



UNIVERSITÀ DEGLI STUDI  
DI GENOVA

# Erasmus+ KA2 CBHE UNICOM Lifelong Learning and the Third Mission 28<sup>th</sup> of May 2024



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Research area, technology transfer and third mission

Service for technology and knowledge transfer

Lifelong learning *office*



## **Who I am**

Alessia Popia

## **Where I work**

Lifelong Learning Office

Technology and knowledge transfer - Service

Research, technology transfer and Third Mission Area

in

**University of Genova**

**Please find my contacts here:**

<https://rubrica.unige.it/personale/UkNGXVlu>



**And now, let me know something about you!**

**Your name**

**Your role**

**Institution**

**Your experience**

**Your expectations**



# Italian Universities Mission

## Italian Universities and other academic institutions are focused on:

- **Education and Training** > offering high quality academic programs aimed to prepare students to become skilled professionals and promoting their intellectual and personal growth
- **Research and Innovation** > promoting innovation and collaboration with other institutions, research centers and industry
- **Services for community** > contributing to the well-being of the society through dissemination initiatives and social involvement
- **Promotion of the Culture and Heritage** > protecting and promoting through cultural initiatives, public events and collaboration with cultural institutions
- **Internationalization** > promoting cultural and international academic exchange through mobility programs for study and research, international collaborations and academic networks



# UNIVERSITY HAS 3 MISSIONS – KEYNOTE

1. **EDUCATION AND TRAINING AND SERVICES FOR STUDENTS** > development of knowledge and skills through Degree Courses, Higher Education Courses, Lifelong Learning and continuous training initiatives, advanced courses for professionals, 1st and 2nd level University Masters (post graduate paths), PhD and other training activities.
2. **RESEARCH**> basic and applied research to spread scientific knowledge in every field and to promote innovation and technology progress
3. **THIRD MISSION**> dissemination of the results of teaching and research activities externally, with the aim of creating a positive social impact. This mission involves initiatives contributing to the well-being and cultural and economic development of the community.



## UniGe Mission

UniGe mission unfolds along 3 lines, with a particular focus on Internationalization – that is a cross line among them, within the common dimension of Quality that guides the entire process of planning and action of the university.

EDUCATION AND TRAINING AND SERVICES FOR STUDENTS	<b>Transmission of knowledge</b> is one of the task of the University, through the qualified education of students. University carries out <b>several educative and training activities with focus on innovative methods</b> . UniGe has <b>laboratories, classrooms and library and offers guidance services and incoming, ongoing and outgoing support</b>
RESEARCH	The University sees <b>basic and applied research as key to progress and social well-being</b> . Basic research is essential for <b>national competitiveness</b> and forms the foundation of applied research, which transfers its operational results <b>to the social and the productive sectors</b> .
THIRD MISSION	The University serves as an essential <b>scientific and cultural reference point</b> between <b>local communities and the globalized society</b> . Therefore, it contributes to <b>social, cultural, and economic development</b> through the <b>direct application, enhancement, and utilization of knowledge</b> , as well as through <b>lifelong learning initiatives and engagement actions involving the population and all societal stakeholders</b> .



## UniGe Vision to actions

- to promote higher education and training as a tool for personal and social growth and the dissemination of research results as key factors for the progress and competitiveness in our region
- to pursue a continuous improvement and development through Sustainable Innovation, aggregation, inclusion and Knowledge
- to encourage a continuous and fruitful dialogue with local institutions, with all social and economic stakeholders of the territory, with each level of educational system, with youngsters and their families



# Third Mission and Propulsive Role of the University

## key points

- It involves dissemination of the results of research and teaching activities (the first two missions) externally, with the goal of generating a significant social impact.
- its effort is essential for society to understand the importance of knowledge and research. The third mission means implementing initiatives aimed at making the value of scientific discoveries and education known and appreciated, also fulfilling a crucial social role.
- the University must play a specific role in its territory to address the needs of a diverse student population, including adults, with varying occupational statuses (such as working students and the unemployed) and professional expectations.
- It should particularly focus on meeting new educational and professional needs related to inclusion processes and active citizenship.



