and knowledge II. *#Guideline* *#Toolkits* **Toolkit and a guided process** that provide support to people who generate innovative solutions using Digital DIY.	#co-design #user centered design #interdisciplinarity #co-design #SH3_14 Social studies of science and technology I. Gained experiences have built a basis for other projects and proposals II. Background knowledge for a PhD research III. Erasmus+ project 2020	Scientific in the research team: #2 strengthening human capital in research and innovation #3 fostering diffusion of knowledge and Open Science I. **Creating of a specific research topic**: co-design in digital environment/contexts/scenario II. **Reputation** on applying and diffusing the user-centred approach for DiDIY application in certain areas	Research group

DIGIKNIT (complete scheme)
PI: Conti, partner

Full title: DIGIKNIT: digitalizzazione della più importante collezione storica di capi i maglia Made in Italy, per lo sviluppo di innovativi servizi digitali in grado di favorire il processo creativo e ridare nuova vita al manifatturiero nel settore knitware (link)

Duration: 31 months (15/06/2016 - 30/01/2019)

Program & specific program: REGIONE LOMBARDIA - SMART FASHION AND DESIGN 2016 - BANDO CREATIVITÀ: EVENTI E LUOGHI PER L'INNOVAZIONE NELLA MODA E NEL DESIGN

Topic: digital archive creation for benefiting diverse actors in fashion sector

5 keywords: Cultural Creative Industries, knitwear design, digital archive, capability building

Issues/challenge: Italian companies in Knitwear sector (MF1 company in this project) have a rich history and have kept the models of large numbers of knitted garments with great values only in the company's internal archive, which tells the evolution of society, customs and style over the last thirty years. However, this **cultural heritage remains fundamentally unknown, not very accessible and hardly usable.**

Key idea and scope of the project: The idea of the project is to develop **a web based platform** not only for digital cataloging of knitwear, but for t**he use of digital products for the stylistic and creative process for the new generations of knitwear designers**.

DIGIKNIT (Conti, partner)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
I. *#Methodology #Protocol (method) #Tool* The **methodology** and **a technical data sheet** that can describe the different clothing items and simulate the use of the archive for students, professionals and the knitwear factory II. *#Analysis report* one report of **needs** the company's digital archive creation	#digital archives #reflective practice #PE6_10 Web and information systems, database systems, information retrieval and digital libraries, data fusion **Creation of know-how and established benefits** on digitalization of company's archives in the fashion sector	Societal: #5 Delivering benefits and impact through research and innovation missions **Diffusing and promoting the knowledge and practices** of digitization of company archives	Private companies; Research communities; Actors in the sector
I. *#Workshop #Exhibition* **2 workshops** and **the final event-exhibition** of the project, disseminate the process and results to the fashion sector and to the public	#digital archives #PE6_10 Web and information systems, database systems, information retrieval and digital libraries, data fusion **Diffusion of the result and values** of archive digitalization in the fashion sector, as well as to the public	Societal: #6 Strengthening the uptake of research and innovation in society **Increasing the awareness** of the **importance** and **values of digitization** of company archives	Private companies; Society in general;
I. *#Platform/Website* **The digitized archive** - creation of a **web-based platform**	#competitive advantage #digital platforms #SH1_9 Industrial organisation; entrepreneurship; R&D and innovation **Advanced offerings** from the company to the market	Technological/economic: #7 Generating innovation-based growth **Increasing the quality** of offerings and the company's **competitiveness**	Private companies;
I. *#Framework #Educational programme #Tool* A new **experimental education model** aimed at **training** future knitwear design professionals (method & a digital tool) II. *#Pilot #Training* A **pilot** to test the training method and tool in the course with 2 training sessions III. *#Scientific publication* **Publication** - one book (Silvana Editoriale)	#(design) education #computer aided design #knit design #SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies Technological **advancement** that improves the **level of training** through the use of digital platforms in knitwear sector	Scientific & Societal: #3 Fostering diffusion of knowledge and Open source #6 Strengthening the uptake of research and innovation in society I. **Increasing educational quality for and the competitiveness of** future designers in fashion-knitwear sector through training and direct collaborating with company II. **Empowering** future designers in fashion-knitwear sector with **digital skills, tools and resources**	Teachers/trainers in the university or related courses; Students and professionals in knitwear sector; Diverse actors in the sector; Society in general;
I. *#Tools* a **new model and tool created** to allow students and professionals in the fashion-knitwear sector to use the contents of the archive. II. *#Workshop #Exhibition* **2 workshops** and **the final event-exhibition** of the project, disseminate the process and results to the fashion sector and to the public	#cultural and creative industries #corporate social responsibility #PE6_10 Web and information systems, database systems, information retrieval and digital libraries, data fusion **Uptaken skills** to improve the design technique and resources through benefiting from companies archives		

