





PROGRAMME AGREEMENT FOR THE PROMOTION OF THE SCIENTIFIC AND INNOVATION SYSTEM OF FRIULI VENEZIA GIULIA SiS FVG

2019-2020 OPERATIONAL PLAN

(Article 3, paragraphs 2 and 3 of the Agreement)





INTRODUCTION

Launched in August 2016, SiS FVG is the networking initiative of the research institutions located in the Friuli Venezia Giulia region.

Considered as a science and technology "hub" with a significant number of internationally known research facilities, Friuli Venezia Giulia hosts a large community of international students and researchers together with a noteworthy network of public and private research institutions.

SiS FVG is a strategic instrument promoting the regional scientific and innovation system and guaranteeing that the research results will translate into substantial benefits in terms of socio-economic development of the local area.

The Initiative was established under the Agreement signed on 8th August 2016 by the Ministry of Foreign Affairs and International Cooperation (MAECI), the Ministry of Education, University and Research (MIUR) and the Regional Authority of Friuli Venezia Giulia in order to reinforce the previous Agreement signed in 2004.

By promoting the Scientific and Innovation System, the purpose of the Agreement is to enhance the national and international visibility of the System, to foster the exchange of services and activities among the Bodies involved, to support the network between science and economy, as well as to encourage technical and scientific dissemination and the knowledge on innovation.

The Central Directorate of Labour, Training, Education and Family, Advanced Training Service and Research is the regional technical department responsible for the implementation of the Agreement. For the planning, monitoring and operational implementation of the activities, it works in cooperation with the Park Development and SiS FVG Office, operating within the Park Management, SiS FVG and Corporate Training Department of Area Science Park.

This Document presents the activities included in the 2019-2020 Programme, defined as strategic for the System by the members of the Steering Council. In addition to a brief summary of the activities, the Document contains the Programme tables with a detailed description of each project.

OPERATIONAL OBJECTIVES

With a view to improve the effectiveness of its actions and the optimisation of its resources, the regional Scientific and Innovation System (SiS FVG) shall pursue the following **operational objectives**:

Objective no. 1: Creation of a "Scientific network of excellence" to reinforce the capacity for action, attractiveness and competitiveness of the institutions at a national and international level;

Objective no. 2: Rationalisation of the regional structures that operate in the valorization of research, technology transfer and the development of innovation;

Objective no. 3: Promotion and services for the internationalisation of the centres present in Friuli Venezia Giulia region;

Objective no. 4: Technical and scientific communication and diffusion of innovation.

The following activities were planned for the 2019-20 two-year period in order to pursue the objectives above:

OBJECTIVE 1. CREATION OF A "SCIENTIFIC NETWORK OF EXCELLENCE":

Objective strand 1.1 Creation and enhancement of integrated research infrastructures

In order to reinforce the capacity for action of the SiS FVG scientific institutions and improve the availability of research infrastructures—in particular those which are shared—six new project activities were presented in this domain. 2 The first five projects concern actions funded under Regional Law 2/2011 (Funding of the regional and university system). Specifically, the first four activities involve the implementation of shared

research infrastructures to be put into practice by the regional universities and SISSA—the International School for Advanced Studies of Trieste in a perspective of integration, optimisation and implementation of shared research services.

In particular, the first concerns the implementation of a new intrinsically secure data transmission optic fibre research infrastructure (Quantum FVG) based on quantum communication for the digital innovation of companies and the regional public administration. The network will connect the three universities headquartered in the region (University of Trieste, University of Udine and SISSA) and will see the involvement of other regional research bodies, Elettra Sincrotrone and CNR-IOM in particular (table 1) NEW.

The second activity is aimed at the implementation of an advanced Big Data, IoT and CyberSecurity laboratory (LABIC) for the digital innovation of enterprises and the regional public administration with facilities and equipment to be set up at the university headquarters located in Udine and Pordenone for the development of training, research, development and technology transfer in the domains of data generation, data and system security as well as data analysis (table 2) NEW.

The third activity involves the implementation of mixed university-business integrated laboratories devoted to the implementation of R&D and technology transfer activities in sectors that are strategic for the local community, consistently with the Smart Specialisation Strategies of the FVG Regional Authority. More specifically, the research infrastructure will be devoted to the following strategic areas: food and agriculture, ICT and innovative IT technologies, engineering (table 3) NEW.

The fourth and fifth activities concern the implementation of new research laboratories at the University of Trieste and SISSA, including an upgrade of the installations and the purchase of new specific equipment, so as to complete the range of instruments and make such laboratories fully operational (tables 4 and 5) NEW.

The sixth activity is aimed at the implementation of a genomics and epigenomics platform managed by Area Science Park and the University of Udine in the framework of the "ARGO" project in order to launch a reference centre of national importance in the domain of genomics and epigenomics and promote synergies among regional, national and international players in the field (table 7) NEW.

Objective strand 1.3 Support for the development of international agreements, cooperation agreements and projects in the sector of research and innovation

In order to enhance the regional network, among the strategic activities there is the promotion of collaboration and enhancement agreements with international scientific networks, as well as research projects at the international level.

In order to ensure continuity with previous plans of action, the Regional Authority remains among the funders of the "Ambient Assisted Living" Programme - AAL (table 7) to favour the participation of regional scientific and industrial partners in collaborative research, development and innovation projects for active and healthy ageing which have a market orientation, a transnational and multi-disciplinary nature and are based on ICT (Information and Communication Technology), in line with the "Smart Health" specialisation area of S3.

Besides—still consistently with the previous course of action—the project activities included in the Framework Agreement between the Regional Authority and the Joint Research Centre (JRC) of the European Commission have continued with a wide range of initiatives for the enhancement of the regional scientific institutions. This includes the activation of vouchers for the mobility of researchers to the research facilities located in the various JRC centres, the continuation of the pilot project "Science meets Regions" on subjects of interest to the Regional Council, as well as the joint participation in international events, in particular in the framework of ESOF2020 (Table 8).

Still in line with the previous plan of action, the Regional Authority is implementing—together with the regional universities and SISSA—another important strategic framework agreement with MIT – 3 Massachusetts Institute of Technology which falls within the MIT Italy Program, in order to improve international cooperation in the domains of research, innovation and technological transfer and increase the impact and visibility of such initiatives, including during ESOF2020 (Table 9). Finally, the APRE centres have continued their operations to encourage access to the opportunities offered by Horizon 2020 and the new Horizon Europe plan for the 2021-2027 period (Table 10). For objective strands 1.3 — "Support for the development of international agreements, cooperation agreements and projects" and 1.6 — "Promotion of SiS FVG through qualified resources provided by MAECI" a new line of action by the InCE-CEI Secretariat which

comprises various activities, including: promotion of SiS FVG within the area of the European Union Strategy for the Danube Region (EUSDR) and in the framework of the "Steering Platform on Research and Innovation for the Western Balkan Countries;" promotion of SiS FVG events and activities in the InCE-CEI area; diplomatic accompaniment to SiS FVG members in the InCE-CEI member States; involvement of SiS FVG in activities and events promoted by the Secretariat, the member States and the InCE-CEI Presidency. Additionally, a further action devoted to the subject of scientific diplomacy may be planned with the goal of identifying new paths for training, analysis and study in coordination with MAECI, MIUR and the Friuli Venezia Giulia Regional Authority (Table 11) NEW.

Objective strand 1.5 Consolidation of partnerships and initiatives of international cooperation to benefit the SiS FVG with the support of the appropriate offices of the MAECI and the networks of scientific experts located across the territory

In this domain, the "Platform of knowledge and competences on the Blue Economy" with a focus on the countries of the Mediterranean area promoted by the National Institute of Oceanography and Experimental Geophysics — OGS will continue its operations (Table 12).

Among other activities, the platform promotes a high-level training summer school to be held in Trieste every year in collaboration with the other SiS FVG institutions ("Summer School in Sustainable Blue Economy in the Euro-Mediterranean Region"), an advanced international master's degree on the sustainable blue growth in collaboration with the University of Trieste, joint actions within international mobility exchange programmes, activities supporting workshops and seminars and providing specialised training.

