ROHU00244

Genomics_RoHu

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A - Project identification

A.1 Project identification

Project id (automatically created)	ROHU00244
Name of the lead partner organisation	Universitatea de Științele Vieții “Regele Mihai I” din Timisoara
Name of the lead partner organisation in English	University of Life Sciences “King Mihai I” from Timisoara
Project title	Strengthening the knowledge exchange in plant genomics through the development of a strategic cross-border Romanian-Hungarian consensus
Project acronym	Genomics_RoHu
Programme priority	A more sustainable, community-based and effective cross-border cooperation
Specific objective	ISO6.3: Building up mutual trust, in particular by encouraging people-to-people actions
Project duration in months	12

A.2 Project summary

Please give a short overview of the project and describe:

- the common challenge of the programme area you are jointly tackling in your project;
- the overall objective of the project and the expected change your project will make to the current situation;
- the main outputs you will produce and those who will benefit from them;
- the approach you plan to take and why a cross-border approach is needed;
- what is new/original about the project.

The Romanian-Hungarian cross-border region is subject to the same geological and climatic constraints to which both agriculture and human health are linked.
Plant genomics is a field of strategic regional importance that aims to achieve a collaboration based on the requirements of the landscape of developing rural economies and why not of general social problems.
The studies will improve the understanding of the genetic mechanisms of local landraces, through which valuable genes and cellular reproduction are active and participate in preserving the valuable genetic material from the point of view of productivity, vigor and of course disease resistance; and can be used to develop new strategies of cross-border economic interest. Through them, it will be possible to stop the loss of genetic material, of local landraces cultivated for hundreds of years with obvious genetic value. Garlic is one of the most important vegetables in the world, with a total surface area 1.437.690 ha and an annual production 24.255.303 tons (FAO), In Romania, according to INSSE data, garlic production was 60,601 tons, according to Eurostat, Romania was the second largest producer in the EU, after Spain.
The current objectives have multidisciplinary addressability and coordinated actions which in the end are of double benefit, in addition general information is provided, including plant genetic resources, biometrics (ie studies on phenotypic characters that obligatorily contribute to the development of plant material), education (young specialists, students, teaching staff, farmers,) and knowledge (highlighting) of valuable genetic material.
We would like to draw attention to the local values found in horticultural products, their distinction and preservation in cultivation.
The main output of the project is, on the one hand, to scientifically verify whether the local varieties of the region differ from each other, and on the other hand, to display the new information in agricultural education (students), expert advice (farmers) and consumer information (curriculum, booklet, workshop, press).
The ecological features are similar on both sides of the border, and the development of local varieties was historically the result of almost identical production culture.
Although horticultural culture and agricultural research are highly developed on both sides of the border, genetic testing of local varieties of onion and garlic has not yet been done.

A.3 Project budget overview

Programme funding			Contribution					Total project budget
Funding source	Funding amount	Co-financing rate (%)	Automatic public contribution	Other public contribution	Total public contribution	Private contribution	Total contribution	
ERDF	159.712,00	80,00 %	0,00	39.928,00	39.928,00	0,00	39.928,00	199.640,00
Total EU funds	159.712,00	80,00 %	0,00	39.928,00	39.928,00	0,00	39.928,00	199.640,00
Total project budget	159.712,00	80,00 %	0,00	39.928,00	39.928,00	0,00	39.928,00	199.640,00

A.4 Project outputs and result overview

Programme Output Indicator	Aggregated value per Programme output indicator	Measurement Unit	Output	Output Title	Output target value	Programme result indicator	Baseline	Result indicator target value	Measurement unit
Organisations cooperating across borders	2,00	organisations	Output 1.1	Cross border cooperation	2,00				
Participations in joint actions across borders	50,00	participations	Output 1.2	Cooperation investigation across the border	50,00				
Strategies and action plans jointly developed	1,00	strategy/action plan	Output 1.3	Joint Action Plan on Cultivation of Valuable Genotypes	1,00				
						Organisations cooperating across borders after project completion	0,00	3,00	organisations
						Participations in joint actions across borders after project completion	0,00	20,00	participations
						Joint strategies and action plans taken up by		1,00	joint strategy

Programme Output Indicator	Aggregated value per Programme output indicator	Measurement Unit	Output	Output Title	Output target value	Programme result indicator	Baseline	Result indicator target value	Measurement unit
						organisations	0,000		/action plan

B - Project partners

Partners overview

Number	Status	Name of the organisation in english	Country	Organisation abbreviation	Partner role	Associated organisations	Partner total eligible budget
1	Active	University of Life Sciences “King Mihai I” from Timisoara	România (RO)	ULST	LP		100.520,00
2	Active	Hungarian University of Agriculture and Life Sciences	Magyarország (HU)	MATE	PP		99.120,00

B.1 Lead partner	
Partner number	1
Partner role	LP
Name of the organisation in original language	Universitatea de Științele Vieții “Regele Mihai I” din Timisoara
Name of the organisation in english	University of Life Sciences “King Mihai I” from Timisoara
Organisation abbreviation	ULST
Department / unit / division	Faculty of Engineering and Applied Techonologies
Partner main address	
Country	România (RO)
NUTS 2	Vest (RO42)
NUTS 3	Timiş (RO424)
Street, House number, Postal code, City	Calea Aradului 119 300645 Timisoara
Homepage	https://usvt.ro/
Address of department / unit / division (if applicable)	
Country	România (RO)
NUTS 2	Vest (RO42)
NUTS 3	Timiş (RO424)
Street, House number, Postal code, City	Calea Aradului 119 300645 Timisoara
Legal and financial information	
Type of partner	Higher education and research organisations
Subtype of partner	
Legal status	Public
Sector of activity at NACE group level	P.85
VAT number (if applicable)	No
Is your organisation entitled to recover VAT based on national legislation for the activities	No

Legal and financial information	
implemented in the project?	
Other identifier number	N/A
Other identifier description	3487181
PIC (from EC Participant Register)	987914058

Contact	
Legal representative	Rector POPESCU Cosmin - Alin
Contact person	Lecturer PETCOV Andreea Adriana
Email	andreeapetcov@usvt.ro
Telephone no.	+0744218842

Motivation

Which of the organisation's thematic competences and experiences are relevant for the project?

The University of Life Sciences "King Mihai I " from Timisoara (ULST) is an institution specialized in higher agronomic and veterinary medical education, with a national and international scope.
The mission of ULST is to generate and transfer knowledge to society in the following fundamental fields of university studies: Agricultural and Forestry Sciences, Engineering Sciences, Natural Sciences and Medical Sciences. The mission to generate knowledge in the approached fields is achieved through scientific research, development, innovation and technological transfer, as well as through the capitalization and dissemination of the results of these specific activities.
ULST is a pole of excellence with national and international recognition that supports research initiatives contributing to the acquisition and development of knowledge, in response to the needs of the academic community and society.
University plays a key social and economic role as a service provider through research and innovation, making important contributions to the development of the public and private sectors. Due to the complexity and diversity of research areas addressed by members of the academic community in the university, ULST's research directions include both fundamental / basic research, with a greater international impact, with several significant publications, and applied research, with practical involvement. more extensive in business and industry.
Within the university, there is the Research Institute for Biosafety and Bioengineering (I.C.B.B.), which represents a research structure designed to generate and promote excellence in research, being an intrinsic part of the economic cycle, capable of becoming a Euroregional operator and responding to the demands of the economic environment and areas of smart specialization.
The research infrastructure of USVT includes Research Laboratories registered on the EERTIS- Engage in the European Research and Technology System platform and contains state-of-the-art equipment, facing both the high competitiveness imposed by the requirements of national projects and European, as well as the quality required by the economic environment in the development of products/processes that are the object of technological transfer.
The University owns a Technology Transfer Center that makes technology transfer connections for the research and development activity that is carried out in accordance with the university's strategy, accredited by the Romanian Ministry of Research, Innovation and Digitization.