## UniGe and principal stakeholders (extracted from Strategic Plan 2021-2026)

UniGe actions are the result of a continuous and responsible dialogue with elective stakeholders

- Students and their families
- All level of the educational system
- Scientific community (included other universities, research centres...)
- Social and productive system (companies, professional associations, third sector..)
- Institutions (International, European, National, local..)
- Public Administrations and local communities
- Personnel: teachers, technicians, administrative staff, archive personnel, social and health

Knowledge and research enrich human capital, making it resilient and ready to positive changes; they are principal tools to face and solve big challenges of the society and of the world.



## UniGe and Companies



### Corporate training

UniGe offers training courses designed for professionals and companies wishing to further certify and specialize their skills:

- **Postgraduate Courses**
  - catalogue training courses
  - dedicated training courses
  - courses for PA employees
  - courses for Armed Forces employees
- **courses for teachers**



### Internships and jobs

UniGe offers a wide range of services to companies in their search for qualified personnel to join their organization:

- **activating an internship**
- **promoting job offers and internships**
- **consulting graduates' curricula vitae (CVs)**
- **meeting students and recent graduates**
- **organizing career days**
- **offering incentives, benefits and projects**



### Research and innovation

UniGe supports companies in the creation, consolidation and innovative development phase with specific advice and services:

- **research in partnership**
- **patents**
- **spin-off**
- **support for business creation**
- **calls for proposals and funding**
- **APRE Liguria desk**
- **Business Services Manifesto**

## About UniGe and the Third Mission's objectives

Within Third Mission, our University has pointed out the following Strategic Plan objectives, to be pursued during the Rectoral term 2021-2026

- n7 To contribute to the development of society through **the transfer of knowledge and technologies** to the social and productive system, and to capitalize on the network of collaboration with other universities and research institutions;
- n8 To promote **the social and educational** role of the University and **to valorize historical, scientific, cultural, artistic, archival books and museum heritage**;
- n9 To promote actions and development processes aimed at sustainability, inclusion and **acquisition of soft skills to entrepreneurship and active citizenship**.

## **FOCUS OBJ n7 > About UniGe and the Third Mission's objectives – How to achieve the objectives?**

*n7 To contribute to the development of society through the transfer of knowledge and technologies to the social and productive system, and to capitalize on the network of collaboration with other universities and research institutions*

*Through these actions*

- **To promote applied research** > to facilitate transformation of knowledge in practical applications
- **To promote partnership and networking** for collaborations (other universities, institutions, research)
- **To promote the dissemination of Knowledge** > to organize conferences, workshops and seminars to disseminate scientific and technological results to all societal stakeholders.
- **To encourage and drive partnership and collaboration with private sector** > to develop research projects with practical and marketable applications

## FOCUS OBJ n8 > About UniGe and the Third Mission's objectives – How to achieve the objectives?

**n8 To promote the social and educational role of the University and to valorize historical, scientific, cultural, artistic, archival books and museum heritage**

*Through these actions*

- **Cultural Initiatives** > to organize cultural events to promote and valorize the heritage of the University
- **Community involvement** > Active involvement of the local population in the planning and implementation of formal, not formal and informal programs.
- **Development of educational and training programs**
- **To protect and to valorize the heritage** > including policies and procedures for the conservation and protection of the University's heritage

## FOCUS OBJ n9 > About UniGe and the Third Mission's objectives – How to achieve the objectives?

*n9 To promote actions and development processes aimed at sustainability, inclusion and **acquisition of soft skills to entrepreneurship and active citizenship***

*Through these actions*

- To integrate **SUSTAINABILITY** in academic programs to raise awareness about issues related to environmental, social and economic sustainability
- **Inclusion**
- **Development of soft skills** through training program focused on soft skills as leadership, problem solving, critical thinking, effective communication and entrepreneurial and active citizens' related skills
- **Social responsibility:** through the involvement of the students in projects and initiatives promoting sustainability and inclusion in local community, encouraging volunteering and civil service



## Definitions

**Technology Transfer (TT):** the process through which the results of scientific and humanistic research conducted within universities (such as knowledge, technologies, methodologies, prototypes, products, or services) are transferred to industry through collaboration, consulting, or the transfer/license of patents.

