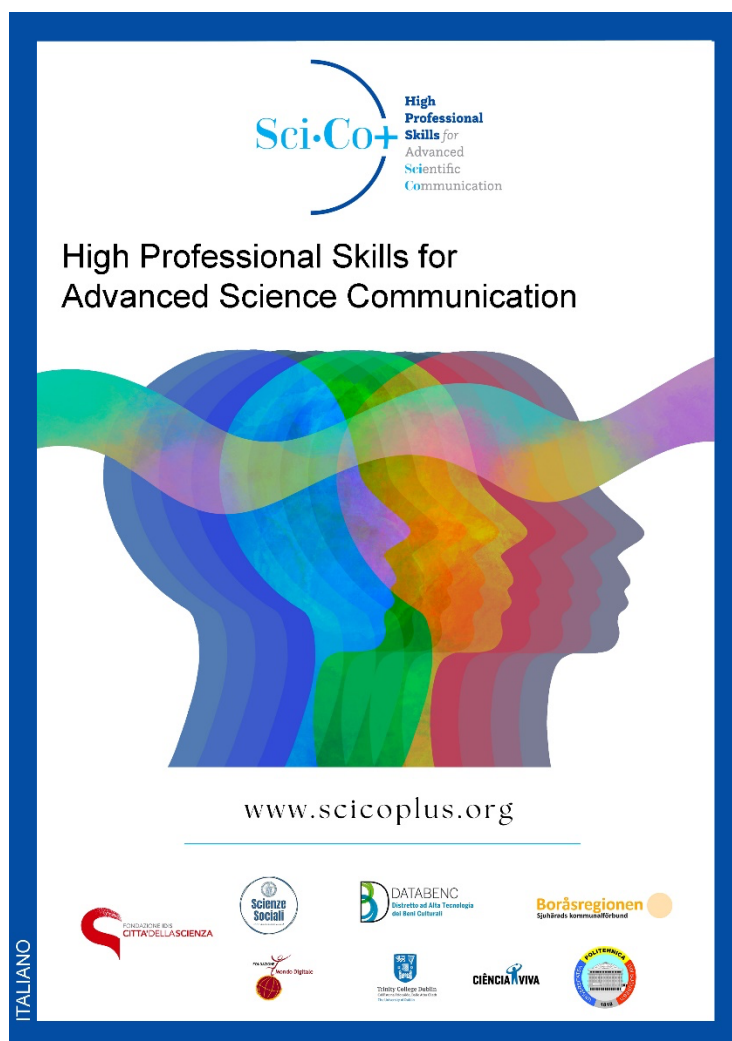**Project SCI-CO+**

Agreement No. 2022-1-IT01-KA220-VET-000086033

Contents of the Project's brochure

Project SCI-CO+

Program Erasmus+ – Cooperation Partnership – Key Action KA220
Agreement No. KA220 - N. 2022-1-IT01-KA220-VET-000086033

ERASMUS+ PROGRAM

Erasmus+ is the European Union Programme for the fields of Education, Training, Youth and Sport, for the period 2021-2027.
The inclusive and high-quality education and training, as well as informal and non-formal learning promoted by Erasmus+, supports participants of all ages and enables them to achieve the qualifications and skills necessary for their active participation in democratic society, a real intercultural understanding and successful transition to the labour market.
Erasmus+ supports the priorities and activities set out in the European Education Area, the Digital Education Action Plan and the European Skills Agenda.

The specific objectives of the program include:
1. Promote the learning mobility of individuals and groups and foster the collaboration, quality, inclusion and equity, excellence, creativity and innovation in the organisations and policies in the field of education and training.
2. Promote mobility for non-formal and informal learning purposes, the active participation of young people, collaboration, quality, inclusion, creativity and innovation in youth organisations and policies.
3. Promote learning mobility of sports personnel and stimulate the collaboration, quality, inclusion, creativity and innovation in sports organisations and policies.

For the 2021/2027 period, Erasmus+ relies on a 28.4 billion euros budget, which is almost double the amount of the previous Programme (2014-2020).

Key Actions

Erasmus+ is structured upon **three "Key Actions":**

Key Action KA1: individual learning mobility
This action aims to encourage the mobility of students, staff, youth workers and young people. Organisations may plan to send students and staff to other participating countries or to welcome students and staff from other countries. They can also organise educational, training and volunteer activities.