Motivation

What is the role (contribution and main activities) of your organisation in the project?

The partners are jointly responsible for the meetings held during the project, the opening conference (A. 1.1) of the project is the responsibility of PP1 while the closing conference of the project (A.5.1) is organized by the Leader.
LP 1 is responsible for managing the collection activity of local Allium populations in the two regions of Romania (A.1.2.), and PP1 is responsible for data collection in the two regions of Hungary.
Responsible for the activity involving laboratory analyzes (A.1.3) both partners are involved The Leader Partner is responsible for the cytological analyzes and the amount of DNA of the local landraces collected from both countries, and PP1 is responsible for the chemical analyzes of the local landraces also collected from both countries.
PP1 is responsible for performing the statistical interpretation of the biometric measurements performed on the local populations collected and analyzed from both countries by the partners.
The joint role of both partners is to decide which are the valuable local Allium landraces, following the analyzes carried out by the two partners.
The partners will jointly organize a mid-term meeting (A.1.3.) and consultations for decision-makers.
Both partners organize events in pilot areas for students, farmers, researchers or experts (A.1.1, A.1.5).
The results of the project will be published in a volume in three languages (Hungarian, Romanian and English), they will also be permanently updated on the project website (A.1.1., A.1.4).

If applicable, describe the organisation's experience in participating in and/or managing EU co-financed projects or other international projects.

The university has experience in the development and management of Interreg (Romania - Hungary, Romania - Serbia), Horizon, EraNet, EIT HEI Initiative, the EEA and Norway Financial Mechanisms Program projects, the relevant thematic competences and experiences for the project can be summarized as follows:
- The introduction of agrotechnical works for the protection of the environment with the aim of protecting the soil;
- Ensuring the quality of groundwater bases, surface waters, drinking waters;
- Investigation of priority hazardous substances in the MAROS RIVER establisment of a microbial culture collection for bioagmentation purposes;
- Use of drones equipped with state-of-the-art modern technology for the detection of soil quality and degradation;
- Education and monitoring of environmental pollution (Heavy metals, pesticides, herbicides, insecticides) with an aim of using data collected through monitoring for education of students, farmers and members of competent bodies and authorities, and general public about environmental protection and sustainable use of natural resources, mainly agricultural land and water;
- Identifying the safe ways of exploiting the land, in order to eliminate the risks regarding the deterioration of the quality of the water reserves of the soil;
- X-ray imaging of the type of agricultural holdings, their equipment level as well as the applied technologies in order to highlight the negative aspects of agricultural activity that influence the soil;
- Soil and water quality analysis;
- Cross-border network for education and research of natural resources.

The university also managed projects co-financed by the European Union, through the Human Capital Operational Program, as a Leader or Partner, among which we mention:
- VESTART - The art of entrepreneurship;
- Active measures to increase participation in tertiary entrepreneurial education of students from disadvantaged environments Antre_S;

Motivation

- FAST VEST Entrepreneurial Training for Students.

The University of Life Sciences "King Mihai I " from Timisoara is oriented towards the application of projects, both from European funds and from the private environment, in accordance with the objectives of the National Strategy for Research, Development and Innovation 2021-2027 in order to achieve the University's objective of becoming a pole of excellence with national recognition and international, responding to the needs of the academic community and society.

Co-financing

Source	Amount	Percentage
ERDF	80.416,00	80,00 %
Partner contribution	20.104,00	20,00 %
Partner total eligible budget	100.520,00	100,00 %

Origin of partner contribution

Source of contribution	Legal status of contribution	Amount	% of total partner budget
ULST	Public	2.010,40	2,00 %
Romanian state budget	Public	18.093,60	18,00 %

Total

Sub-total public contribution	20.104,00	20,00 %
Sub-total automatic public contribution	0,00	0,00 %
Sub-total private contribution	0,00	0,00 %
Total	20.104,00	20,00 %

State Aid

State aid criteria self-check

Criterium I: Is the partner involved in economic activities through the project?

1. Will the project applicant implement activities and/or offer goods/services for which a market exists?	No	All the results obtained by the project implementation will be in public benefits and will have a free access
2. Are there activities/goods/services that could have been undertaken by an operator with the view to making profit (even if this is not the applicant's intention)?	No	All the results obtained by the project implementation will be in public benefits and will have a free access

Criterium II: Does the partner receive an undue advantage in the framework of the project?	
1. Does the project applicant plan to carry out the economic activities on its own i.e. not to select an external service provider via public procurement procedures for example?	No it's not necessary
2. Will the project applicant, any other operator not included in the project as a project partner or the target audience gain any benefits from its project economic activities, not received in the normal course of business (i.e. not received in the absence of funding granted through the project)?	No it's not necessary
Result of State aid criteria self-check:	No risk of state aid
State aid relevant activities	
GBER scheme / de minimis	

B.1 Project Partner 2	
Partner number	2
Partner role	PP
Name of the organisation in original language	Magyar Agrár- és Élettudományi Egyetem
Name of the organisation in english	Hungarian University of Agriculture and Life Sciences
Organisation abbreviation	MATE
Department / unit / division	Institute of Environmental Sciences
Partner main address	
Country	Magyarország (HU)
NUTS 2	Pest (HU12)
NUTS 3	Pest (HU120)
Street, House number, Postal code, City	Páter Károly 1 2100 Gödöllő
Homepage	https://uni-mate.hu/
Address of department / unit / division (if applicable)	
Country	Magyarország (HU)
NUTS 2	Dél-Alföld (HU33)
NUTS 3	Békés (HU332)
Street, House number, Postal code, City	Anna-liget 35 5540 Szarvas
Legal and financial information	
Type of partner	Higher education and research organisations
Subtype of partner	
Legal status	Public
Sector of activity at NACE group level	
VAT number (if applicable)	HU19294784
Is your organisation entitled to recover VAT based on national legislation for the activities implemented in the project?	No

Legal and financial information	
Other identifier number	
Other identifier description	
PIC (from EC Participant Register)	891269563

Contact	
Legal representative	Prof. Gyuricza Csaba
Contact person	Prof. Bodnar Karoly
Email	bodnar.karoly.lajos@uni-mate.hu
Telephone no.	0036309705229

Motivation

Which of the organisation's thematic competences and experiences are relevant for the project?

The Hungarian University of Agriculture and Life Sciences possesses a wide range of thematic competences and experiences that are highly relevant to the project's objectives. These competences and experiences include:
- The university boasts a team of experts in various fields, including agronomy, environmental science, biology, genetics, microbiology, biotechnology, and molecular biology.
- The university is actively involved in environmental research and technology development, particularly in areas related to soil, water, and air quality preservation.
- The university plays a crucial role in education and training in the fields of agriculture, life sciences, and environmental science.
- The university actively participates in international collaborations and networks, fostering partnerships with academic and research institutions worldwide.
- The university is involved in technology transfer and innovation activities, facilitating the application of research findings in practical contexts.
- The university fulfills a local and regional community role by actively engaging with local stakeholders, including farmers, environmental organizations, and government agencies.
- The university possesses state-of-the-art laboratories, research facilities, and resources that support research in agriculture, environmental science, and related fields.
Based on the research focus areas of the Institute of Environmental Sciences at the university, which is submitting the Interreg project proposal, the relevant thematic competences and experiences for the project can be summarized as follows:
- The institute specializes in the application of digital mapping, remote sensing, soil diagnostics, and precision farming methods.
- AThe institute's expertise in environmental analysis and monitoring, irrigation development, and climate adaptation aligns with the project's objectives to assess and address the challenges related to soil and water resources in the region.
- The institute's involvement in Africa projects (FNSSA) and its focus on soil-specific agrochemistry can contribute valuable insights and solutions to improve food security and sustainable agriculture practices.
- The institute's research in precision irrigation, agrotechniques that enhance biodiversity, and carbon sequestration align with the project's objectives to promote climate-resilient agriculture and soil

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management.
- The institute's expertise in waste management and the utilization of by-products in nutrient management can provide innovative solutions for sustainable land use and resource-efficient agricultural practices.
- The institute's focus on developing digital competencies and content is relevant for disseminating project findings and engaging stakeholders in the region.
In summary, the Institute of Environmental Sciences at the university possesses a diverse range of thematic competences and experiences that directly align with the goals and objectives of this project.