**Lifelong Learning (LLL):** *Lifelong learning consists of “any activity undertaken by individuals in a formal, non-formal, or informal manner at various stages of life, in order to improve knowledge, skills, and competencies, from a personal, civic, social, and occupational perspective” (Law 92/2012 “Fornero”, Article 4, Paragraph 51).*

**Public Engagement (PE)** is crucial for building strong relationships with society through listening, dialogue, and collaboration. It involves sharing education and academic research.



**Any question?**

**Please now go back to the description of the objectives and recognize what kind of actions are (TT/LLL/PE), then make your proposals!**

**Then, little break!**



## RECAP – third mission in pills

### Technology Transfer



Valorization of research results, promotion of the development of a business culture, support the creation of spin off and deep-tech startups, actions aimed at the intellectual property protection and marketing.



### Lifelong Learning

Continuous access to education (inclusion and professional update); promotion of the culture and knowledge (dissemination and collaboration with the territory); about innovation lifelong learning, development of entrepreneurial skills; education for sustainability, support for personal and professional growth and development

### Public Engagement



Through cultural activities of public utility, initiatives to involve citizens in research, scientific dissemination, and territorial animation, making the community 'aware,' meaning an active and participatory component in innovation processes

## Lifelong Learning

**Definition:** *Lifelong learning consists of “any activity undertaken by individuals in a formal, not-formal, or informal manner at various stages of life, in order to improve knowledge, skills, and competencies, from a personal, civic, social, and occupational perspective” (Law 92/2012 “Fornero”, Article 4, Paragraph 51).*

**Goal:** It produces a significant impact at various levels: it promotes personal and professional development, innovation, social inclusion, and economic development. Through lifelong learning initiatives, universities can dynamically respond to the needs of contemporary society, contributing to progress and collective well-being.

**Actions:** Continuous access to education (inclusion and professional update); promotion of the culture and knowledge (dissemination and collaboration with the territory); development of necessary skills; education for sustainability, support for personal and professional growth and development

## What the UniGe Lifelong Learning Office does?



- Design and development of educational and training programs and activities related to lifelong learning, in coherence with UniGe strategic plan
- Management and reporting of lifelong learning projects
- Support to scientific structures (departments) in project design and management of higher education courses, lifelong learning initiatives and 1st and 2nd level post degree programs (Master)
- Monitoring and supervision of training activities
- Management of training activities addressed to Public Administrations and local community
- Development and management of training activities for *Center to train prisoners*

## Activities

Design, development and realization of:

- Higher Education Courses
  - Lifelong learning and continuous training initiatives co-designed and aimed at companies and local authorities (to satisfying the training and updating needs of staff in service);
  - Courses for professionals and advanced courses,
  - 1st and 2nd level University Masters (post degree paths)
- in the main strategic areas: economic, legal, architectural, technical-scientific, health, humanistic and socio-psycho-pedagogical.

We give a contribute to the social, economic, and cultural development of the territory, promoting the valorisation of Knowledge and scientific research results.



## Process of a training project realization

- Design
  - 1.1 Feasibility analysis
  - 1.2 Communication
  - 1.3 Human resources
- Realization
  - 2.1 Starting up
  - 2.2 Applications, Recruitment, start
  - 2.3 Operating management of the project – training and scientific aspects
  - 2.4 Operating management of the project - administrative and financial aspects
- Evaluation
  - 3.1 End of the project

## Focus on > Stakeholders involvement

**Stakeholders:** All individuals or organizations actively involved in a training initiative. The more stakeholders are involved from the early development stages, the easier it will be to gather direct and indirect information for effective project articulation.