Objective strand 1.7 Reinforcement of the relations with the Liaison Office in Brussels of the Friuli Venezia Giulia Region

In order to promote the SiS FVG at European institutions to favour links and the participation of the SiS FVG partners in European networks operating in the context of research, the 2017-2018 programme will see the extension of the current collaboration between the SiS FVG Office of Area Science Park and the Liaison Office in Brussels of the Regional Authority.

The Brussels Office of the Regional Authority supports the participation of the SiS FVG bodies in the **brokerage meetings of the ERRIN, CORAL and RSCN European networks**. In addition, the Institutions are involved in the drafting of the **position paper** promoted through the GIURI, the network of the Italian Liaison Offices in Brussels. In addition, the SiS FVG institutions will provide their support to various initiatives at the international level (Table 13).

OBJECTIVE 2. RATIONALISATION OF THE REGIONAL STRUCTURES THAT OPERATE IN THE VALORISATION OF RESEARCH, TECHNOLOGY TRANSFER AND THE DEVELOPMENT OF INNOVATION:

Objective strand 2.1 Definition and implementation, in collaboration with the Region and the MIUR, of an organisational model of Innovation Enablers

The establishment of a foundation for the generation and development of enterprises has been planned in collaboration with Area Science Park. The strategic and operational plan of the foundation will focus on three main lines of action: dissemination of entrepreneurial culture based on technology and business models truly able to valorise scientific, technological and entrepreneurial talents (think-tank); a network of regional incubators aimed at developing the entrepreneurial fabric through the generation of innovative startups; internationalisation and networking (Table 14) NEW.

In order to support businesses in the management of the entire innovation process, experimenting with collaborative actions among Scientific and Technological Parks, Incubators and Regional Districts, the project named "Open Innovation System FVG" (Table 15) continues to be implemented in order to build a shared model of innovation services addressed to enterprises.

OBJECTIVE 3. PROMOTION AND SERVICES FOR THE INTERNATIONALISATION OF THE CENTRES PRESENT IN FRIULI VENEZIA GIULIA REGION:

Objective strand 3.1 Reinforcement of the services for internationalisation offered by the Welcome Office FVG

With reference to the well-established service Welcome Office FVG, the programme continues to reinforce the consultancy services for students and researchers, constantly update the content of the web portal www.welcomeoffice.fvg.it and plan meetings with public administration representatives on subjects of interest. Besides, activities include the drafting of an annual programming document shared by the partnership members and half-yearly monitoring of the network initiatives (Table 16).

Objective strand 3.4 Creation of studies and models to monitor the incoming and outgoing flows of researchers and international students

The annual survey "The Mobility of Knowledge" shall continue. It focuses on the flows of international students and researchers at the scientific and academic institutions in the regional territory. It shall be carried out by the SiS FVG Office of Area Science Park, in cooperation with the partner bodies of SiS FVG. In view of ESOF2020, the plans include the implementation of a mini leaflet containing essential data on the SiS FVG international scientific community (Table 17).

Objective strand 3.6 Promotion of the SiS FVG through adequate means of communication In view of the forthcoming international scientific events to be held in Friuli Venezia Giulia (such as ESOF 2020 and EUPRIO 2020), in coordination with certain offices of the Regional Authority, the plan includes the design and development of products aimed at the promotion of the SiS FVG system as well as each partner. Specifically, the plan will include: a MS PowerPoint presentation about SiS FVG, one video devoted to SiS FVG as a whole and 18 videos, each of which will illustrate one partner institution, to be used at national and international events. In addition, the plan includes the Annual SiS FVG Conference and the presentation of the SiS FVG web portal (www.sisfvg.it) as a case study at the 2020 Conference of the EUPRIO network – the European Association of Communication Professionals in Higher Education. Finally, the content of the web portal is continually updated (www.sisfvg.it), the monthly newsletter is constantly sent out and promotional material continues to be produced (Table 18) NEW.

OBJECTIVE 4. TECHNICAL AND SCIENTIFIC COMMUNICATION AND DIFFUSION OF INNOVATION:

Objective strand 4.1 Creation of communication initiatives to favour the transfer of knowledge to the entire scientific community

2020 will see the ESOF2020 being held in Trieste: 400 participants from across the globe are expected along with over 1000 researchers and PhD students, who will participate in approximately 200 seminars, workshops and plenary sessions, over 20 satellite events, B2B meetings. In total, 40,000 visitors are expected during the 3 weeks of ESOF2020. The scientific programme will be held from 5 to 9 July 2020, whereas the Science in the city Festival from 27 June to 11 July 2020 (Table 19) NEW.

FINAL CONSIDERATIONS

As can be seen from the project tables, some actions ensure continuity with previous programming, which testifies the strategic character of certain actions that continue to be carried out and the planning of services that are now well established. At the same time, the plan includes several new initiatives, which demonstrate the liveliness of the regional scientific system and the richness of the initiatives aimed at improving its attractiveness, visibility and competitiveness.

Following is an overview of the actions included in the overall plan, with emphasis on their connection with the strategic objectives and the specification of the number of continuing or new activities.

19 project tables (10 continuing activities and 9 new activities) divided according to the four operational objectives:

- Objective 1 Creation of a "scientific network of excellence": 13 project tables (7 new activities and 6 continuing activities)
- Objective 2 Rationalization of the regional structures that operate in the valorization of research, technology transfer and the development of innovation: 2 project tables (1 new activities and 1 continuing activities)
- Objective 3 Promotion and services for the internationalization of the centres present in Friuli Venezia Giulia region: 3 project tables (1 new activities and 2 continuing activities)
- Objective 4 Technical and scientific communication and diffusion of innovation: 1 project tables (continuing activity)

The continuing activities, listed according to the objective and objective strand are:

Project name	Objective	Objective strand
ACTIVE ASSISTED LIVING - AAL EUROPEAN PROGRAMME	1	1.3
AGREEMENT BETWEEN THE FVG AUTONOMOUS REGION AND THE JOINT RESEARCH CENTRE (JRC)	1	1.3
AGREEMENT BETWEEN THE REGION, THE FVG UNIVERSITIES AND THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY - MIT	1	1.3
APRE FVG COMMITTEE	1	1.3
BLUE ECONOMY PLATFORM	1	1.5
SUPPORT TO NETWORKING ACTIVITIES	1	1.7
OIS - OPEN INNOVATION SYSTEM FVG	2	2.1

Project name	Objective	Objective strand
WELCOME OFFICE FRIULI VENEZIA GIULIA	3	3.6
THE MOBILITY OF KNOWLEDGE ANNUAL SURVEY	3	3.6
ESOF 2020	4	4.1

Finally, with special regard to the actions added to the new plan, the Regional Authority consistently demonstrates its **continued support** to the enhancement of **research infrastructures**, with special focus on the shared ones (in this domain there are six new project activities), as well as the promotion of the **internationalisation** and **visibility** of the regional scientific system (for example with the involvement of the InCE-Central European Initiative Secretariat), the continuation of the activities relating to ESOF Trieste - City of Science 2020 and the promotion of SiS FVG through suitable communication means, including a presentation and video material about the regional scientific system, which were translated into English.