DIGIKNIT (Conti, partner)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
I. *#Methodology #Protocol (method) #Tool* The methodology and a technical data sheet that can describe the different clothing items and simulate the use of the archive for students, professionals and the knitwear factory II. A researcher dedicated to the research topic III. *#Intership* A student's internship in the company	#digital archives #(design) education #knit design #cultural and creative industries #SH3_11 Social aspects of teaching and learning, curriculum studies, education and educational policies #PE6_10 Web and information systems, database systems, information retrieval and digital libraries, data fusion I. **knowledge creation** on the topic (scientific research & practices) II. A good **relation** between the university and the company	Scientific in the research team: #2 strengthening human capital in research and innovation **Reinforcing group knowledge and expanding the research team** and subsequently attracting a Ph.D student funded by general scholarship. Creating a new and dedicated research line/direction	Research group

TAMBALI FII (complete scheme)
PI: Ratti, coordinator

Full title: TAMBALI FII (Partiamo da qui) Creazione di un incubatore diffuso di innovazione tecnologica e sociale per la crescita della filiera nautica e ittica senegalese come strategia di inversione dei fenomeni migratori dal continente africano (link)

Duration: 18 months (2016 - 2018)

Program & specific program: Polisocial Award 2015-2016 (Progetto di sviluppo e sperimentazione)

Topic: creation of center of technological and social innovation in Dakar, Senegal to transfer training models

5 keywords: start-up incubation, technological-social, additive manufacturing technologies, DIT materials, training

Issues/challenge: Migration issue is raising the debates in EU, an **acting in depth to try to combat the root causes of migratory flows** is a primary objective pursued by many European countries including Italy. TAMBALI FII project aims to generate a virtuous system that **fosters a process of social growth and economic independence** for countries like Senegal, who is **strongly conditioned by** foreign economic interests and emigration phenomena.

Key idea and scope of the project: The project intends to develop **nautical skills**, promote research in the field of **additive manufacturing technologies** and **Do It Yourself materials**, strengthening the local fish supply chain and promoting entrepreneurial opportunities. In particular, the focus of the project is the creation of a pole of technological and social innovation where to **transfer consolidated training models** on several levels: 1) start research activities in the field 2) promote synergies between research centers and local companies, artisans and entrepreneurs 3) ensure social sustainability at local level

TAMBALI FII (Ratti, coordinator)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
I. *#Guideline* **a Method and the practices** of physically **set-up of the laboratory spaces** (e.g. plan, guide, partners definitions, equipments and materials) in Dakar II. *#Framework* **A training model** (studied and revised program, courses & co-design workshops) proposed to local university and involved selected university students to participate III. *Training* **3 training workshops** with students and local partner companies in fishing sector in Senegal on the topic of composite materials, management and DIY materials	#co-design #SH1_9 Industrial organisation; entrepreneurship; R&D and innovation #PE8_12 Naval/marine engineering **Skills and knowledge transferred** to and **taken by** local actors & communities through training and co-design workshops, as well as co-creation actions	Societal: #6 Strengthening the uptake of research and innovation in society **Capacity building, empowering** local students and actors in the fishing sector with obtained knowledge on innovative manufacturing technologies and composite materials towards achieving a sustainable fishing chain	Students in local university; Local companies and associations; Local technicians, Artisans; The entire community in the fishing sector;
I. *#Conference* *#Exhibition* 1 final conferences and 1 exhibition @Triennale (project exhibition) II. *#Co-design activity* **2 Co-design workshops** with students and local partner companies in fishing sector III. *#New project* **5 projects** drafted to improve the productivity, maintenance and safety in the fishing sector IV. *#Prototype* **A first 5-meter boat** in composite material was created with some functional elements done by 3D printing technology	#product development #prototyping #PE8_9 Production technology, process engineering #PE8_10 Manufacturing engineering and industrial design **A wider acknowledgement and awareness** of applying the new technologies and materials through co-creation and implementation in the local projects and sectors	Societal: #6 Strengthening the uptake of research and innovation in society **Fostering the diffusion of experiences and know-how** of methods and techniques on innovative manufacturing technologies and composite materials	Research communities; Local companies and associations; Local technicians, Artisans; The entire community in the fishing sector;
I. *#Construction of physical space (lab & building)* **Physically set-up of 2 laboratory spaces** II. *#Networking* **Meetings** and **local events** with involved partners III. *#Co-design activity* **2 Co-design workshops** with students and local partner companies in fishing sector	#networks #local craft #distributed and open microproduction #SH3_8 Social policies, welfare, work and employment **Community/network building** and **engagement** of different actors in the local fishing sector	Technological/economic: #7 Generating innovation-based growth **Strengthening and facilitating** to create the **local community and ecosystem** for activating a new sustainable fishing chain and high engagement of local actors	Local companies and associations; Local technicians, Artisans; The entire community in the fishing sector;
I. *#Workshop* **One workshop** @polimi with selected students about exploration on new composition of materials for testing the proposed theories II. *#Prototype* One experimentation recipe and a **new material sample** of composition of materials III. *#Prototype* Development of 3 **prototypes of DIY-Open Source machinery** IV. *#Scientific publication* **Publications** - 1 book & 2 conference papers	#materials #prototyping #PE5_6 New materials: oxides, alloys, composite, organic-inorganic hybrid, nanoparticles **New knowledge creation path based on practical explorations** about potential material composition for proposing to use in Senegalese context	Scientific: #1Creating high-quality new knowledge **Creating knowledge** on new material composition for proposing to use in the fishing sector in Senegalese context	Research community on new materials;
all the outputs	#cross-cultural research Established partnership and collaboration	Societal: #6 Strengthening the uptake of research and innovation in society **Reinforcing collaboration and synergies** between research institutions, companies and associations in italy and Senegal	research institutions, companies and associations in both countries