### Example of engagement of the stakeholders in LLL initiatives:

#### ⇒ Needs Analysis

- **Companies** provide input on the skill and knowledge requirements that graduates must have to be competitive in the job market.
- **Public Administrations and local communities** identify training needs in strategic sectors necessary for economic and social development
- **Students and Alumni** share feedback about their training and education experiences and about issues that need to be improved.

## Focus on > Stakeholders involvement

### ⇒ Development and improvement of training proposal

- **External instructors selected from partner company resources** collaborate in the course content design, ensuring that the proposed content is up-to-date and aligned with local needs.
- **Industry professionals** participate as consultants to integrate practical and applied skills into the proposed curriculum.

### ⇒ Partnership and collaborations

- **Companies** offer opportunities for internships, traineeships, and applied research projects, allowing students to gain practical experience.
- **Industry Associations and Chambers of Commerce** facilitate networking between universities and the job market, promoting collaborations and networking opportunities.

### ⇒ Definition of training objectives:

- **Accreditation Bodies and Professional Organizations** establish standards and guidelines that training programs must adhere to in order to ensure the quality and recognition of qualifications.



## Focus on > Stakeholders involvement

### ⇒ **Evaluation and Monitoring**

- **Management Committees:** Composed of representatives from various stakeholders and faculty members responsible for the scientific aspects of the project, they monitor the implementation of training projects and evaluate the results achieved, suggesting any necessary improvements.

### ⇒ **Economic support and resources**

- **Foundations and organizations involved in the project:** They offer funding and scholarships to support the development of new training programs and facilitate access for all students (right to education).
- **Private Sector:** They provide funding for the operational costs of the project, allowing investments in equipment and infrastructure to improve the quality of teaching and research.



# From Partnership to Innovation Ecosystem

**Collaboration** between **research, businesses, and the local area** paves the way for a **new understanding of innovation**, which becomes an enabling lever for a local system where know-how and skills are pooled together.

**Innovation Ecosystems** act as coordination and liaison points between universities, research institutions, and businesses.

The innovation ecosystem is based on the "**3Cs**" which are **fundamental to the third mission**:

1. **Competence** > the new skills generated by the university that can respond to social and economic challenges and build the future
2. **Connectedness** > used by the European Community to express the ability to create networks
3. **Capital** > which goes where there are skills and aggregations



In addition to regular training activities, we have recently been engaged in developing a training plan within "**Innovation Ecosystem**" project.

By comparing previous experiences of designing training activities, we notice that this kind of project emphasizes the need to involve the entire ecosystem to promote growth across the territory rather than benefiting a single entity.

Therefore, active dialogue among all involved parties is crucial for achieving the objectives

In the training plan we have realised, we have effectively collected the needs of key local stakeholders

- Researchers and innovation partners
- Entire academic students' community
- Teachers and students from pre-university educational system
- Local SMEs (both non-tech users and "innovative" ones)
- Public administration employees



## **From Partnership to Innovation Ecosystem, an example > Robotics and AI for Socio-economic Empowerment – RAISE**

The RAISE project has been funded by the Ministry of University and Research (MUR) with Investment 1.5 (M4C2) of the National Recovery and Resilience Plan (PNRR, which uses Next Generation EU European funding), which provided for the creation and enhancement of innovation ecosystems in areas of technological specialization, consistent with the industrial and research vocations of the relevant territory, promoting and strengthening collaboration between the research system, the production system, and local institutions.



<https://www.raiseliguria.it/>

## **From Partnership to Innovation Ecosystem, an example > Robotics and AI for Socio-economic Empowerment – RAISE**

Italian Institute of Technology, CNR (National Research Council) and University of Genoa cooperated for the implementation of an Innovation Ecosystem for Region Liguria.

University of Genoa has proposed the project to the Ministry of University and Research (MUR)

Other main participants:

- Hospitals, cancer research and treatment institutes
- research entities
- large, SMEs of the Ligurian territory

The project also includes:

- a support system integrated with the most important local trade association, the innovation hub network
- the Digital Innovation Hub Liguria, and technological competence centres.