Key Action KA2: innovation and good practices
Thisaction aims to develop the education, training and youth sectors through five main activities: Strategic Partnerships, Knowledge Alliances, Sectoral Skills Alliances, Skills Development Projects in higher education, Youth Skills Development Projects.

Key Action KA3: support for policy reform

This action aims to increase the participation of young people in democratic life, especially in debates with policy-makers, and to develop knowledge in the field of education, training and youth.

Cooperation Partnership

The primary objective of cooperation partnerships is to enable organisations to increase the quality and relevance of their activities, develop and strengthen their partner networks, increase their capacity to work together transnationally, promote the internationalisation of their activities and exchange or develop new practices and methods, as well as share and engage with ideas. They aim to support the development, transferring and/or implementation of innovative practices, as well as the implementation of joint initiatives to promote cooperation, peer learning and the exchange of experience at European level. The results should be reusable, transferable, scalable and, if possible, have a strong transdisciplinary dimension.

Over the years, the Erasmus+ Programme has been a significant laboratory of innovation.

"Erasmus+ supports the priorities and activities set out in the European Education Area, the Digital Education Action Plan and the European Skills Agenda"

SCI-CO+ PROJECT

Background

The European strategy for a sustainable and inclusive smart economy requires the centrality of knowledge and innovation for its growth.

From the mid-twentieth century, the dialectic between science and society has become one of the founding elements of the democracy of free societies. This has some unprecedented consequences: both politicians and citizens seek to participate in the governance of techno-science and to take relevant decisions for their development.

Given these assumptions, written science communication, for example, is the process of publication and dissemination in general on mature and non-mature science and technology topics and on the research results of universities, academies, research centres and institutions.

Moreover, it is a set of activities that are growing rapidly[1]:
- between 6,000 and 7,000 scientific articles are written every day;
- scientific and technical information is currently increasing by 13% per year, which means that it is doubling every 5.5 years;
- this rate of increase could possibly jump to 40% per year, thanks to new, more powerful, information systems and the increase in the number of scientists.

This mean that every 20 months, the amount of data will double.

The aim of the project SCI-CO+ is to contribute towards filling an existing gap in the current panorama, with interdisciplinary theoretical and practical training aimed at those who intend to start a profession in the field of museum scientific communication.

At the same time, it is known =, as a consequence of the SARS-CoV-2 pandemic, that the use of information and communication technologies and the need for easily accessible digital resources aimed at production, information, and knowledge has increased. The theme of "digital transition" has therefore become one of the central points of the political agenda. In the "Recommendation of the Council of 24/11/2020 on VET for sustainable competitiveness, social fairness and resilience", it is clearly highlighted that digital skills must be the heritage of systems and people both in work and training. In this regard, we also recall the "New Skills Agenda for Europe" and the "Digital Education Action Plan".

The digital transition, limited to learning and work contexts, has two closely interconnected needs. The first, horizontal, is to provide individuals, both those in training and those already operating in the labour market, with specific skills to relate to each other and to carry out their learning and/or work tasks through large-scale use of digital technologies or, better, in virtual environments. The second, vertical, is to equip systems, both those of education and training, and those of production and services, with innovative skills to assist their digital transition. As highlighted by the Enterprise 4.0 EU Program, the digital transition of organisations and public administrations, alongside, alongside a need for innovative technologies, require new abilities, knowledge, adequate and upskilled competences, and specialised professionalism. Without the fulfilment of this second need, every attempt at digital transition is doomed to failure, as evidenced by the many studies carried out in Europe, in particular in the Small and Medium Enterprise sector.

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[1] Source https://www.weforum.org/agenda/2020/01/top-ten-countries-leading-scientific-publications-in-the-world/

The SCI-CO+ Answer

These two needs are met by the priorities identified by the SCI-CO+ Project, which has the general purpose of contributing, in an effective way, to the digital changes of a central sector for the cultural, social and economic development of the European Union and its individual Member States: the Science and Technology Communication sector (which we will indicate below with Science Communication). This is done through the professional adaptation and specialisation of those engaged or willing to engage in this large work field and through an advanced use of vocational education and training methodologies and technologies. Sci-Co+ represents an extraordinary and innovative response to the needs of this strategic sector that engages Europe on multiple levels that in addition to those previously mentioned, also include equal opportunities in access to scientific and technological knowledge.