What is the role (contribution and main activities) of your organisation in the project?

The partners are jointly responsible for the meetings held during the project, the opening conference (A. 1.1) of the project is the responsibility of PP1 while the closing conference of the project (A.5.1) is organized by the Leader.
LP 1 is responsible for managing the collection activity of local Allium populations in the two regions of Romania (A.1.2.), and PP1 is responsible for data collection in the two regions of Hungary.
Responsible for the activity involving laboratory analyzes (A.1.3) both partners are involved The Leader Partner is responsible for the cytological analyzes and the amount of DNA of the local landraces collected from both countries, and PP1 is responsible for the chemical analyzes of the local landraces also collected from both countries.
PP1 is responsible for performing the statistical interpretation of the biometric measurements performed on the local populations collected and analyzed from both countries by the partners.
The joint role of both partners is to decide which are the valuable local Allium landraces, following the analyzes carried out by the two partners.
The partners will jointly organize a mid-term meeting (A.1.3.) and consultations for decision-makers.
Both partners organize events in pilot areas for students, farmers, researchers or experts (A.1.1, A.1.5).
The results of the project will be published in a volume in three languages (Hungarian, Romanian and English), they will also be permanently updated on the project website (A.1.1., A.1.4).

If applicable, describe the organisation's experience in participating in and/or managing EU co-financed projects or other international projects.

Developing a precision water management planning and advisory system to support water retention (GINOP-2.2.1-15-2017-00061). The project's primary objective is to develop a precision water management system for optimizing water distribution and retention within agricultural fields. It addresses the challenge of slow accumulation of water in flat terrain.
Development of innovation process support services for arable crop production (SMART-GAZDA) (GINOP-2.2.1-15-2017-00105) The project's main objective is to establish a network that creates high-value-added job opportunities within the broader agricultural sector through the services provided by entrepreneurial partners and model farms.
The project focused on climate change response and adaptation options in crop production systems, as outlined in GINOP-2.3.3-15-2016-00042, can be highly relevant to our Interreg project. It provides valuable insights into understanding the impact of climate change on agricultural practices, particularly in terms of water management.
The project on multifunctional crops and their adaptation to drought and heat stress, as described in GINOP-2.3.2-15-2016-00029, holds significant relevance for our Interreg project focused on sustainable agriculture. Both projects address the pressing issue of climate change and its impact on agriculture. The project's focus on identifying plant genotypes with better stress tolerance is be beneficial for our Interreg project when it involves promoting stable and resilient agricultural systems.
Soils4Africa (project ID: 862900) The Soils4Africa project have valuable objectives and aligns with

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various priorities related to soil management, climate change, and sustainable agriculture. While it is designed to address specific challenges and needs across the African continent, there are elements that could potentially be relevant to an Interreg project, especially if there is a focus on cross-border cooperation or if the project's results have broader applicability.
Sustainable soil management to unleash soil biodiversity potential and increase environmental, economic and social wellbeing (SOILGUARD) (project ID: 101000371). The SOILGUARD project has a strong focus on soil biodiversity, sustainable soil management, and the development of a predictive tool to support stakeholders in transitioning to sustainable land management practices.
The previously mentioned projects offer valuable expertise and project outcomes in various areas, including modeling, spatial data collection, the establishment of a young farmer network, climate-resilient agricultural management systems, expertise in measuring plant drought stress, Eastern European model regions, and engagement in agricultural policy activities. These experiences and achievements can significantly enhance the effectiveness and success of our Interreg project.

Co-financing

Source	Amount	Percentage
ERDF	79.296,00	80,00 %
Partner contribution	19.824,00	20,00 %
Partner total eligible budget	99.120,00	100,00 %

Origin of partner contribution

Source of contribution	Legal status of contribution	Amount	% of total partner budget
MATE	Public	4.956,00	5,00 %
The Hungarian state budget	Public	14.868,00	15,00 %

Total

Sub-total public contribution	19.824,00	20,00 %
Sub-total automatic public contribution	0,00	0,00 %
Sub-total private contribution	0,00	0,00 %
Total	19.824,00	20,00 %

State Aid

State aid criteria self-check

Criterium I: Is the partner involved in economic activities through the project?

1. Will the project applicant implement activities and/or offer goods/services for which a market exists?	No	All the results obtained by the project implementation will be in public benefits and will have a free access

State aid criteria self-check		
Criterium I: Is the partner involved in economic activities through the project?		
2. Are there activities/goods/services that could have been undertaken by an operator with the view to making profit (even if this is not the applicant's intention)?	No	All the results obtained by the project implementation will be in public benefits and will have a free access
Criterium II: Does the partner receive an undue advantage in the framework of the project?		
1. Does the project applicant plan to carry out the economic activities on its own i.e. not to select an external service provider via public procurement procedures for example?	No	N/A
2. Will the project applicant, any other operator not included in the project as a project partner or the target audience gain any benefits from its project economic activities, not received in the normal course of business (i.e. not received in the absence of funding granted through the project)?	No	N/A
Result of State aid criteria self-check:	No risk of state aid	
State aid relevant activities		
GBER scheme / de minimis		

Associated organisations

No associated organisations

C - Project description

C.1 Project overall objective

Below, you can see the Programme priority specific objective your project will contribute to (chosen in section A.1.).

ISO6.3: Building up mutual trust, in particular by encouraging people-to-people actions

Project overall objective

Now think about your main objective – what do you aim to achieve by the end of your project? Remember your project needs to contribute to the programme's objective.
Your objective should:

- be realistic and achievable by the end of the project, or shortly after;
- specify who needs project results and in which territory;
- be measurable – indicate the change you are aiming for.

The general objective is to know and identification capitalize on the genetic material of local landraces of Allium sativum L. and Allium cepa L. species from the cross-border area.
The specific objectives is:
1. Identification of local plant landraces in the counties in the program's eligible area;
2. Studies regarding characterization from biometric, cytological and chemical analyses of genotipes;
3. Informing about the genomic value and the importance of cultivating local landraces.

C.2 Project relevance and context

C.2.1 What are the common territorial challenge(s) that will be tackled by the project?

Please describe why your project is needed in the programme area and the relevance of your project for the programme area, in terms of common challenges and opportunities addressed.