Creation of a "Scientific Network of Excellence"

Table 1	Quantum FVG
Objective	Objective no. 1: Creation of a "Scientific network of excellence" in the Friuli Venezia Giulia Region among universities, public research bodies and international research bodies to reinforce the capacity for action, attractiveness and competitiveness at a national and international level of the institutions
Strand of activity	1.1 The creation and enhancement of integrated research infrastructures, to reinforce the capacity for action of scientific institutions and to optimise the use of the infrastructures themselves, making them available also to private companies, and the creation of shared services for research or the coordination of existing services
Description of the intervention	The project involves the implementation of an intrinsically secure data transmission optical fibre infrastructure based on quantum communication for the digital innovation of businesses and the regional public administration alike. The network connects the three universities (University of Trieste, University of Udine and SISSA) and sees the involvement of other regional research bodies, in particular Elettra - Sincrotrone and CNR-IOM. Quantum technology applied to remote communication is seeing significant investments across Europe and worldwide. In Europe, the Quantum Technology Flagship, the memorandum of understanding of seven European countries (including Italy) of the Quantum Communication Infrastructure, the European GEANT Organization, which sees the collaboration of 38 national research networks, the CNR's Italian-Quantum Backbone project, the QUAPITAL network are all important examples for quantum technology development prospects. The Quantum FVG project aims to finance the purchase of equipment for the implementation of a quantum network that will connect three nodes, one for each of the three bodies involved through the use of dedicated fibre lines (collaboration with LightNET, Insiel for the regional telecommunication network, GARR and ARNES). For this project, a request for co-financing was submitted to MIUR for € 450,000.00 against a total cost of € 2,000,000.00 only for the equipment. Such measure is included in the "2019-2021 three-year programme" relating to funding for the regional university
Implementing bodies	system pursuant to Regional Law 2/2011. University of Trieste (lead partner), University of Udine and International School for Advanced Studies (SISSA)
Starting date	30/09/2020
Planned duration	2020-2021
Planned expenditure	800,000.00 (Regional Authority funds)
Expected result	Enhancement of the integrated research infrastructures existing in the region, with a related increase in the research potential and attractiveness of the regional academic and scientific system and promotion of knowledge transfer at the application and industrial level
Output indicator	Number of infrastructures/extensions of the facilities implemented

Table 2	LABIC
Objective	Objective no. 1: Creation of a "Scientific network of excellence" in the Friuli Venezia Giulia Region among universities, public research bodies and international research bodies to reinforce the capacity for action, attractiveness and competitiveness at a national and international level of the institutions
Strand of activity	1.1 The creation and enhancement of integrated research infrastructures, to reinforce the capacity for action of scientific institutions and to optimise the use of the infrastructures themselves, making them available also to private companies, and the creation of shared services for research or the coordination of existing services
Description of the intervention	The project involves the implementation of an advanced Big Data, IoT, CyberSecurity laboratory for the digital innovation (LABIC) of companies as well as the regional public administration. The project involves the implementation of facilities and equipment split between the Udine and Pordenone headquarters (of the University of Udine) for the development of training, research, development and technology transfer activities in the areas of: 1. IoT and Edge Computing (data generation); 2. CyberSecurity (data and systems security); 3. Data Science/Data Analytics (data analysis); Such measure is included in the "2019-2021 three-year programme" relating to funding for the regional university system pursuant to Regional Law 2/2011.
Implementing bodies	University of Udine (lead partner), University of Trieste and International School for Advanced Studies (SISSA)
Starting date	01/01/2021
Planned duration	2020-2021
Planned expenditure	800,000.00 (Regional Authority funds)
Expected result	Enhancement of the integrated research infrastructures existing in the region, with a related increase in the research potential and attractiveness of the regional academic and scientific system and promotion of knowledge transfer at the application and industrial level
Output indicator	Number of infrastructures/extensions of the facilities implemented

Table 3	Labs Village
Objective	Objective no. 1: Creation of a "Scientific network of excellence" in the Friuli Venezia Giulia Region among universities, public research bodies and international research bodies to reinforce the capacity for action, attractiveness and competitiveness at a national and international level of the institutions
Strand of activity	1.1 The creation and enhancement of integrated research infrastructures, to reinforce the capacity for action of scientific institutions and to optimise the use of the infrastructures themselves, making them available also to private companies, and the creation of shared services for research or the coordination of existing services
Description of the intervention	The facility to be built will consist of mixed university-business integrated laboratories devoted to the implementation of <i>R&D</i> activities and technology transfer in sectors that are strategic for the territory in line with the Smart Specialisation Strategies of the FVG region. Specifically, the research facility will cover the following strategic areas: • food and agriculture • ICT and innovative information technologies • engineering The aim is to enhance research results by implementing joint university-business activities to encourage the development of the competitiveness of the regional production system in a system perspective. The Labs Village project involves the implementation of the following mixed university-business laboratories: 1. LARA Laboratory devoted to the pilot-stage validation of products and processes in view of pre-industrial scaling up procedures. Currently, the local area does not feature any facility capable of supporting companies, in a versatile and flexible way, in the pre-industrial development of processes and products related to the agri-food sector. 2. LABAS A laboratory certified in compliance with UNI-EN ISO 8589 standards for the sensory analysis of food products, designed for laboratory teaching and experimentation. Currently, the local area does not feature any facility designed for sensory analysis that can provide a complete service to meet the needs of public and private entities.

ICT strategic sector and innovative information technologies

The ICT and new information technology sector undoubtedly is one of the strategic sectors of the regional territory.

In order to meet such needs, the Labs Village project involves the implementation of the following mixed university-business laboratories:

3. Machine learning and data analytics laboratory (Udine headquarters)

A laboratory provided with infrastructural and instrumental equipment to develop artificial intelligence and data science applications, with particular reference to *machine learning* and *data analytics* advanced techniques.

The laboratory will also be the operational headquarters of the Node dedicated to Artificial Intelligence of the IPFVG4 project of the Region and will be carried out in collaboration with Area Science Park.

4. Autonomous systems, virtual and augmented reality laboratory

Laboratory provided with infrastructural and instrumental equipment suitable for carrying out tests and trials of complex systems in large virtual environments (CAVE system, i.e. a virtual environment based on giant screens), developing systems for remote maintenance or for training staff to carry out operations/interventions in complex environments as well as systems to simulate the flight of planes and/or drones in indoor environments, developing virtual environments for cultural heritage and tourism, etc.

The laboratory will also host specific technological demonstrators for companies located within the Digital Innovation Hub (DIH) area of Udine.

5. Cybersecurity Laboratory (Pordenone headquarters)

A laboratory provided with infrastructural and instrumental equipment for the development of innovative *cybersecurity* techniques that allow for safe exchange of data and information, protection of data and personal identities, security in the business environment, transport and critical infrastructures.

At regional level, this laboratory may become an example of a service and technology transfer facility specialising in *cybersecurity* for the territorial subjects concerned, companies and regional bodies alike.

Engineering Strategic Sector

The aim of this project is to further strengthen the research capacity and the possibility of more effective collaboration with companies, in particular those specialising in the mechanical and electronic engineering sectors as well as problems related to the protection and safeguard of the environment and the territory.

	6. LINE - Energy and Environmental Engineering Laboratory The laboratory hosts systems and instruments that allow basic and applied research to be carried out on subjects such as energy systems, fluid machines and fluid dynamics. The intention is to further enhance the equipment by purchasing new more effective measuring instruments and by modernising and adapting the existing experimental systems to new requirements, thus securing a more effective response to the innovation needs of regional companies.
	7. LATE - Environment and Territory Laboratory This laboratory is devoted to the study of hydraulic, geotechnical and road problems. The laboratory is expected to host activities related to collaborations with territorial entities such as the FVG Regional Authority, the Regional Civil Protection and the Municipalities on issues concerning environmental problems.
	8. Smart devices lab In this laboratory, several groups work in synergy on issues specific to the IoT with particular regard to the sectors of distributed communication and data exchange systems, power electronics, electromagnetic compatibility and development of sensors for biomedical or special applications.
	The grouping of all such activities at the Labs Village will allow for greater synergies between the different skills available, thus expanding the possibilities for industrial collaboration. In addition, a multimedia classroom is planned to be used for seminars, courses or events useful for the transfer of skills to the territory. Such measure is included in the "2019-2021 three-year programme" relating to funding for the regional university system pursuant to Regional Law 2/2011.
Implementing bodies	University of Udine (lead partner) in collaboration with Cluster, DIH, Area Science Park, Companies
Starting date	01/02/2020
Planned duration	2020-2021
Planned expenditure	1,475,000.00 (Regional Authority funds)
Expected result	Enhancement of the integrated research infrastructures existing in the region, with a related increase in the research potential and attractiveness of the regional academic and scientific system and promotion of knowledge transfer at the application and industrial level
Output indicator	Number of infrastructures/extensions of the facilities implemented