# From Partnership to Innovation Ecosystem, an example > Robotics and AI for Socio-economic Empowerment – RAISE



## **From Partnership to Innovation Ecosystem, an example > Robotics and AI for Socio-economic Empowerment – RAISE**

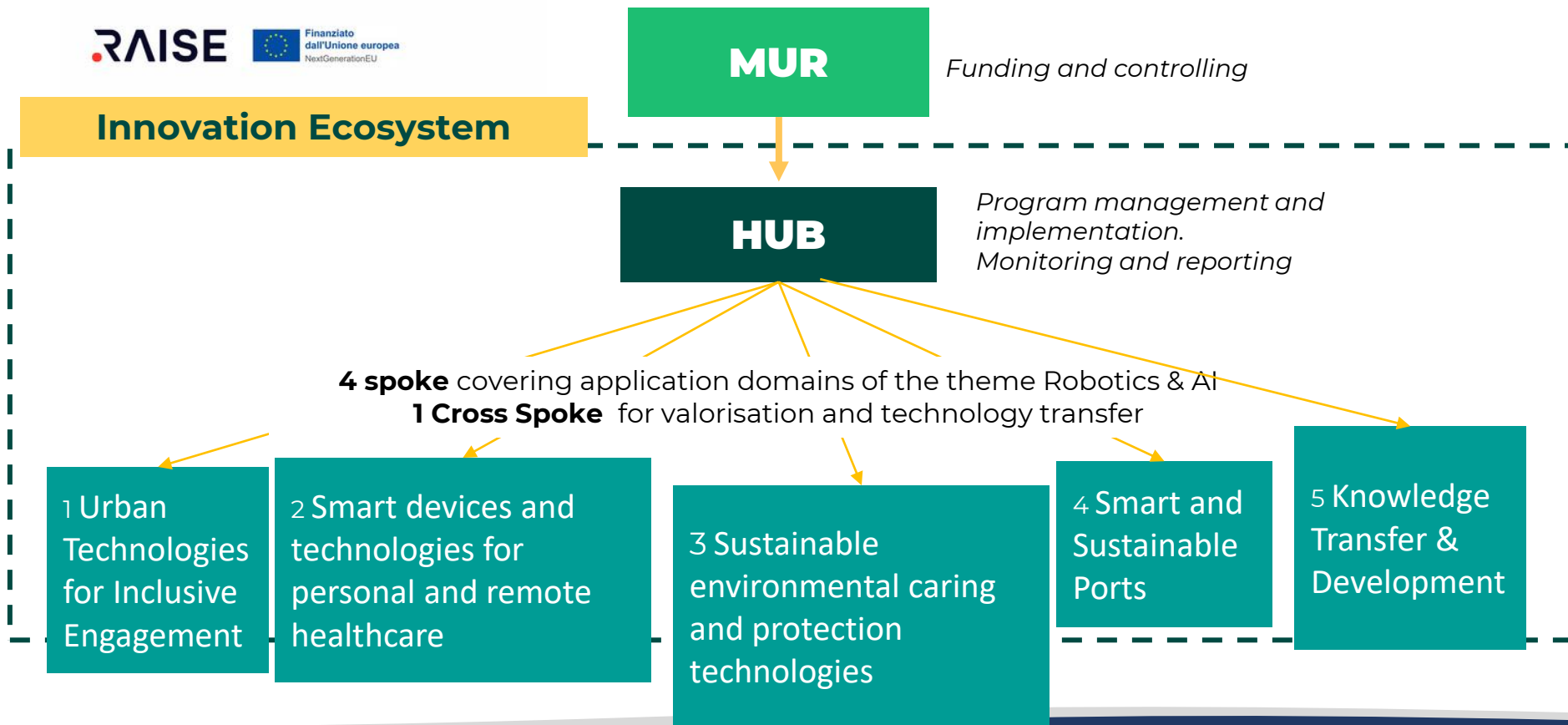
The RAISE project aims to support the development of an innovation ecosystem based on the scientific and technological domains of AI and Robotics, focusing on the needs of our regional context (Liguria)