In carrying out this project, the authors will analyze both the new directions of investigation and interdisciplinary research, based on the knowledge of the current level and direction of research at the national and world level. Following the harvesting of the local populations from the land, the "pioneer" local landraces will be established, genetically valuable and later protected to ensure and maintain the biodiversity of the valuable local landraces. The ability of local landraces to reproduce, that is, the development rate of the mitotic cell cycle of different cell phases, the karyotyping of local populations, are research from a field of investigation approached by the specialists of our team, which has action with theoretical and practical importance. Both the correlation between the different quantitative characters will be analyzed in order to obtain the clearest and most obvious results of the valuable landraces as well as the correlations between the different phases of the mitotic division in order to obtain the cellular development rate and implicitly the productive value of the local landraces.
The consortium, universities in cooperation with the research departments will have common programs, through which to inform and respond to the problems initiated by this project. In this sense, the major objective is to increase the cultivation of local landraces of Allium sativum L. respectively Allium cepa L., in households and not only, and to raise awareness of the cultivation of local landraces in the cross-border area. The aim is to create a consortium between higher education institutions, private research institutes, the Directorate of Agriculture and Rural Development, and research in Romania and the establishment of profitable collaboration relations with the similar consortium in Hungary. The collaboration will focus on research and development activities in the area, in both countries identifying valuable local landraces from the point of view of productivity. Regional awareness will be created regarding valuable genetic resources, permanent information of the target groups; the existing endowment potential within the Universities of the two countries will be exploited to carry out cytological and biometric analyses, chemical components (micro and macro elements). Efforts will be combined to carry out pilot projects for research and technological development. Professional training will involve research institutes and students of collaborating universities in order to know the value of the potential of local landraces.
New systematic training courses will be held in the direction of knowledge and practice of cytological analyzes of the local landraces, to identify the target areas. The collaboration between students, master's students, doctoral students and teaching staff or researchers will allow the joint approach of "hot" topics for the cross-border area. The research infrastructure currently existing in both countries will be developed, in order to increase cross-border cooperation.

C.2.2 How does the project tackle identified common challenges and/or opportunities and what is new about the approach the project takes?

Please describe new solutions that will be developed during the project and/or existing solutions that will be adopted and implemented during the project lifetime. Describe also in what way the approach goes beyond existing practice in the sector/programme area/participating countries.

On the basis of the collected samples, the genetically distinguishable varieties will be selected, their morphological description and content values will be presented. Educational and informative work can be easily carried out during the duration of the project and beyond. On the Hungarian side, a proposal can be prepared for the inclusion of the varieties in the local treasure troves. On the Romanian side, a proposal can be made to create these stores and enrich them with local products. Since the activity of research and technological development proposes a common subject, as the identification, collection, preservation, promotion and valorization of local landraces of Allium sativum L. respectively Allium cepa L. and the gene pool, in carrying out the project, the authors will approach research that will carried out in the field and in the laboratory, implying an accentuated character that targets the issues of interest in the cross-border region through cooperation between the collectives of the teams involved in the project.
The information obtained by carrying out the study comes with new information that will allow the creation of a solid data base for the local landraces studied from the point of view of the gene pool and later capitalization in production. By exploiting common genetic material with the help of cytological and chemical analyses, farmers, students, researchers, etc., and those in the pharmaceutical and cosmetic industry will be given the opportunity to benefit from valuable and efficient material from a qualitative and quantitative point of view, and more than that, it is stable from a genomic point of view.
The participating cross-border areas show a high interest and a need to conserve plant resources with a very good gene pool history.
Cytological, biochemical, biometric techniques and methods for identifying the gene pool within the framework of functional genomics will allow them to open more widely, profitably and in the future, in the sense that the local populations, being hundreds of years old, have adapted and show a major stability of the genome.
By using modern investigation methods, project members will be able to improve their investigative, didactic, teaching and scientific research activities. Students, master's students and doctoral students will complete their theoretical, but especially practical knowledge in priority and leading fields in the field of science. The ability to achieve a more efficient management of local ecosystems by private initiative, will be able to benefit the advantages of the landscape in which they live by capitalizing on genes from local plant resources.

C.2.3 Why is cross-border cooperation needed to achieve the project's objectives and result?

Please explain why the project objectives cannot be efficiently reached acting only on a national/regional /local level and/or describe what benefits the project partners/target groups/ project area/programme area gain in taking a cross-border approach.

The historical Banat or "Land of three waters", Mureş, Tisa and Danube, includes territories currently belonging to Romania, Hungary and Serbia. The soils of Banat were formed on a turbulent evolutionary background, the advance or retreat of the marine (Thetys Sea) or lacustrine (Pannonian Sea) domain and includes over 33 types of soil. In the counties of Timiş and Arad, the population living from cultivating the land represents 45.%. The agricultural profile is cereal, vegetable and animal breeding. Improving production conditions, stability and quality of vegetable products are a requirement of priority importance for specialists and farmers. In the end, the well-being of horticultural and agricultural communities depends on the degree of qualitative performance of their products and the ability to capitalize on it.
During the Austrian occupation, in the Mures and Cris Valleys, in the past, the same types of local landraces were cultivated, and now we want to compare the populations cultivated in the two countries and the similarities in terms of the gene pool, the concentrations of chemical elements (macro- and microelements) and productivity (quantitative characters)
Due to historical reasons, the production areas of the individual varieties overlap, in the case of traditional varieties, there is a chance that even though the production areas are divided by a national border, it will still be possible to find a relationship between them. Genetic tests make it possible to distinguish between different breeds or to show the common origin of some breeds. Based on the test results, a dendrogram can be created about the relationships of onion and garlic varieties. This cross-border theme is an auspicious cooperation in common development and in the consolidation of social partnership, research, education, rural development, because the topics addressed in the common proposal are of great importance and of particular interest for the identification, preservation, promotion and especially the valorization valuable genetic resources. This topic helps both countries to preserve the local identity and the valuable independent plant genetic material, which was cultivated from the ancestors. The need for this partnership is also justified by the ability to disseminate the results obtained both through didactic activities and through the activities undertaken with the private agricultural, horticultural sector thus contributing to a sustainable cross-border development. Through the involvement of farmers, teaching staff, students from all three educational institutions, we will contribute to the awareness of future generations about the importance of preserving local plant resources with valuable potential.
Authentic and traditional products are increasingly sought after. Through the continuous information, the activity in the Romanian-Hungarian mixed team, the population will be informed about the productive benefits of the local populations of Allium. The team members will be catalysts, training students, masters students, locals, farmers, etc., to participate knowingly in the cultivation of local Allium populations on the largest possible scale in order to finally obtain profitable productions.

C.2.4 Who will benefit from your project outputs?

In the first column of each row, please select one of the pre-defined target groups from the drop-down list. In the second column explain in more detail exactly who will benefit from your project. For example, if you choose the category education, you need to explain which specific schools or groups of schools and in which territory.

Target Group	Specification
Higher education and research organisations	Higher education and research (TG1) is composed of: students, teaching staff: 50 from LP1 and 50 from PP2 who will participate in the conferences. The selection of the target group will be done by distributing questionnaires in educational institutions and depending on the degree of interest expressed, i.e. those who will get the score higher will be selected, regarding the genetic conservation of plant materials of interest.
Local public authority	Local public authority (TG2) is composed of: Local representatives of the Departments of Agriculture, (Hungary and Romania); Development and Research Institution (Lovrin, Romania) who will participate in the project conferences (5 Romanians and 5 Hungarians), the selection of the target group will be made according to their involvement in the local structure. This target group was chosen because they are experts in the field and can initiate programs at the local level, which would help to disseminate information and understand the preservation of valuable local plant material.
Other	Producers/farmers/agriculturists (TG3) is composed of: Producers/farmers /agriculturists – minimum 30 from Romania, Timis and Arad counties and minimum 30 from Bekes and Csongrad-Csanad counties in Hungary from the border areas who will be selected based on their concerns regarding the cultivation of garlic or onions, regardless of whether they are certified Bio products or not. They will attend project conferences. This target group was chosen because of the need to transmit knowledge about the genetic value and genomic stability of local Allium populations. Also, farmers/producers /farmers will acquire knowledge for cultivation and utilization.
Regional public authority	Regional public authority (TG4) is composed of: Regional representatives of the National Chamber of Agriculture (Hungary), Institution for Agriculture and Rural Development, Timis (Romania), County Association of Hungarian Householders from Arad (Romania), Association of Hungarian Farmers and Entrepreneurs from Banat (Romania) who will participate in the project conferences, about 10 people (5 Romanians and 5 Hungarians), the selection of the target group will be made according to their involvement in the local structure. This target group was chosen because they are experts in the field and can initiate programs at the local level, which would help to disseminate information and understand the preservation of valuable local plant material.