Table 4	Departmental research and teaching laboratories
Objective	Objective no. 1: Creation of a "Scientific network of excellence" in the Friuli Venezia Giulia Region among universities, public research bodies and international research bodies to reinforce the capacity for action, attractiveness and competitiveness at a national and international level of the institutions
Strand of activity	1.1 The creation and enhancement of integrated research infrastructures, to reinforce the capacity for action of scientific institutions and to optimise the use of the infrastructures themselves, making them available also to private companies, and the creation of shared services for research or the coordination of existing services
Description of the intervention	The infrastructures to be built are aimed at making new laboratories fully operational as well as implementing some laboratories that play a strategic role within the university as service providers and support facilities for all the existing research groups. The action includes the implementation of new research laboratories to be used to carry out plant system upgrades as well as the purchase of new specific tools in order to complete the equipment and make such laboratories fully operational. Such measure is included in the "2019-2021 three-year programme" relating to funding for the regional university system pursuant to Regional Law 2/2011.
Implementing bodies	University of Trieste
Starting date	01/01/2019
Planned duration	2019-2021
Planned expenditure	1,475,000.00 (Regional Authority funds)
Expected result	Enhancement of the integrated research infrastructures existing in the region, with a related increase in the research potential and attractiveness of the regional academic and scientific system and promotion of knowledge transfer at the application and industrial level
Output indicator	Number of infrastructures/extensions of the facilities implemented

	Laboratory equipment for the Neuroscience and MathLab and
Table 5	Artificial Intelligence Area
Objective	Objective no. 1: Creation of a "Scientific network of excellence" in the Friuli Venezia Giulia Region among universities, public research bodies and international research bodies to reinforce the capacity for action, attractiveness and competitiveness at a national and international level of the institutions
Strand of activity	1.1 The creation and enhancement of integrated research infrastructures, to reinforce the capacity for action of scientific institutions and to optimise the use of the infrastructures themselves, making them available also to private companies, and the creation of shared services for research or the coordination of existing services
Description of the intervention	The infrastructures to be built are aimed at making some new laboratories fully operational as well as implementing some laboratories that play a strategic role within the experimental areas of SISSA as service providers and support facilities for all the existing research groups. The planned infrastructures and activities are summarised below.
	 New research laboratories. As part of the plant system upgrades and the acquisition of new instruments for two new experimental laboratories, the plan includes the purchase of specific equipment in order to complete the facilities and make such laboratories fully operational. New shared facility for small rodent behaviour experiments. Upgrade of the cell culture facility. As a result of new technical and experimental requirements, it is necessary to convert one of such rooms to an environment in which biological agents can be handled by increasing safety standards and requirements. Upgrade of the cell molecular biology facility. The plan includes the purchase of high-tech instruments which are considered strategic for the future projects of the experimental laboratories. Development of the research infrastructure connected to the Data Science and Artificial Intelligence project. Such measure is included in the "2019-2021 three-year programme" relating to funding for the regional university system pursuant to Regional Law 2/2011.
Implementing bodies	International School for Advanced Studies (SISSA)
Starting date	01/01/2019
Planned duration	2019-2021
Planned expenditure	450,000.00 (Regional Authority funds)
Expected result	Enhancement of the integrated research infrastructures existing in the region, with a related increase in the research potential and attractiveness of the regional academic and scientific system and promotion of knowledge transfer at the application and industrial level
Output indicator	Number of infrastructures/extensions of the facilities implemented

TABLE 6	2019-2020 GENOMICS AND EPIGENOMICS PLATFORM
Objective	Objective no. 1: Creation of a "Scientific network of excellence" in the Friuli Venezia Giulia Region among universities, public research bodies and international research bodies to reinforce the capacity for action, attractiveness and competitiveness at a national and international level of the institutions
Strand of activity	1.1 The creation and enhancement of integrated research infrastructures, to reinforce the capacity for action of scientific institutions and to optimise the use of the infrastructures themselves, making them available also to private companies, and the creation of shared services for research or the coordination of existing services
Description of the intervention	Area Science Park aims to generate research, development and innovation projects capable of increasing the networking and coordination among regional and national scientific entities, specifically by providing equipped spaces and laboratories, geared with latest-generation equipment, at the service of applied and industrial research by third parties, both public and private (Technology Platforms). In particular, the Genomics and Epigenomics Platform aims to to systematise, integrate and optimise the resources, knowledge and experience existing in the regional territory within a single facility, to start a Center of excellence of national significance in the field of genomics and epigenomics as well as promote synergies between regional, national and international players in the sector. Initially created by integrating the already existing instruments, the Platform was enhanced by Area Science Park with the procurement and installation of a sequencer which represents the top processivity instrument among new generation sequencers (NovaSeq 6000), suitable for providing sequencing services through Next Generation Sequencing (NGS) techniques to a large and varied community of researchers and users. The NGS instruments are additionally supported by a powerful IT infrastructure capable of processing the data from the sequencers, allowing for the operation and scalability of the Platform with a suitable size in terms of computing capacity and storage space. The Platform aims to become a reference centre which researchers and companies can use for sequencing analysis, in order to develop: • Genetic tests. Using new-generation sequencing platforms, it is now possible to analyse the entire genetic code of individual genomes and contribute to the growth of the knowledge of human diseases and give a strong boost to the development of new generation diagnostic, prognostic and predictive tools. • Study of microorganisms to investigate the ways in which they influence human diseases. • Analysis of plants and animals. U

	 Analysis of the traceability of the agri-food chain and environmental monitoring. In the DNA extracted from food and environmental samples of various origins (for example, soil, waste water and sea) it is possible to detect any contamination in raw materials, food and environmental matrices. Study of epigenetic mechanisms and genotype-environment interaction. The research on epigenetic regulation modalities has interesting applications in the biomedical field, as the modifications of epigenetic programming are directly involved in several diseases such as diabetes, neuromuscular degenerative diseases, viral infections and cancer, as well as in the regulation of mechanisms related to the sleep-wake cycle and adaptation to the environment.
Implementing bodies	Area Science Park and University of Udine The implementing bodies, together with the Institute of Applied Genomics (IGA), are working for the establishment of a foundation, open to the participation of primary public and private subjects, pertaining to the research sectors of genomics, biomedicine, biotechnology and bioinformatics.
Starting date	The design of the platform was started in 2018. The latest-generation equipment was purchased and installed in 2019. The foundation is expected to be launched in 2020.
Planned duration	Multiannual
Planned expenditure and financing	The Genomics and Epigenomics Platform is currently financed by the ARGO System for € 3,928,193.21, of which € 2,842,773.70 is cofinanced by the Regional Authority and the remaining part by the Ministry of University and Research (FOE fund) and AREA Science Park with its own funds. It should be noted that the establishment of a Foundation would necessarily entail a change in the legal form as well as the financing methods of the Platform. These financial sources may also come via the contribution of founders.
Expected results	 Strengthen the offer of regional research facilities; Increase research activities and experimental opportunities in the areas of interest, strengthening scientific collaborations within and between the Institutes; Carry out research, development and innovation projects in collaboration with public and private third parties.
Output indicators	 Lines of research launched, on the basis of the areas of competence of the parties involved as well as with regard to the relevance, innovation potential and transversality of the research programmes proposed by third parties: +30; Requests/expressions of interest from third parties for access to the Platform: +50.