It is organized in 5 spokes of which the first 4 of research and n°5 for Technology and Knowledge Transfer

- Spoke 1: Urban Technologies for an inclusive engagement (Smart cities)
- Spoke 2: Smart Devices and Technologies for Personal and Remote Healthcare
- Spoke 3: Sustainable environmental caring and protection technologies
- Spoke 4: Smart and Sustainable Ports
- Spoke 5: Knowledge Transfer & Development

# From Partnership to Innovation Ecosystem, an example > Robotics and AI for Socio-economic Empowerment – RAISE

## How RAISE works





# From Partnership to Innovation Ecosystem, an example > Robotics and AI for Socio-economic Empowerment – RAISE

## Features of the spokes

- Multidisciplinary skills
- Research teams from the proposing institutions and other stakeholders in the ecosystem, including private companies
- Strong connection with the economic and social fabric of the territory
- Social and economic impact of research activities, with repercussions on the territory
- Scientific impact and for the green transition.



# From Partnership to Innovation Ecosystem, an example > Robotics and AI for Socio-economic Empowerment – RAISE



## Spoke 5: Knowledge Transfer & Development

Spoke at the service of the market transfer of knowledge generated by the ecosystem

### Milestones:

- ACCELERATION SYSTEM (Technological, financial and strategic)
- INCUBATION SYSTEM to generate new startups and collaborations between researchers and companies
- ETHICAL AI & ROBOTICS
- ECOSYSTEM IDENTITY: sense of belonging to the ecosystem
- COMMUNICATION & PUBLIC ENGAGEMENT to disseminate research results
- HIGHER EDUCATION & TRAINING from literacy to increasing population skills



# From Partnership to Innovation Ecosystem, an example > Robotics and AI for Socio-economic Empowerment – RAISE

## HIGHER EDUCATION & TRAINING aims to:

- Support people in developing basic and advanced digital skills
- Encourage all potential users – especially SMEs, companies from non-tech sectors, and public administrations – to test and use AI and robotics
- Deliver higher education and training addressed at young students, workers, SMEs, and the public sector from ethical, economic, technical, and multi-perspective points of view
- Help people develop skills necessary to maximize AI exploitation, including critical and cross-cultural thinking and creativity, which are complementary to and cannot be replaced by machines
- Support the growth of a culture of innovation, fostering the right mindset and essential skills needed to found and manage a successful start-up



# **From Partnership to Innovation Ecosystem, an example > Robotics and AI for Socio-economic Empowerment – RAISE**

## **HIGHER EDUCATION & TRAINING**

### **TRAINING ACTIVITIES to be realized**

- P1. RAISE Knowledge Transfer and Entrepreneurship Academy
- P2. Basic AI & Robotic Applications4SMEs
- P3. Officinae RAISE
- P4. basic AI & robotics skills at university level
- P5. AI for Public Administration
- P6. basic AI & robotics skills for secondary school
- P7. Advanced AI & Robotics Applications4SMEs
- P8. Boosting PhD students' career

# Robotics and AI for Socio-economic Empowerment – RAISE

## Short description of training plan in RAISE

### **P1. RAISE Knowledge Transfer and Entrepreneurship Academy**

3 streaming offline training activities modules, available on a dedicated Moodle web platform, about fundamental issues related to knowledge transfer, intellectual property protection and vocational training for deep tech entrepreneurship. Academy is addressed to the RAISE researchers, although it is accessible to all those concerned, and it aims to stimulate an appropriate mindset to set up a successful innovative enterprise based on robotics and AI applications.

### **P2. Basic AI & Robotic Applications4SMEs**

11 streaming offline training activities modules organized in a catalogue + individual mentorship for employers in local SMEs operating within the span of RAISE industries, aiming to encourage the adoption of sound innovation-oriented managerial approaches. P2 wants to help employers in SMEs in the digitalization process, in the changing of the business model and practices related to AI & Robotics, which could allow them to increase productivity, gain competitive advantage, and scale up.