C.2.5 How does the project contribute to wider strategies and policies?

Please indicate to which strategies and policies your project will contribute. Then describe in what way you will contribute.

Strategy	Contribution

Strategy	Contribution
Territorial Agenda 2030	The project involves smart growth by developing an economy based on knowledge and innovation, being a model of exploitation and application of the results obtained for the development of important economic sectors of both countries, education, agriculture and socio-economic. The study of genomics and the preservation capacity of local plant resources encourages the use of valuable plant material and thus preserves the authentic genetic background.
Other	The European Union places great emphasis on the protection of the geographical origin of products specific to each region and settlement. According to this and in possession of the expected results, it will be easier to navigate among the onion and garlic landscape varieties, which populations are typical for the given settlement and which can be considered our common heritage. The Organization for Economic Cooperation and Development (OECD) - represents an international forum for debating economic and social policies at a global level, with the mission of building a strong economy in the member states, improving efficiency, perfecting market systems, expanding free trade and contributing to economic development. Within the OECD, 34 democracies collaborate to address the economic, social and environmental challenges of globalization. Within this program (OECD), international standards refer to quality, quantity, tolerance to chemical, biotic, abiotic factors, etc., use both as food and very beneficial in medicine, cosmetics, etc. Through this project, it is proposed to contribute to the awareness of the significance of the cultivation of local landraces. The objective presented by carrying out studies on the resources of valuable local genetic material will ensure the conservation and preservation of the local plant resources of Allium. This project also proposes to contribute to the favorable growth of inclusion: promoting and encouraging the production of local landraces of Allium.
EU Strategy for the Danube Region	This project proposal will make an important contribution to the Romania-Hungary Programme/Priority 3: A more sustainable and effective community-based cross-border cooperation. Specific objectives: OSI.6.3. Strengthening mutual trust, especially by encouraging interpersonal actions (people to people projects), encourages research projects on international scientific cooperation in this field, while ensuring close coordination with global action at the EU level. The project proposal will have a great impact at the cross-border level because this area promotes the preservation and conservation of the genetic fund through the Euro Regional Center along the Danube - sensitizes the population by recognizing and promoting the potential of natural assets as engines of sustainable regional development - by involving producers and encouraging the use of local landraces, and through the involvement of students this spirit of conservation of the local genetic fund is educated.

Strategy	Contribution
Other	Horizon Europe - Open science is a policy priority for the European Commission and the standard method of working under its research and innovation funding programmes as it improves the quality, efficiency and responsiveness of research. When researchers share knowledge and data as early as possible in the research process with all relevant actors it helps diffuse the latest knowledge. And when partners from across academia, industry, public authorities and citizen groups are invited to participate in the research and innovation process, creativity and trust in science increases. That is why the Commission requires beneficiaries of research and innovation funding to make their publications available in open access and make their data as open as possible and as closed as necessary. It recognises and rewards the participation of citizens and end users. This project proposal GENOMICS_ROHU will be an effective tool in policy because it will make available for other researchers or citizens interesed in the matter, all the information and results of this project, and will ensure the transfer of know how to future generation.

C.2.6 Which synergies with past or current EU and other projects or initiatives will the project make use of?

Project or Initiative	Synergy
EU-SOL Bree DB database	This Integrated Project supported was by the European Commission. The tomato core collection is composed of ~7000 domesticated (S. lycopersicum) lines, along with representative wild species, and the present project proposal aims to achieve similar collection of medicinal plants from the romanian-serbian cross border area.
MedPlaNet	Genomics_RoHu has synergies with a similar project implemented on another cross border area, respectively Romania-Bulgaria 2007-2013. The main objective of MedPlaNet was to create a support for the economic and social development of the area using the potential genomic. Within the MedPlaNet project, a regional identity was created with the help of a network of growers and processors.
ECPGR Medicinal and Aromatic Plants- “Conservation and characterization of oregano (Origanum vulgare L.) wild populations in Europe	The European Cooperative Programme for Plant Genetic Resources (ECPGR) is a collaborative programme among most European countries aimed at ensuring the long-term conservation and facilitating the increased utilization of plant genetic resources in Europe. Their aim is to contribute to the development of the conservation strategy of MAPs at the European level. Legislative limitations, implemented by EU trade regulations on endangered MAPs and low knowledge of biological conditions and biodiversity status urge for coordinated action and involvement of European experts and scientists. This current project proposal and its results will have synergies with the study "Conservation and characterization of oregano (Origanum vulgare L.) wild populations in Europe”, because it aims to extend the resource on the cultures of other landraces in cross-border area.

C.2.7 How does the project build on available knowledge?

Please describe the experiences/lessons learned that the project draws on, and other available knowledge the project capitalises on.

The partner universities have the necessary research and teaching experience and background. In the project, the research is basically based on USVT's experience in the field of genetics, while MATE is based on horticultural knowledge. When preparing the educational materials, we can also count on the knowledge material previously created at the partner universities (genetics, botany, horticulture, crop cultivation, soil science, irrigation, etc.). The fact that the partners have an extensive network of contacts among farmers helps in spreading new information.

C.3 Project partnership

Describe the structure of your partnership and explain why these partners are needed to implement the project and to achieve project objectives. What is the contribution of each partner to the project?

The border between Romania and Hungary does not represent an impediment to the research of this field, which is so valuable and important for both countries. The structure of this partnership was chosen so that it was made up of well-trained staff - LP 1 USVT - the largest interdisciplinary University in the western part of Romania, PP2 - MATE - has a long past and a rich history and is the oldest Institution of higher agricultural education from Keszthely, HU with a rich interdisciplinary experience.
The partners propose to carry out a classification of the local landraces of Allium, from the point of view of the genome, biochemical, productive, so that in the future it can be obtained from the competent and competent Institutions, that these landraces in the cross-border area are registered and authenticated and declared at the local level and later at the national, European level as landraces with great genomic significance. The partners, in addition to the analyzes mentioned above, will manage to preserve ex situ the biological plant material of Allium identified and collected, both in Romania and in Hungary.
Also, the partners will jointly techno-edit 1 study in three languages (English, Hungarian and Romanian) about the stability of the genome, the biochemical characterization and the importance of preserving the local landraces identified from the cross-border area of Allium sativum L and Allium cepa L., which will form the basis of the students' training, informing farmers and the interested public. A common web page will be created where all the obtained results will be kept up to date
The partners have development potential in the medium and long term, by developing the research of the obtained resources, by increasing the scientific performance at the national and international level.
Management and joint activities within the project and implementation on both sides of the border will ensure the cross-border impact. The data obtained will be useful for the target groups involved, thus consolidating the social bond through the common use of the research results.
The partners will be involved in the study of local landracess of Allium sativum L. respectively Allium cepa L, focusing on: identification and field harvesting; biometric measurements of the quantitative characters; the processing of biometric characters from a statistical point of view and the statistical interpretation of the data obtained through quantitative measurements of characters of productive interest cytological analysis and assessment of the rate of cell division in the roots of plants, assessment and completion of cell analyzes with specific Flow-Cytometry analyzes; preparation of biological material for chemical analyzes (micro-macroelements).