Table 7	"AMBIENT ASSISTED LIVING" - AAL EUROPEAN PROGRAMME
Objective	Objective no. 1: Creation of a "Scientific network of excellence" in the Friuli Venezia Giulia Region among universities, public research bodies and international research bodies to reinforce the capacity for action, attractiveness and competitiveness at a national and international level of the institutions
Objective strand	1.3 Support for the development of international agreements, cooperation agreements and projects in the sectors of research and innovation, which involve the institutions belonging to the scientific network of excellence, first of all inside the strategy areas of the European Union for the Alpine Region (EUSALP) and of the European Union Strategy for the Adriatic – Ionian Region (EUSAIR)
Description of the action	As set out in Art. 8 § 57 of Regional Law 25/2016 (Regional Stability Law for 2017), in 2017 the Regional Authority joined the "Ambient Assisted Living Association" (AALA). Therefore, it participates in the activities of the Research and Development Programme in support of an active and independent life (AAL Programme) of the European Commission. In particular, from 2018 the Regional Authority helps managing the calls set out in the Programme, with specific reference to the applicants and beneficiaries from its territory, participating in the governance of the Programme based on its scope of action. The objective is to support collaborative research, development and innovation initiatives for active and healthy ageing which should be designed to be market-oriented, transnational and multidisciplinary as well as based on ICT (Information and Communication Technology). The aim is to work in the application fields of the Programme with a focus on specific markets. Specifically, the 2019 Call was centred around "Sustainable Smart Solutions for Ageing well", whereas the 2020 Call will be published on 3rd February 2020 (with a deadline fixed on 22nd May 2020) and will concern "Healthy ageing with the support of digital solutions". The calls are open to the participation of regional entities with a dedicated regional budget of € 200,000.00 per annum, to which the EU co-funding will be added. The Friuli Venezia Giulia Regional Authority will finance both types of projects as per the call: standard collaboration projects and small collaborative projects with a smaller budget, a shorter duration and a preliminary character. The beneficiaries include universities, research bodies, local enterprises. End users may participate in the projects at their own expense. The Regional Authority joined the Association with a view to make a contribution to the promotion of the internationalisation of the scientific system and of the regional innovation, and to facilitate the access to European funding opportunities, with special reg
Implementing bodies Starting date	Regional Authority 2019 (second year)
Planned duration	Multiannual
Planned expenditure	€ 5,000 annual membership fee, € 400,000 regional budget for the 2019 and 2020 Call (€ 200,000 per year). In case of regional beneficiaries more funding will be available.
Expected result	Participation of regional bodies in AAL Programme' Calls
Output indicator	Number of regional bodies participating in AAL Call. 2019 Call: 2 projects delivered (1 project will be funded that involves 2 regional beneficiaries) Participation of the Region in the AAL Programme as a National Funding Authority (NFA)

Table 8	AGREEMENT BETWEEN THE FVG AUTONOMOUS REGION AND THE JOINT
Table 5	RESEARCH CENTRE (JRC) OF THE EUROPEAN COMMISSION
Objective	Objective no. 1: Creation of a "Scientific network of excellence" in the Friuli Venezia Giulia Region among universities, public research bodies and international research bodies to reinforce the capacity for action, attractiveness
	and competitiveness at a national and international level of the institutions
Objective strand	1.3 Support for the development of international agreements, cooperation agreements and projects in the sectors of research and innovation, which involve the institutions belonging to the scientific network of excellence, first of all inside the strategy areas of the European Union for the Alpine Region (EUSALP) and of the European Union Strategy for the Adriatic – Ionian Region (EUSAIR)
Description of the action	With a view to strategically boost collaboration activities at the European and international level in the field of research, innovation and technological transfer, the Regional Government signed and has been implementing an Agreement with the DG - Joint Research Centre (JRC), the research centre of the European Commission which supports European policies, contributing research and scientific evidence to the decision-making process. The Agreement is a framework instrument which makes it possible to promote and facilitate further operational agreements between the Institutions belonging to the regional Scientific and Innovation System and the JRC for the development of shared initiatives, also with beneficial effects on the regional territory.
	The 2019-2020 action plan includes the following joint cooperation areas: AREA 1–RESEARCHER MOBILITY. Through European Social Fund resources, the Regional Authority supports the mobility of SiS FVG researchers in the framework of research projects at JRC facilities. The first 12 research projects submitted by SiS FVG research bodies were evaluated by an independent panel of experts who approved 10 projects. A second call is now being evaluated to be launched in 2020 using residual resources (5 projects are expected). AREA 2–SCIENCE, POLITICS, COMMUNICATION. The Regional Authority intends to continue the activity of the pilot project "Science meets regions" on subjects of interest to the Regional Council, in particular the theme of Climate Change and Bioeconomy, with the participation of JRC experts (event planned for 24/01/2020). AREA 3 –JOINT PARTICIPATION IN INTERNATIONAL EVENTS. Joint participation is expected in the ESOF2020 events on the proposed theme of Blue Skills and Blue Economy – to be verified.
	In addition, on the 23rd October 2019, ISPRA (VA) carried out a Study Visit to JRC which saw the involvement of 20 journalists working for the main news outlets of the Friuli Venezia Giulia Autonomous Region (Messaggero Veneto, Il Piccolo, Primorski, Ansa, RAI) as well as communication experts representing the SiS FVG entities (SISSA/ICTP, Area Science Park). The Study Visit was valid for professional updating training credits and was positively welcomed by the FVG Association of Journalists. This pilot project has laid the foundations for future collaboration, in the perspective of providing citizens with information based on scientific sources.

Implementing bodies	Regional Authority and SiS FVG Institutions
Starting date	2019
Planned duration	Multiannual
Planned expenditure	€ 500.000 (of which € 313.639,47 for the first Call)
Expected result	 Increase in the internationalisation capabilities of the regional Scientific and Innovation System and increase in the active international collaborations. Increase the collaboration between FVG region and the stakeholders (journalists, research institutions)
Output indicator	 4 mobility programmes for SiS FVG researchers at JRC research centres 2 events in FVG region

Table 9	AGREEMENT BETWEEN THE REGION, THE FVG UNIVERSITIES AND THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY - MIT
Objective	Objective no. 1: Creation of a "Scientific network of excellence" in the Friuli Venezia Giulia Region among universities, public research bodies and international research bodies to reinforce the capacity for action, attractiveness and competitiveness at a national and international level of the institutions
Objective strand	1.3 Support for the development of international agreements, cooperation agreements and projects in the sectors of research and innovation, which involve the institutions belonging to the scientific network of excellence, first of all inside the strategy areas of the European Union for the Alpine Region (EUSALP) and of the European Union Strategy for the Adriatic – Ionian Region (EUSAIR)
Description of the action	In order to strategically enhance the collaboration activities at the international level in the field of research, innovation and technological transfer, and to increase the impact and the visibility of such initiatives, the Regional Authority signed along with the Universities of Trieste and Udine and SISSA - and has been implementing - an Agreement with the Massachusetts Institute of Technology (MIT). The Agreement falls within the MIT-Italy Program and has the purpose of strengthening such programme through new initiatives to increase its critical mass, as well as its impact and visibility. The Project concentrates on the scientific areas having shared interests and complementary competences, already available within the institutions involved. In particular, 4 types of activities are supported: 1. Initial funding to promote new collaborations on pioneering subjects, with funds amounting to maximum € 25,000.00; 2. Residencies and fellowships for MIT students and researchers at the universities of Friuli Venezia Giulia working on projects of shared interest; 3. Contribution to travel costs amounting to € 2,500.00 aimed at exploring collaboration opportunities; 4. Communication activities to highlight the achievements of the Initiative and disseminate information about it (also within ESOF 2020)
Implementing bodies	Regional Authority, University of Trieste, University of Udine, International School for Advanced Studies (SISSA) and MIT
Starting date	2019
Planned duration	2019 (third year)
Planned expenditure	€ 150,000 in 2019 (regional funding)
Expected result	Increase in the internationalisation capabilities of SiS FVG and increase in the active international collaborations
Output indicator	7 projects and annual exchanges among FVG Universities and MIT (5 research projects and 2 research fellowships)

Table 10	APRE FVG COMMITTEE
Objective	Objective no. 1: Creation of a "Scientific network of excellence" in the Friuli Venezia Giulia Region among universities, public research bodies and international research bodies to reinforce the capacity for action, attractiveness and competitiveness at a national and international level of the institutions
Objective strand	1.2 Promotion and support for the creation and activity of thematic forums to favour the exchange of good practices and the identification in scientific and technical/instrumental contexts of common interest, mapping of their own skills for the elaboration of proposals to the Region and the MIUR, also in the implementation process of regional intelligent specialisation strategies (S3); 1.4 Enhancement of the link with the national experts and delegates of the MIUR in the committees for the management of European programmes under Horizon 2020 and Structural Funds, to favour the participation of the SiS FVG and European research and innovation programmes; 1.7 Reinforcement of the relations with the liaison office in Brussels of the Region so as to promote the SiS FVG at European institutions to favour links and the participation of the SiS FVG in European networks operating in the context of research.
Description of the action	 Definition of a shared annual plan for training, information and promotion activities regarding Horizon 2020 calls with six-monthly meetings of the APRE FVG Committee to encourage the exchange of best practices. Coordination of shared one-day training and information events within the APRE FVG Committee to improve the participation of entities in the Horizon 2020 calls and organise events and activities to raise awareness among the local community on the EU opportunities as well as increase and improve the participation of enterprises and regional research bodies in the Horizon 2020 programme (activities to be implemented jointly with APRE regional partners). Annual mapping of the participation of APRE FVG partners in the Horizon 2020 calls. Dissemination of the calls and project best practices within Horizon 2020 through targeted SiS FVG information notices, website and newsletters.
Implementing bodies	Members of the APRE FVG Committee: Area Science Park (APRE FVG Trieste Centre), Friuli Innovazione (APRE FVG Udine Centre), Elettra Sincrotrone Trieste, ICTP, ICGEB, OGS, SISSA, University of Trieste and University of Udine
Starting date	Ongoing
Planned duration	Multiannual
Planned expenditure	2019/2020 SiS FVG financial contribution
Expected result	 Improve the participation of Friuli Venezia Giulia's entities and businesses in Horizon 2020 calls; Favour the collaboration with national and European delegates and political stakeholders working on European programming.