# Robotics and AI for Socio-economic Empowerment – RAISE

## Short description of training plan in RAISE

### **P3. Officinae RAISE**

Participants will acquire and refine skills in the application of "design thinking," "business model development," and "storytelling & public speaking" methodologies for creating innovative entrepreneurial ideas in the fields of robotics and artificial intelligence. The initiative is organized with 3 toolbox and final bootcamp in presence.

### **P4. basic AI & robotics skills at university level**

24 streaming offline 1 ECTS courses, for UniGe students of all study courses, and accessible to concerned citizens, aiming to increase the level of awareness of each student and the autonomy of using advanced digital skills.

### **P5. AI for Public Administration**

streaming offline, residential, and blended training activities modules aimed at cultivating the ability of public administration officials to effectively adopt innovative technologies within the supervised processes, offering an overview of the potential applications of AI.

# Robotics and AI for Socio-economic Empowerment – RAISE

## Short description of training plan in RAISE

### **P6. basic AI & robotics skills for secondary school**

The project aims to develop a Community of Practice System on Artificial Intelligence & Robotics (AI&R CoPS) for secondary schools. This system will provide a shared knowledge base, project ideas, and documented experiences to help establish and support a community of practice among teachers. The AI&R CoPS employs a flexible training model to: (i) introduce basic AI&R concepts, (ii) offer guidance on designing and implementing related educational activities, and (iii) set up laboratories for secondary school students.

### **P7. Advanced AI & Robotics Applications4SMEs**

is aimed at entrepreneurs, managers, and other professionals working in high-tech SMEs, innovative startups, and academic spin-offs primarily within the Ligurian ecosystem. Specifically, the project identifies two target groups that define its scope: requiring entrepreneurial and managerial skills and requiring a reassessment and reengineering of operational dynamics.



# Robotics and AI for Socio-economic Empowerment – RAISE

## Short description of training plan in RAISE

### **P8. Boosting PhD students' career**

specific scientific programs relating to AI and Robotics with an accompanying path to facilitate UniGe doctoral students' entry into the job market.



# Q&A



## Exercise

We invite you to leverage the technological excellence or rich cultural heritage of your region to drive forward the creation of a robust innovation ecosystem. Your unique perspective and expertise are crucial in identifying objectives and potential partners to establish a thriving environment for innovation.

### **Objectives:**

**Harness Local Expertise:** Utilize the unique technological advancements or cultural assets of your region to foster innovation.

**Build Strategic Partnerships:** Collaborate with local universities, research institutions, industry leaders, and government bodies to create a synergistic network.

**Promote Sustainable Development:** Ensure that the innovation ecosystem contributes to the sustainable development of your community, aligning with both technological growth and cultural preservation.



## Exercise

- **Identify Key Strengths:** Highlight the specific technological or cultural strengths of your region that can serve as a foundation for innovation.
- **Propose Clear Goals:** Define the objectives that your proposed innovation ecosystem aims to achieve, focusing on areas like education, economic development, and social impact.
- **Engage Potential Partners:** Reach out to potential collaborators within and outside your region, including academic institutions, businesses, non-profits, and governmental organizations.
- **Submit Your Proposal:** Provide a detailed plan outlining your vision, goals, and potential partnerships. Explain how these elements will come together to form a cohesive and sustainable Innovation ecosystem.
- **Prepare a pitch:** 10 minute to tell us how you want develop your idea!

*Join us in this exciting journey of innovation and collaboration!*



Università  
di **Genova**

Apprendimento  
Permanente

This material has been prepared by the Lifelong Learning Office of the University of Genova.

The contents refer to the *Guide for the planning, delivery and evaluation of lifelong learning initiatives* carried out by the same office.

The Lifelong Learning Office looks after and supports the University in carrying out permanent training projects in line with the strategic guidelines of the University. It provides assistance for the development of high-profile, post-graduate and specialization training projects through the provision of university Masters, specialization or training courses and in support of the renewal process of the PA, companies, schools and universities.

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