TAMBALI FII (Ratti, coordinator)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
I. A researcher dedicated to the material research field and boat&fishing systems	#product development #prototyping #materials #PE8_9 Production technology, process engineering #PE8_10 Manufacturing engineering and industrial design I. Several master thesis have produced based on the experiences of participating in the project II. Preparation for other relevant calls on similar topic	Scientific in the research team: #1Creating high-quality new knowledge #2 strengthening human capital in research and innovation I. **Creating knowledge** on composition of materials and manufacturing in the local (African) industrial chain/secotr II. **Established relationship** with local stakeholders and communities	Research group

NUVOLE (complete scheme)
PI: Ratti, partner

Full title: NUVOLE - NUovi processi Volti alla costruzione di Oggetti Leggeri ed Ergonomici in composito e titanio (link)

Duration: 24 months (01/01/2017-31/12/2018)

Program & specific program: PROGRAMMA OPERATIVO REGIONALE 2014-2020 / BANDO: SMART FASHION AND DESIGN 2016

Topic: fine-tuning design methodologies and developing techniques for making design products characterized by elegance, lightness, customization, modularity and ergonomics.

5 keywords: yacht design, ergonomics, advanced manufacturing technology; modern materials, aesthetics

Issues/challenge: The design industry, in particular for the interior design sector and components destined for pleasure boating and on the road, sees a great opportunity in the development of elements built with light materials, easy to move, ergonomic, foldable and modular.

Key idea and scope of the project: 1) exploiting in an innovative way of combination of composites materials and titanium, which are generally used only in some high-tech sectors. 2) developing new methodologies for the design of products that synergistically use the two materials to obtain elegant, captivating shapes, with attention to detail. 3) experimental development activities linked to the construction of some demonstrators for use in the world of boating, transport, and product design in general.

NUVOLE (Ratti, partner)

OUTPUT	*OUTCOME*	*IMPACT*	*TARGET*
I. *#Methodology* **Definition of new methodologies** for the conception and optimized design of shapes, with full awareness of the possibilities, opportunities and limits offered by the specific materials and by the related manufacturing technologies. (WP4) II. *#Analysis report* Report on analyzing the **functionality and performance** of components and products designed with the new method. (WP4) III. *#Scientific publication* 3 Publications on new materials IV. *#Award* Awards	#materials #digital manufacturing #product performance ##product design #product development #PE5_6 New materials: oxides, alloys, composite, organic-inorganic hybrid, nanoparticles #PE8_10 Manufacturing engineering and industrial design **New skills and knowledge development** on the materials and manufacturing technology, more importantly, the use of these two elements for industrial design process revolution/innovation	Scientific & Technological/economic: #1Creating high-quality new knowledge I. **Creating knowledge** on industrial design methods and **strengthening the relationship** between industrial design, material and manufacturing technologies. #7 Generating innovation-based growth II. **Promoting the innovation opportunities** in industrial design processes through studying new typologies of materials and manufacturing technologies III. **Strengthening the values** of industrial design and offerings on the market	Research communities in industrial design; Industrial design professionals; Furniture & accessory sectors
I. *#Publication* Communication materials (e.g. brochure) II. *#conference* Conferences and national events to communicate the project results III. *#Exhibition* Final event dedicated to companies where the project results, the developed methodology and the prototypes were presented, in order to facilitate their use and use in other sectors as well	#furniture design #product design #prototyping #PE8_9 Production technology, process engineering **Knowledge diffusion** and **promotion** of the **potential application** of new methods and prototypes in furniture & accessory industries, as well as other potential sectors	Societal: #6 Strengthening the uptake of research and innovation in society **Fostering the diffusion of experiences and know-how** of methods and techniques on innovative manufacturing technologies and composite materials	Actors in all the relevant sectors;
I. A researcher dedicated to the development of new industrial design methods and process	#digital manufacturing #product performance ##product design #PE5_6 New materials: oxides, alloys, composite, organic-inorganic hybrid, nanoparticles #PE8_10 Manufacturing engineering and industrial design I. **Specialization** on **development of design methods and process** through innovative use of new/specific materials and manufacturing technologies II. **Continuum** on the research of material composition and manufacturing technologies	Scientific in the research team: #2 strengthening human capital in research and innovation #3 fostering diffusion of knowledge and Open Science Gaining specialized knowledge and reputation (at national level) on industrial design and in the furniture & accessory industries	Research group