Output indicator	 Organisation of 7 training and information events for the APRE Regional Committee (with the participation of 15/20 persons related to research institutions and enterprises); Organisation of the event "Nuove opportunità per la ricerca e sviluppo FVG: da Horizon 2020 a Horizon Europe e il Programma AAL (Active and Assisted Living)", April, 17th 2019; In 2020 Convocation of 1 annual meeting on planning and semestral monitoring of the activities; Organisation of training and information events for the APRE Regional Committee (planning by I semester 2020) Creation of 1 mini road show in the regional territory n collaboration with APRE head offices (II semester 2020)
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Table 11	Internationalisation of SiS FVG within the InCE-CEI area
Objective	Objective no. 1: Creation of a "Scientific network of excellence" in the Friuli Venezia Giulia Region among universities, public research bodies and international research bodies to reinforce the capacity for action, attractiveness and competitiveness at a national and international level of the institutions
Strand of activity	1.3 Support for the development of international agreements, cooperation agreements and projects in the sector of research and innovation, which involve the institutions belonging to the scientific network of excellence, first of all inside the strategy areas of the European Union for the Alpine Region (EUSALP) and of the European Union Strategy for the Adriatic – Ionian Region (EUSAIR); 1.6 Promotion of SiS FVG through qualified resources provided by MAECI to carry out promotion and support activities for the internationalisation of the Italian research system.
Description of the intervention	 With respect to activity strands 1.3 and 1.6, the InCE-CEI Secretariat, in agreement with the interested parties, will carry out activities aimed at the internationalisation of SiS FVG, such as: promotion of SiS FVG within the area of the European Union strategy for the Danube Region (EUSDR); promotion of SiS FVG in the framework of the "Steering Platform on Research and Innovation for the Western Balkan Countries;" promotion of SiS FVG events and activities in the InCE-CEI area; diplomatic accompaniment to SiS FVG members in InCE-CEI member countries; involvement of SiS FVG in activities and events promoted by the Secretariat, the member states and the InCE-CEI Presidency. Furthermore, still within Objective 1, the InCE-CEI Secretariat intends to propose a new action dedicated to the subject of scientific diplomacy, with the aim of defining training, analysis and study programmes in coordination with MAECI, MIUR and the Regional Authority.
Implementing bodies	InCE-CEI Secretariat and interested SiS FVG members
Starting date	1st January 2020
Planned duration	12 months
2019-2020 Planned Expenditure	€25,000.00 (InCE-CEI financing)

Expected result (ER)	 ER1) Support to the internationalisation of SiS FVG by InCE-CEI in multi-stakeholder forums. ER2) Involvement of SiS FVG in international activities promoted/shared by InCE-CEI. ER3) Involvement of InCE-CEI member countries in activities promoted by SiS FVG. ER4) Drafting of a "concept" for a training course devoted to scientific diplomacy.
Output/result indicator	 Number of events in which the internationalisation of SiS FVG was promoted (ref. ER1). Number of SiS FVG participants in international events promoted by InCE-CEI (ref. ER2). Number of participants from InCE-CEI member countries in activities promoted by SiS FVG (ref. ER3). "Concept" drafted (ref. ER4).

Table 12	BLUE ECONOMY PLATFORM
Objective	Objective no. 1: Creation of a "Scientific network of excellence" in the Friuli Venezia Giulia Region among universities, public research bodies and international research bodies to reinforce the capacity for action, attractiveness and competitiveness at a national and international level of the institutions
Objective strand	1.5 Consolidation of partnerships and initiatives of international cooperation to benefit the SiS FVG with the support of the appropriate offices of the MAECI and the networks of scientific experts located across the territory
Description of the action	It is a platform of knowledge and expertise on the "Blue Economy," hosted by OGS and aimed at promoting a sustainable economic development and a responsible blue growth in the area of the Mediterranean Sea and of the Black Sea, in line with the EU strategy. The Platform aims to: • promote an advanced summer training school in Trieste to provide courses once a year in cooperation with SiS FVG institutions (Summer School in Sustainable Blue Growth) involving researchers, innovators, scientists and managers of Institutions, Universities and Research Centres from the countries of the Mediterranean and Black Sea area; From 2017 to 2019 140 participants from the countries of the Mediterranean and Black Sea area have been trained; • promote an advanced international Master on Blue Economy with the University of Trieste and other SiS FVG partners, thus contributing to the creation of new professional figures and more job opportunities in the Blue sector; • collaborate within international exchange programmes enhancing the attractiveness of the institution, of SiS FVG and the Country system; • develop training and mobility activities to encourage the strengthening of the abilities of the Blue Growth sectors by working together in the framework of international projects. In particular, the DEEP BLUE project coordinated by OGS in cooperation with partners from Tunisia and Spain (University of Sfax, Polytechnic University of Madrid and Advanced Institute of Fishery and Aquaculture Technologies); • promote international cooperation among Mediterranean and Black Sea countries through the exchange of knowledge, education, entrepreneurship and employability. In addition, within the Blue Economy platform, the Blue Skills project was granted a label by the Union for the Mediterranean (UfM) on the 28th March 2019 and was chosen as a flagship project on the 29th October 2019 in the framework of the UfM Med4Jobs initiative.
Implementing bodies	National Institute of Oceanography and Experimental Geophysics - OGS
Starting date Planned duration	2019 Multiannual (2010, 2020)
	Multiannual (2019-2020)
Planned expenditure	€ 200,000 (MIUR and funds from the Institute) The OGS Initiative on Blue Growth is strongly supported by the 5+5 Dialogue
Expected result	Countries, coordinated by Italy, to promote advanced education, innovation, international mobility and access to the research infrastructures for a sustainable growth in the marine and maritime sectors and with the goal of creating new jobs and increase products and services offered by the Italian industry, especially in this region, in the marine and maritime sector.

2019:

6th Summer School (17 - 28 June 2019): The school saw the participation of 36 students including researchers, young professionals and new graduates. 27 students were entirely funded by study grants. 23 Mediterranean countries involved.

2nd Master's degree course (18 March 2019 - 26 February 2020) "Advanced Master in Sustainable Blue Growth" (60 university credits), in cooperation with the University of Trieste. Participation of 15 students (8 from the Med area and 1 from the Atlantic area); 15 students on scholarship; involvement of 40 lecturers and researchers for teaching activities; involvement of about 10 leading companies operating in the field of the blue economy.

Advanced Training Course "Sea governance and blue growth: balancing sustainable use and conservation through Marine Spatial Planning (MSP) in the field of fisheries and aquaculture", which took place in Trieste (23 - 27 September 2019) with the participation of 18 professionals from public and private sectors of blue economy in the Med area.

Training Course for Experts "Advanced Scientific Knowledge of the Marine Environment", organised in cooperation with the University of Sfax, which took place in Sfax (Tunisia) (21 - 26 October 2019) 29 participants including researchers, professors and experts in the field of Marine Sciences Marine.

4th Inter-Ministerial Conference of the 5+5 Dialogue Cooperation Forum in Rome (10 June 2019)

Signature of the Rome Declaration, in which 10 ministers of Education, University and Scientific Research of the 5+5 Dialogue member countries renewed their political support to the initiatives to promote cooperation through scientific research and education.