C.4 Project work plan

Number	Work package name
1	Management and Implementation

Work package 1

Work package title

Management and Implementation

Objectives

Your objectives should be:

- realistic and achievable by the end of the project;
- specific (who needs project outputs delivered in this work package, and in which territory);
- measurable – indicate the change you are aiming for.

Define one project specific objective that will be achieved when all activities in this work package are implemented and outputs delivered.

This project proposal has the following objectives:
- aims to identify, know, preserve and exploit the genetic material of the local landraces of Allium sativum L. and Allium cepa L. species from the Romanian-Hungarian cross-border area;
- Chemical analyzes (micro-macroelements); cytological analysis and assessment of the rate of cell division in the roots of plants, assessment and completion of cell analyzes with specific Flow-Cytometry analyzes of local landraces of Allium sativum L., respectively Allium cepa L;
- The transfer of knowledge and technology to achieve a sustainable use of the studies carried out, a common web page will be created; technical editing of the data obtained in the three languages: Hungarian, Romanian and English.

Think about the communication objective that will contribute to the achievement of the specific objective. Communication objectives aim at changes in a target audience's behaviour, knowledge or belief.

The project brings together students, teachers, researchers, farmers, local and regional public authorities - leading to an integrated approach through the development of a joint program for the evaluation, conservation, exploitation of the genetic material of the local populations of the species Allium sativum L. and Allium cepa L. from cross-border area and communicating to the general public about all activities. The target groups and the general public will be permanently informed, educated and involved in the project activities. GENOMICS_ROHU will carry out the following communication activities: publications, didactic manuals, conference press, website, public events.

Activities

Activity 1.1	
Title	Startup activities including communication and opening conference
Start period	Period 1, 1 - 6
End period	Period 1, 1 - 6

Activity 1.1	
Description	The Opening Conference of the project will be held at the Hungarian University of Agriculture and Life Sciences; Institute of Environmental Sciences, Szarvas with all partners and their team members in order to clearly delimit the attributions in the course of the project. (one day event) The partners will be informed about the implementation plan and the established deadlines. The press will also be present at the opening conference. Approximately 100 people/conference from those identified, the target group will participate, namely representatives of specialists - TG1 (students, researchers, teachers), TG2 Local public authority; Local representatives of the Departments of Agriculture; Development and Research Institution and official representatives from agriculture, - (local representatives from Romania and Hungary), TG3 farmers representatives, and TG 4 Regional public authority (TG4) is composed of: Regional representatives of the National Chamber of Agriculture (Hungary), Institution for Agriculture and Rural Development, Timis (Romania), County Association of Hungarian Householders from Arad (Romania), Association of Hungarian Farmers and Entrepreneurs from Banat (Romania). In addition to the activities characteristic of this implementation stage related to the establishment of the detail action plan for sub-activities (time, resources, responsibilities from the partners) will also be established communication procedures within the project team as well as the plan for monitoring the achievement of the proposed indicators. The validation of the sampling equipment related to the existing infrastructure will be done during this period, Purchases: bags, paper collection bags, plant measurement system (diameter, height) Acquisitions achieved: catering for events, travel cost, making and distributing of radio spots, both for LP1 and for PP2, flyers (100), document folders (100), roll-up (2), pens (100), web site, will be made in accordance with the requirements of the funder.
Partner(s) involved	ULST, MATE

Deliverables 1.1

Running number	Deliverable title	Description	Delivery period
D.1.1.1	Project opening conference	Approximately 100 people/conference from those identified, the target group will participate, namely representatives of specialists - TG1 (students, researchers, teachers), TG2 Local public authority; TG3 farmers representatives, and TG 4 Regional public authority (TG4); mass media.	Period 1 , 1 - 6
D.1.1.2	Promotional materials	Printing flyers (100), document folders (100), rool-up (2), pens (100) and web site will be made in accordance with the requirements of the funder.	Period 1 , 1 - 6
D.1.1.3	Action plan for sampling and storage	Action plan will include responsible for all subactivities with particluar indicating the area of sampling, resources, schedule and storage facilities used.	Period 1 , 1 - 6
D.1.1.4	Technical assurance, implementation of procedures	Documentation of procedures regarding sampling and storage of biological material in order to ensure the traceability of the collected samples	Period 1 , 1 - 6

Activity 1.2

Title	The action plan and work procedures and sampling of local landraces
Start period	Period 1, 1 - 6
End period	Period 1, 1 - 6
Description	For a quick and precise identification, they will be selected based on the studies and reports of the County Directorates again the movement of the teams formed by LP1 in Timis and Arad counties in Romania respectively PP 2 Bekes and Csongrad-Csanad counties in Hungary on the ground will be done for the identification and collection of local landraces. A minimum of 5 local landraces will be collected from each county of each country. Also, the involvement of target groups, namely farmers, will be useful to provide information about routes, accessibility and sampling locations. Acquisitions achieved: cytological kits, biochemical kits, water bath, electronic subleras

Activity 1.2	
Partner(s) involved	ULST, MATE

Deliverables 1.2

Running number	Deliverable title	Description	Delivery period
D.1.2.1	Staff trainings	Staff trainings - staff training, ensuring the technical capacity regarding the implementation of sample collection	Period 1 , 1 - 6
D.1.2.2	The manag ement procedures	The management procedures will be established for the field trips of the project teams, as well as the technical ones that will be used in view of the methods used and compatible with the partner laboratories.	Period 1 , 1 - 6
D.1.2.3	Sampling	Sampling - Field harvesting of local landraces, at least 10 local landraces, Timis, Arad, county, and Bekes and Csongrad-Csanad counties in Hungary quantity 1 kg/local landraces of Allium sativum L., respectively Allium cepa L. from different localities	Period 1 , 1 - 6

Activity 1.3	
Title	Caracterization of local landraces collected from a biometric, cytological and chemical point of view
Start period	Period 1, 1 - 6
End period	Period 2, 7 - 12
Description	Biometric measurements of characters from a quantitative point of view (height with head, diameter with head, grams with head, number of cloves). The biometric measurements will be performed by each partner and ½ of each landraces after the biometric measurements have been performed, the partners will exchange plant material. LP1 will carry out the analyzes from the cytological point of view and of the DNA content by Flow-cytometry, and PP2 will analyze the local landraces from the biochemical point of view of the macro and microelements and interpret the data obtained through the measurements from a statistical point of view. Also, for the preservation and valorization of the harvested biological material for the future, each partner will plant (for ex situ utilization) both the local landraces harvested from the country of origin and the local landraces from

Activity 1.3	
	the partner. The main targeted research directions will be supported by the development of: - methods of phenotypic characterization of local landraces (through biostatistics methods, phylogeny studies, genetic analysis); - ex situ propagation methods, preservation and development of germplasm in the identified local Allium landraces (optimization of ex situ cultivation conditions, completing the local germplasm collection with valuable landraces obtained from areas of interest); - the development of vegetable biotechnologies for Allium species with economic importance (quantitative and qualitative methods); - biochemical methods for characterizing chemical compounds (macro and microelements); - cytological characterization and DNA content, trought the method Flow-Cytometry (of the rate of reproduction/development of somatic cells that directly targets the production and quality of the plant material obtained). Acquisitions achieved: travel and accommodation, specialized equipment.
Partner(s) involved	ULST, MATE