Teaching-Learning Model

The **teaching-learning model** of the SCI-CO+ Project has solid theoretical, technological, and organisational bases that provide advanced solutions in the Vocational and Educational Training (VET) field through the use of innovative **e-Learning, e-Work, Knowledge Management and Collective Intelligence** methods and techniques. The topics covered are:
  - *processes to create knowledge and competence;*
  - *methodologies for assessing the effectiveness of work performance;*
  - *knowledge and learning sizing models;*
  - *individual needs in work and learning;*
  - *the Collective Intelligence models and integrated Knowledge Management systems;*
  - *the models for remote working and learning in a Web 2.0 environment;*
  - *simulation models of production processes.*

Aim and Objectives

General Aim

"To define and implement a methodological, technological and organizational system, based on new models and techniques for communicating scientific and technological knowledge, aimed at training new highly specialized professionals in the scientific communication sector and updating operators in the sectors of communication and scientific and technological education and training."

Objectives

More precisely, the Project aims to: (1) identify an innovative Model of Science Communication (called "e-SciCo") based on the use of the most advanced solutions offered by ICT – in particular by Web 2.0 – and introduce specific methodologies for the ideation, design, development and implementation of "remote" scientific communication experiences based on e-SciCo Model; (2) design new Highly Specialized Professional Profiles for the sector and sets of new skills for the purpose of Updating Operators in the fields of communication and scientific and technological education and training; (3) implement a Technological-Organisational System to: disseminate the SCI-CO+ model; make all the products created by the project accessible and usable; manage a large and active

community of practice for training, cooperative work and professional sharing in the field of science communication.

RESULTS

e-SciCo Model

The fast transition to digital requires new strategies, new communication models, updated specialised language, and new design and development techniques to create scientific and technological communication experiences that respond to contextual needs. More briefly, the need emerges for a new methodological, procedural, technological approach to scientific communication and for a set of specialised professional figures who, on the basis of specific application methodologies, make it possible to innovate the panorama of operators in the sector and, at the same time, ensure significant growth in the dissemination of scientific culture. This new conceptual approach to the production of interventions and communication initiatives of science and technology has been called the 'e-SciCo Model'

Methodologies

Thee-SciCo Model must identify specific reference **Methodologies and Application Techniques**, indispensable for translating the guiding principles (knowledge, processes, strategies, and languages) into concrete implementation actions in science communication.

eSciCo Design and Planning

This methodology organises the set of innovative methods and techniques for the *development and management of science communication systems and projects*

eSciCo Development

Methods and techniques aimed at the conception*, design and development of materials for science communication*

eSciCo Scripting

Methods and techniques aimed at writing and scripting *advanced/ digital scientific narratives.*

New advanced professional figures

Each of the previous areas of implementation of advanced communication systems and initiatives in science and technology constitute the professional domain of a **specific specialist figure**, that the project will design in detail. These figures are outlined below.

Sci-Co Advanced System and Project Leader

Medium-high level professional expert in the management of organisations operating in the scientific communication sector, in particular in Science Museums and Science Centres, and in the conception, design and implementation of science communication projects. This expert is competent in the development of an entire science and technology communication project, from the conception phase to that of planning, development and implementation, based on the strategy of the e-SciCo Model and, in particular, of the eSciCo Design and Planning Methodology.

Expert in Authoring and Design of Advanced Sci-Co Materials

Professional in the design and development of environments and materials, based on the application of the eSciCo Development Methodology.

Advanced Expert in Sci-Co Storytelling

Professional with specific skills in the processing of scripts and texts for scientific narration based on the innovations of the e-SciCo Model and, in particular, of the strategies and techniques used available from the eSciCo Scripting Methodology.

Training paths and their recipients

Specialization courses

For each of the aforementioned Specialized Professional Profiles, the project will develop the curriculum of three post-graduate specialisation courses. These courses are called, respectively:

- Course for *Sci-Co Advanced System and Project Leader* aimed at **graduates in Communication disciplines.**

- The Expert Course *in Authoring and Design of Advanced Sci-Co Materials* aimed at **graduates in Computer Sciences/Engineering.**

- The *Advanced Expert Course in Sci-Co Storytelling* aimed at **graduates in STEM disciplines.**

Upskill Paths

The Project also develops three professional upskilling paths, including educational programs, materials and teaching supports, intended for
- **Operators and managers of Science Museums, Science Centres and other Public Engagement organizations;**
- **University researchers in scientific and technological subjects;**
- **High school teachers of scientific and technical subjects, in particular STEM.**

The Sci-Co+ System and Network

Finally, the project will develop the technological-organizational system that will allow the effective application of the Teaching-Learning Model assumed by the project. The **Sci-Co+System** is articulated on three integrated platforms.