2020:

Summer School in Sustainable Blue Economy in the Euro-Mediterranean Region – 7th year (June 2020). Target 30/35 participants.

Advanced Master in Sustainable Blue Growth – 3rd year, in cooperation with the University of Trieste (January - December 2020).

International Mobility/Job Shadowing Programme as envisaged by the **Deep Blue project**, in cooperation with the Polytechnic University of Madrid (first half of 2020). Target: 30 scholarships to encourage north-south, south-north exchange as well as north-north and south-south exchange.

Study Visit in Trieste for ESOF 2020, organised in the field of the Deep Blue project (July 2020). Expected target: 20 Senior Officials representing the countries participating in the Western Mediterranean Forum.

Advanced Training for Trainers on Technologies for fisheries and Aquaculture, organised in cooperation with Higher Institute of Fishing Technologies and Aquaculture (September 2020).

Output indicator

Table 13	SUPPORT TO NETWORKING ACTIVITIES
Objective	Objective no. 1: Creation of a "Scientific network of excellence" in the Friuli Venezia Giulia Region among universities, public research bodies and international research bodies to reinforce the capacity for action, attractiveness and competitiveness at a national and international level of the institutions
Objective strand	1.7 Reinforcement of the relations with the Liaison Office in Brussels of the Friuli Venezia Giulia Region
Description of the action	The support to the networking activities is guaranteed by promoting the participation of SiS FVG bodies in brokerage events organised by European networks such as ERRIN (European Regions for Research and Innovation), CORAL (Community of Regions for Assisted Living) and RSCN (Reference Site Collaborative Network), in order to favour their inclusion in consortia interested in participating in the next calls of the Horizon 2020 programme. The SiS FVG know-how is also used in the drafting of the position paper promoted through the GIURI (Informal Group of the Italian Brussels-based Liaison Offices), the informal network created to connect in a more functional and effective way the "Italian integrated System" with the different EU interlocutors working in the field of research and innovation. GIURI aims to create every possible synergy with the Permanent Representation of Italy to the EU, considering the key role it plays on the subject of research and innovation with the ITRE Committee of the European Parliament. In the framework of the position papers, a similar contribution is given by the European Regions Research & Innovation Network (ERRIN). Finally, cooperation is promoted in the framework of the initiatives promoted by the EU-Japan Centre for Industrial Cooperation (in relation to the organisation of institutional missions as well as the dissemination of opportunities addressed to managers and clusters). Cooperation is also promoted with other entities, including EURADA (EURopean Association of Development Agencies), SERN (Startup Europe Regions Network) and EBAN
Implementing bodies	(European Business Angels Network), to mention a few. Brussels-based Liaison Office, in collaboration with the SiS FVG bodies
Starting date	2019
Planned duration	Multiannual (2019-2020)
Planned expenditure	
Expected result	Promote the participation of regional subjects in the calls funded directly by the EU in the research and innovation sector and favour a constant dialogue with the main EU interlocutors in the fields above
Output indicator	 Participation in 2 brokerage events of the EU networks per year; 2 position paper GIURI through GIURI or European networks per year; highlight of opportunities dedicated to the academic and entrepreneurial sector of the region (12 per year).

Rationalisation of the regional structures that operate in the promotion of research, technology transfer and the development of innovation

Table 14	FOUNDATION FOR BUSINESS GENERATION AND DEVELOPMENT
Objective	Objective no. 2: Rationalisation of regional bodies operating in the enhancement of research, technology transfer and innovation development
Strand of activity	2.1 Definition and implementation, in collaboration with the Region and the MIUR, of an organisational model of Innovation Enablers
Description of the intervention	Develop generation and growth processes for new innovative business initiatives, through a public-private partnership aimed at networking the advanced technology, digitalisation and advanced training assets existing in the reference territories, by attracting investments and enhancing talents as well as regional, national and international entrepreneurial and scientific entities of excellence. There will be three lines of intervention: a) THINK TANK: spreading entrepreneurial culture based on technology and business models capable of enhancing scientific, technological and entrepreneurial talents as well as building trust in the reference markets, through the transfer of skills to new entrepreneurs, managers of the public and private sector, institutional bodies and stakeholders, especially in the enabling technology field; b) NETWORK OF INCUBATORS: aggregation of the regional incubators in a single business generation model to accompany the economic growth process aimed at developing the entrepreneurial fabric through the generation of innovative start-ups with strong technological qualification and specialisation; c) INTERNATIONALISATION AND NETWORKING: providing start-ups, innovative companies and technological talents with opportunities for visibility, sharing and growth, both nationally and internationally, by facilitating the adoption of technology and bringing Italian companies closer to the main global players in the field of technology.
Implementing bodies	Institutional promoters: • Friuli Venezia Giulia Autonomous Region • Scientific and Technological Research Centre of Trieste - Area Science Park. The Foundation will be open to the participation by public and private founders and members.

Starting date	Early 2020
Planned duration	The Foundation will be established without limitation of duration
Planned expenditure and financing	The amount of the Foundation's endowment fund will never be less than €300,000.00, plus the management fund for the FVG region Below is the specification of the funds planned: Regional funds: Endowment fund: €150,000.00; Management fund: €850,000.00 (for 2020). Area funds Endowment fund: €150,000.00; Management fund: €850,000.00 (for 2020).
Expected result	Enhancement of entrepreneurial skills and research results in the reference territories, with particular focus on ICT and digital transformation, life sciences and creative-cultural industries
Output indicator	 Launch of the Think Tank activities and organisation of the first public events for the dissemination of results; Affiliation of the partners (starting from the incubators of the regional territory); definition and launch of startup support programmes, with a focus on strategic sectors (ICT and digital technology, life sciences and creative-cultural industries); Selection of technological talents; mentoring and coaching activities; organisation of the first missions.

Table 15	OIS - OPEN INNOVATION SYSTEM FVG - YEAR 2019
Objective	Objective no. 2: Rationalisation of the regional structures that operate in the promotion of research, technology transfer and the development of innovation
Objective strand	2.1 Definition and implementation, in collaboration with the Region and the MIUR, of an organisational model of Innovation Enablers
Description of the action	The multiyear Project, funded pursuant to Regional Law no. 27/2014, art. 14, paragraphs 16 and following, has the main objective of promoting and supporting the competitiveness of the regional productive system based on innovation, through actions implemented within a cooperation among the regional Scientific and Technological Parks and BIC Incubatori FVG Srl and with a connection to the other players working on the support to enterprises (industrial associations, districts, clusters and other stakeholders), mainly at the service of companies (Open Innovation System FVG). The Project aims to support innovation processes through: technical assistance contacts with enterprises; assistance and planning interventions; support in the presentation of research and innovation projects.
Implementing bodies	Area Science Park, Friuli Innovazione, Technological Pole of Pordenone, Innova FVG Consortium and BIC Incubatori FVG Srl
Starting date	Ongoing
Planned duration	Multiannual
Planned expenditure	€ 900.000 (for 2019)
Expected result	Based on the needs and the innovation ideas gathered, the Project aims to favour a qualitative improvement of the innovation produced by the regional enterprises through activities intended to support the reduction of the risk related to the launch of projects and investments for innovative products and processes, with a special focus on small companies within the productive fabric.
Output indicator	The annual indicators foresee: - Finalized project ideas: 170 - Technical assistance and planning interventions: 235 - Enterprises supported with technical assistance (on an annual basis): 145 Monitoring I semester (August 2019) Achievements: - 100% project ideas' target - 60% Technical assistance and planning interventions' target - 60% supported enterprises ' target

Promotion and services for the internationalisation of the centres present in Friuli Venezia Giulia