Deliverables 1.3

Running number	Deliverable title	Description	Delivery period
D.1.3.1	The biometric measurements	The biometric measurements of the characters from a quantitative point of view (height with head, diameter with head, grams with head, number of puppies) each partner will perform on the biological material taken.	Period 1, 1 - 6
D.1.3.2	The meeting of the teams	The meeting of the teams from the two Ro-Hu partners and to exchange biological materials that were collected from Hungary by the Partner with those collected in Romania by the Leader	Period 1, 1 - 6
D.1.3.3	Preparation of biological material	Preparation of biological material for cytological analyzes and DNA content with specific Flow-Cytometry analyses, both of the landraces collected from Romania by the Leader and the Romanian Partner and those collected by the Hungarian Partner; in the laboratory by the Leader	Period 2, 7 - 12
D.1.3.4	Preparation of	Preparation of biological material for chemical analyzes (micro-macroelements) both of the landraces collected from Romania	Period 2, 7 - 12

Deliverables 1.3			
Running number	**Deliverable title**	**Description**	**Delivery period**
	biological material for chemical analyzes	by the Leader and Partner and those collected by the Partner from Hungary; in the PP2 laboratory in Hungary	
D.1.3.5	Cytological analysis	Cytological analysis in the laboratory of Leader and assessment of the rate of cell division in the roots of plants, assessment and completion of cell analyzes with specific Flow-Cytometry analyzes of local landraces of Allium both of the landraces harvested from Romania and Hungary	Period 2 , 7 - 12
D.1.3.6	The chemical analyzes	The chemical analyzes (micro macroelements) of the local landraces of Allium sativum L., respectively Allium cepa L. both of the landraces harvested from Romania by the Leader and Partner and those harvested by the Partner from Hungary; in the Partner laboratory in Hungary	Period 2 , 7 - 12
D.1.3.7	The processing of biometric characters	The processing of biometric characters from a statistical point of view and the statistical interpretation of the data obtained through quantitative measurements of characters of productive interest in Allium both of the landraces harvested from Romania and Hungary	Period 2 , 7 - 12

Activity 1.4	
Title	Publication of results
Start period	Period 2, 7 - 12
End period	Period 2, 7 - 12
Description	Technical editing and printing of the data obtained for the volumes in English, Hungarian and Romanian, in 100 copies for the Romanian and Hungarian languages, and 50 copies for the English language. A common web page will be created where all the obtained results will be kept up to date. A permanent lobby will be made with those interested and with potential information contractors, specialized staff, research centers, farmers, etc. Acquisitions achieved: service for editing and printing the project results
Partner(s) involved	ULST, MATE

Deliverables 1.4			
Running number	**Deliverable title**	**Description**	**Delivery period**
D.1.4.1	Project results volume	The technical editing of the volume with the data obtained for the volume in Romanian and English will be done by LP1 and the technical editing in Hungarian will be done by PP2.	Period 2 , 7 - 12

Activity 1.5	
Title	Final press conference
Start period	Period 2, 7 - 12
End period	Period 2, 7 - 12
Description	One final press conference at the end of the project will take place at USV Timisoara, Romania; Approximately 100 people/conference from those identified, the target group will participate, namely representatives of specialists - TG1 (students, teaching staff), - TG2 (students, researchers, teachers), farmers representatives - TG3- Local public authority; Local representatives of the Departments of Agriculture; Development and Research Institution and official representatives from agriculture - (from Romania and Hungary) and mass media - TG 4 At the final conference will be presented project results and outputs; will be distributed folders, pens and promotional leaflets and a banner will be placed at each promotional event. It will be organized and provide catering services. Acquisitions achieved: catering service, services for promotional materials (100 document folders,100 flyers, 100 pixuri,1 roll-up)
Partner(s) involved	ULST, MATE

Deliverables 1.5			
Running number	**Deliverable title**	**Description**	**Delivery period**
D.1.5.1	Final press conference	Approximately 100 people/conference from those identified, the target group will participate, namely representatives of specialists - TG1 (students, researchers, teachers), TG2 Local public	Period 2 , 7 - 12

Deliverables 1.5			
Running number	**Deliverable title**	**Description**	**Delivery period**
		authority; TG3 farmers representatives, and TG 4 Regional public authority (TG4); mass media.	
D.1.5.2	Promotional materials	Printing flyers (100), document folders (100), roll-up (1), pens (100) will be made in accordance with the requirements of the funder.	Period 2, 7 - 12

Outputs

Output 1.1	
Output Title	Cross border cooperation
Programme Output Indicator	RCO87_6.3: Organisations cooperating across borders
Measurement Unit	organisations
Target Value	2,00
Delivery period	Period 2, 7 - 12
Output Description	The project partnership is formed with the common goal of identifying and highlighting valuable Allium genotypes. Partners contribute expertise, including cross-border collaboration, government perspectives, scientific capabilities (research institutions and universities). This approach optimizes resources, encourages knowledge sharing and improves project outcomes. The organizations are: ULST, MATE and associated partners.

Output 1.2	
Output Title	Cooperation investigation across the border
Programme Output Indicator	RCO81_6.3: Participations in joint actions across borders
Measurement Unit	participations
Target Value	50,00
Delivery period	Period 2, 7 - 12
Output Description	Participation in cross-border joint actions within the project are taking place with the aim of encouraging the exchange of information, the presentation of the

Output 1.2	
	results of the analyzes carried out and the benefits of cultivating local Allium landraces. The participants are: ULST, MATE, local producers, professional associations.
Output 1.3	
Output Title	Joint Action Plan on Cultivation of Valuable Genotypes
Programme Output Indicator	RCO83_6.3: Strategies and action plans jointly developed
Measurement Unit	strategy/action plan
Target Value	1,00
Delivery period	Period 2, 7 - 12
Output Description	Development of Joint Action Plan on cultivation of valuable Allium genotypes to protect cross-border local.

Investments

C.5 Project Results

What do you expect to change because of the activities you plan to implement and the outputs you plan to deliver? Please take a look at the programme result indicators and select those that you will contribute to.

Result 1	
Programme result indicator	RCR84_6.3: Organisations cooperating across borders after project completion
Measurement unit	organisations
Baseline	0,00
Target value	3,00
Delivery period	Period 255, -
Result description	The project partnership is formed with the common goal of identifying and highlighting valuable Allium genotypes. Partners contribute expertise, including cross-border collaboration, government perspectives, scientific capabilities (research institutions, universities and local farmers).

Result 2	
Programme result indicator	RCR85_6.3: Participations in joint actions across borders after project completion
Measurement unit	participations
Baseline	0,00
Target value	20,00
Delivery period	Period 255, -
Result description	Participation in cross-border joint actions within the project are taking place with the aim of encouraging the exchange of information, the presentation of the results of the analyzes carried out and the benefits of cultivating local Allium landraces.

Result 3	
Programme result indicator	RCR79_6.3: Joint strategies and action plans taken up by organisations
Measurement unit	joint strategy/action plan

Result 3	
Baseline	0,00
Target value	1,00
Delivery period	Period 255, -
Result description	Joint action plan Development to local farmers and producers on the cultivation of valuable Allium genotypes with the aim of protecting local germplasm.

C.6 Project Time Plan

	Period 1	Period 2	After End
WP1 Management and Implementation			
A1.1 Startup activities including commun...	D1.1.1		
	D1.1.2		
	D1.1.3		
	D1.1.4		
A1.2 The action plan and work procedures...	D1.2.1		
	D1.2.2		
	D1.2.3		
A1.3 Caracterization of local landraces ...	D1.3.1	D1.3.3	
	D1.3.2	D1.3.4	
		D1.3.5	
		D1.3.6	
		D1.3.7	
A1.4 Publication of results		D1.4.1	
A1.5 Final press conference		D1.5.1	
		D1.5.2	
RCO81_6.3		O1.2	
RCO83_6.3		O1.3	
RCO87_6.3		O1.1	
Result indicator			
RCR79_6.3			R3
RCR84_6.3			R1

RCR85_6.3			R2

C.7 Project management

In addition to the thematic work you will do in your project, you will need time and resources for coordination and internal communication. Please describe below how you plan to organise yourself to ensure the project work runs smoothly.