Technological-Organisational Platform

This platform consists of the following subsystems:
- An **e-Learning Management System** (for the provision of distance learning).
- An **e-Stage Management System** (to carry out internship activities in a smart-working way).
- A **Virtual Didactic Laboratory** (to simulate a Virtual Science Museum and Science Centre for training practice purposes).
- An **e-library** (for the "management of editorial content", which will allow the collection, cataloging, and use of all structured information resources – books, manuals, handbooks, etc. – in form of e-Books realised by the project).
- A **Wiki Repository** (to collect heterogeneous information in form of wiki-pages created by the users of the Community themselves).

Networking Infrastructure

This platform is composed by the following sub-systems:

- a system for managing a **Community of Practice**
- a system for **Advanced Communication**
- a system for **Cooperative Work**

These three environments will allow forthe collection of the knowledge of the people involved (users and students of SCI-CO+) in a semi-structured way – through wikis, blogs, forums, tubes, e-libraries, etc. – and allow for increasingly wide and sophisticated virtual communication, through e-mailing, chat, video chat, teleconferencing, cooperative computing, webinars, etc.

Dashboard (or Service Portal) of SCI-CO+

This platform is a web section of the SCI-CO+ Portal that will allow:

- the registered visitors (Users and Students) to access the educational and networking environments and services dedicated to them,
- =those responsible for the SCI-CO+ System to manage a "Teleservices Centre" to support users and control the technologies.

Experimentation

A further important result of the SCI-CO+ Project is the experimental delivery of the Refresher Course for Operators, Researchers and Teachers.

Other results

- A **Portal** to inform, disseminate and enhance the Project and, at the same time, to access the SCI-CO+ System and its services.
- A quarterly **newsletter** entitled "**NEW FRONTIERS OF SCIENCE COMMUNICATION",** with articles of interest, specific results of the project, contributions from participants in the Discussion Forums, dissemination (or meeting) initiatives defined by the partnership, news about conferences and other events on the topics of interest of the SCI-CO+ Project.
- A **Book** entitled "**SCI-CO+ - MODELS, PROCESSES AND TECHNIQUES FOR ADVANCED SCIENTIFIC COMMUNICATION**" that represents not only an effective systematisation of the project results but also an excellent tool for dissemination and enhancement. The book will be published in print and e-Book format both in Italian and in English, and will be enriched with an in-depth device provided online.

PARTNERSHIP

The Partnership involves eight organisations from five countries: Ireland, Italy, Romania, Spain and Sweden.

Promoter

Fondazione IDIS - Città della Scienza, Napoli, Italia

IDIS Foundation - City of Science, Naples, Italy

Partner

Distretto ad Alta Tecnologia per i Beni Culturali S.C. a R.L., Napoli, Italia

High Technology District for Cultural Heritage Consortium, Naples, Italy

Università degli Studi di Napoli Federico II, Napoli, Italia

University of Naples Federico II, Naples, Italy

Fondazione Mondo Digitale, Roma, Italia

Digital World Foundation, Rome, Italy

Trinity College Dublin – The University of Dublin, Dublin, Ireland

Ciencia Viva - Agencia Nacional para a Cultura Cientifica e Tecnologica, Lisbona, Portogallo

Live Science - National Agency for the Scientific and Technological Culture, Lisbon, Portugal

Universitatea Politehnica din Bucuresti, Bucarest, Romania

Politehnica University of Bucharest, Romania

Sjuhärads kommunalförbund, Boras, Svezia

Association of Local Authorities of Sjuhärads region, Boras, Sweden

Sustainability is at the heart of the European Union's programs. The SCI-CO+ Project adopts environmentally friendly solutions. This brochure is printed in a limited number of copies for information purposes. The electronic version is available on *www.SciCoPlus.org* and *www.SciCoPlus.eu*.