Table 16	WELCOME OFFICE FRIULI VENEZIA GIULIA
Objective	Objective no. 3: Promotion and services for the internationalisation of the centres present in Friuli Venezia Giulia
Objective strand	Reinforcement of the services for internationalisation offered by the Welcome Office FVG in collaboration with the services of internationalisation of the universities and regional research offices; Enhancement of the links of the Welcome Office FVG with the appropriate offices of the MAECI dedicated to migratory policies and entry procedures for foreigners, also through the creation of workshops and dedicated working groups with officials and national and European experts; Creation of thematic forums and study groups with the MIUR and the MAECI.
Description of the action	 Preparation of 1 annual planning document shared by the Partnership and semestral monitoring of the Network activities Strengthening of the consultancy services addressed to students and researchers and constant updating of the pre-arrival information provided by the regional web portal Welcome Office FVG (www.welcomeoffice.fvg.it/) Planning of restricted meetings of the Welcome Office FVG with Public Administration on topics of interest (for example, entry regulations for foreign students and researchers)
Implementing bodies	Area Science Park in collaboration with University of Udine (which manages the Welcome Office Udine)
Starting date	Ongoing
Planned duration	Multiannual
Planned expenditure	2019/2020 SiS FVG funding
Expected result	 Strengthen the collaboration and the interaction among the Institutions of the Network to foster the international attractiveness of the Friuli Venezia Giulia region Consolidate the relationship among the Welcome Office FVG, the regional scientific and academic institutions and the PA, as well as strengthening the role of the Welcome Office FVG as the interface between the parties Reinforcing the competences of the staff of the SiS FVG Institutions in relation to the procedures for the arrival of students and researches to Italy Sensitising the scientific community and the scientific and academic institutions on policies and actions - promoted at European level - to improve working conditions and promote the international and intersectoral mobility of researchers Supporting the development of the researchers' career Optimising the useful information available on the web portal to facilitate the arrival to the region of students, researchers and their families

Table 17	"THE MOBILITY OF KNOWLEDGE" ANNUAL SURVEY
Objective	Objective no. 3: Promotion and services for the internationalisation of the centres present in Friuli Venezia Giulia
Objective strand	3.4 Creation of studies and models to monitor the incoming & outgoing flows of researchers and international students
Description of the action	Annually, the SiS FVG carries out a survey on the mobility flows of international students, researchers and scientists present in the territory in order to monitor the attractiveness rate of the regional Scientific and Innovation System. The Survey gathers the data relating to incoming international researchers and students in the Friuli Venezia Giulia region, which is validated by a Working Group created among the subjects partners of the SiS FVG. The main activities are: Coordination of the Working Group for the collection and monitoring of data Elaboration of charts and their dissemination through the web portal www.sisfvg.it Pubblication of the survey and promotion to the SIS FVG network
Implementing bodies	Area Science Park in collaboration with SiS FVG bodies
Starting date	Ongoing
Planned duration	Multiannual
Planned expenditure	2019/2020 SiS FVG funding
Expected result	 Enhance the presence of international researchers and students in the regional territory Improve the attractiveness of the regional Scientific and Innovation System
Output indicator	 Coordination of the Working Group for the collection and monitoring of data relating to the "Mobility of Knowledge" (by June 2019/ by June 2020) Elaboration of charts and their dissemination through the web portal www.sisfvg.it (II semester 2019/II semester 2020) Realization of the publication of the survey (II semester 2019 / II semester 2020) Concerning ESOF, realization of a leaflet or infographics with the main data on the regional scientific community (June 2020)

Table 18	ACTIVITIES FOR THE PROMOTION OF SIS FVG
Objective	Objective no. 3: Promotion and services for the internationalisation of centres in Friuli Venezia Giulia
Strand of activity	3.6 Promotion of SiS FVG through suitable means of communication
Description of the intervention	In view of the next important international scientific events to be held in Friuli Venezia Giulia (such as ESOF 2020 and EUPRIO 2020), in coordination with appointed offices of the Regional Authority, products will be designed and developed with the aim of promoting not only SiS FVG but also each of its partners. Specifically, the output will include the following: • MS PowerPoint Presentation of SiS FVG (IT/EN): to be used at national and international events, meetings with project partners, especially foreign ones, etc. • Video material: 1 general video illustrating the System (about 3 min.) And 18 videos focusing on individual network partners (about 1 min. each); These products will be made available to all the system bodies, so that they can use them, together with the portal, as tools for promoting their organisation and the scientific context in which they operate in the region. In 2020, the following will also be carried out: • the SiS FVG Annual Conference to present the 2019-20 SiS FVG operational programming (first half of 2020); • the presentation of the SiS FVG web portal (www.sisfvg.it) as a case study at the 2020 Conference of the EUPRIO network - the European Association of Communication Professionals in Higher Education, which has members in 21 countries. The event will be held in Trieste from 30 August 2020 to 2 September 2020. The content (news, events, etc.) of the web portal is constantly updated and the related monthly newsletter is sent out regularly.
Implementing bodies	Science Park Area (in collaboration with the FVG Autonomous Region - Higher Training and Research Department and Regione Cronache Agency, SiS FVG bodies and SISSA Medialab)
Starting date	2019
Planned duration	2019-2020
Planned expenditure and financing	2019/2020 SiS FVG financing
Expected result	Strengthen the promotion of SiS FVG among different types of audiences
Output indicator	 Production of 1 MS PowerPoint presentation related to SIS FVG (IT/EN) by December 2019; Production of 1 dedicated video on SiS FVG (first half of 2020); Creation of 18 videos, each of which will be devoted to one SiS FVG partner (first half of 2020); Organisation of the SiS FVG Conference (first half of 2020); Presentation of the SiS FVG web portal at EUPRIO 2020 (second half of 2020).

Technical and scientific communication and diffusion of innovation

Table 19	TRIESTE CITY OF SCIENCE 2020 - ACTIVITIES ASSOCIATED WITH ESOF (EURO SCIENCE OPEN FORUM)
Objective	Objective no. 4: Technical and scientific communication and diffusion of
	innovation
Ohioatino	4.1 Creation of communication initiatives on themes of regional interest to
Objective strand	bring science to the wider public and to satisfy the demand for innovation of private companies (also through the participation of
	speakers of national and European importance)
Description of the action	Over the course of 2019, in the framework of the organisation of ESOF 2020, scheduled to take place in Trieste from 2 to 6 September 2020, and specifically to best define its scientific programme, the various committees established for the implementation of the initiative will meet in the "Sottostazione Elettrica" headquarters. In particular, they are the Steering Committee (SC), the Science Programme Committee (PC) and the International Media and Marketing Committee (IMMC). The cooperation of MAECI, through its offices and Diplomatic Corps abroad, will make it possible to introduce ESOF at prominent research and innovation centres and identify the countries in which the presentations should primarily be made. Meetings aimed at finding possible sponsors will be organised as well. In order to involve Balkan countries more closely and create a network of connections useful to have European countries submit their scientific projects, diplomatic meetings are planned at the national level (at the MIUR and MAE offices) as well as at European Union institutions, whereas contacts are being established with representatives of scientific entities and academies. ESOF 2020 will be preceded and complemented by several events to be held in the city, which will thus create a great festival of science. The pro-ESOF activity has generated ideas and relationships that will become indispensable in the planning and implementation of the City Festival. The first step saw the implementation of a bottom-up strategy. Through the pro-ESOF call for submissions, but also thanks to direct contacts with the main players in the cultural and scientific fields of the city, ideas for the festival were collected. The year 2019 will see the scheduling of events with a greater scope. In particular, the main pillars will be defined in more detail (including the financial terms) and it will be possible to include proposals for smaller events (stage performances, teaching laboratories, etc.) until the end of the year. The ESOF event will be accompan
Implementing bodies	FIT - Trieste International Foundation for the Progress and Freedom of Science
	in collaboration with the Regional Authority and the stakeholders of the SiS FVG, MIUR and MAECI.
Starting date	2019
Planned duration	Multiannual (2019-2020)
Planned expenditure	€ 750.000,00 (regional funding)
Expected result	Increase the international visibility of the regional scientific system. Reinforce
	the role of Trieste as a hub of a network of research centres at the national and international level. Increase SiS FVG scientific network towards the central-east
	Europe countries
	ESOF2020: 5000 expected participants, more than 1000 researchers and PhD,
	around 200 workshops and plenary sections, more than 20 collateral events,
Output indicator	B2B meeting; around 40.000 visitors expected during the ESOF - 3 weeks
	programme. ESOF 2020 has been postponed on September, 2-6. Science in the
	city Festival will be postponed too.