C.7.1 How will you coordinate your project?

Who will be responsible for coordination? Will you have any other management structures (e.g., thematic groups, WP managers)? How will the internal communication work?

The managers of the partners will constantly monitor and evaluate the progress of the project.
For monitoring the project, the following will be taken into account: measurement of physical evolution; measuring the financial evolution; quality control; other specific information of particular interest.
The management team of the project team has the following main duties: to make decisions about the necessary corrective measures (from case to case); authorization of the proposed measures; implementation of the proposed measures; adapting the reference plan to allow the monitoring system to remain effective.
The internal evaluation will be established depending on the progress stage of the project. In the first 6 months, information meetings and critical discussion of laboratory work methods, investigation techniques, etc. will be organized. Each participant will have to contribute to the correct evaluation of the proposed investigation paths. In the next period, when each member of the collective will be able to work independently, the internal evaluation meetings will take place monthly online, between partners. At such meetings, each member will present the results obtained and the activities planned for the next stage.

C.7.2 Which measures will you take to ensure quality in your project?

Describe specific approaches and processes and responsible partners. If you plan to have any type of project evaluation, please describe its purpose and scope here.

Permanent monitoring of the project stage in accordance with the implementation of the schedule, represents one of the essential activities of management in order to ensure success project implementation in the three parameters: time, cost (budget) and quality and reach the fourth parameter, the objective. In this sense, the permanent updating of the calendar of activities so as to reflect the real state of implementation of a project. Monitoring it is achieved by: analyzing the stage of achievement of the objectives; analysis of the use of funds; comparing the search with the good ones. The results of the monitoring activity will be materialized in periodic and final reports, according to contractual provisions.
Reporting on the progress of the project will cover 2 directions of action: reporting internal and reporting to the Contracting Authority. For internal reporting, a system will be established periodic reporting, each expert will report to the project manager the degree of achievement of activities, possible risks and how to mitigate them. Based on the information received, the manager will prepare the status reports. Reporting and evaluation procedures involve elaborating and delivering the progress reports towards Contracting Authority; arranging and moderating work plan meetings; assuring promptly data and information dissemination towards the partners or of the materials asked by the Contracting Authority.
Risk management will take into account all potential risks, specific to the activities described and if it is necessary to adopt some proactive measures depending on the activities carried out. The person in charge of the activities will constantly monitor the progress of the project and will propose measures to correct any potential deviation from the management plan. The project will be continuously monitored and potential risks will be assessed at least once every two months. In case of unexpected difficulties in the execution of the project, the project manager will approve the necessary actions to solve them. This risk management process will ensure the correct implementation of the project, so that the quality of its activities and results reach the expected results.
All the activities and procedures will be conducted in accordance with national and international legal framework and will respect fundamental ethical principles regarding data management and intelectual property of the obtained data in conformity with UE 93/71 and 91/414Directive including those reflected in the Charter of Fundamental Rights of the European Union, and the opinions of the European Group on Ethics in Science and New Technologies. Specific standards for laboratory activity (SR ISO 17025, GLP) will be implemented.

C.7.3 What will be the general approach you will follow to communicate about your project?

Who will coordinate project communication and how will he/she ensure the involvement of all partners? How will the communication function contribute to transfer your project results? Please note that all communication activities should be included in the work packages, as an integral part of your project. There is no need to repeat this information here.

Elaboration of the communication plan that will be configured taking into account the audiences and the impact on different levels, as follows: (1) the short-term impact that defines the way in which the partner network is organized as the operational infrastructure; (2) the long-term impact that refers to the subsequent stages that ensure a operationality, durability and autonomy; (3) the impact of the project results at the national and international level, with reference to the technical implementation, organization,planning and scientific development. The dissemination plan aims to transmit key information (approach, plans, strategies, technologies, other results, etc.) generated during the course of the project. Based on the results obtained, the target group will be defined, classified by interest groups from the point of view of the need for knowledge transfer. The plan includes the participation and organization of dissemination events and will be updated. The communication plan takes into account the different categories of the public and the impact generated.
Short-term communication, internally will be established between: The members of the network of partners who will propose the coordination of communication activities and will ensure a continuous and rapid flow of them. The communication within the partnership will take place on several levels by e-mail, telephone and video conference and will include: progress report, tasks current, the contributions of each partner and the progress of the deliverables according to the schedule and monthly meetings. The aspects discussed as the case may be, will be drafted and archived, recorded to be available to the Contracting Authority.
The progress reports will be made and provided by both partners, they will include descriptions of completed activities, purchases made, deliverables made, where appropriate, supporting documents will be attached and the partners will communicate at least once a week, to keep updated the project implementation stage.
All team members will have access to information related to the progress of the project or the operation of the consortium. Decisions related to the scientific aspects of the project are discussed and approved in the research group of the project being binding and assumed. The project management and the management team have the right to impose a decision when the dialogue does not have a valid and relevant result.
Long-term, external communication between the network of project partners and other categories public outside the network aims to disseminate all information resulting from the implementation, organization and scientific development.

C.7.4 How do you foresee the financial management of the project and reporting procedures for activities and budget (within the partnership and towards the programme)?

Define responsibilities, deadlines in financial flows, reporting flows, project related transfers, reclaims, etc.

Will be realized the Quality Management Plan, human resource management, communication, risk and acquisitions plans and also the monitoring processes schedule. The management meetings between coordinating structures will take place every three months (with participation of all project members) and will be discussed the manner of achievement of the project and solved the possible problems.
The role of partners: LP1 and PP2 will ensure the project management, monitoring of schedule activities implementation compliance at standards quality. The LP1 through the project manager will present the schedule for the project activities to the other team members and to the partners, also letting everybody know their responsibilities and the deadlines with presentation of consequences and responsibilities.
LP1 will prepare the consolidated reports for the management authority, prepare and present them the expected documents, will maintain the technical archive of the project; PP2 will provide the necessary information for the reports.
Responsible: Project manager, project assistant, financial manager, activity evaluation and monitoring expert, procurement expert, activity coordination, 3 technical experts.

C.7.5 Cooperation criteria

Please select all cooperation criteria that apply to your project and describe how you will fulfil them.

Cooperation criteria		Description
Joint development	Yes	The project is based on the experience of the partners regarding the activities in the fields of rural development and the ability to transfer the information to the direct beneficiaries. The proposal is the result of the negotiation between the partners taking into account the issue of the disappearance of the valuable gene pool. Common results are addressed to common target groups, specialist, farmers, students, young researchers, and teachers.
Joint implementation	Yes	The activities carried out within the project will ensure the joint implementation of both parts of the border, thus ensuring cross-border impact. The partners will have common activities- both in Romania and in Hungary, such as: conferences, collection, conservation, cytological and DNA content analyses, chemical analyses, statistical interpretation of productive characters of local Allium landraces. The project data will be useful for the target groups involved, thus aiming to strengthen social cohesion through the joint use of research results.
Joint staffing	Yes	The project team is made up of professors, researchers, academics and management staff, making it possible to achieve the objectives both from the point of view of strengthening cooperation relationships through the formation of joint research groups, and by obtaining valuable scientific results (utilizing the dissemination of the partner's capacity in various fields). By dividing the roles according to his expertise each partner will ensure the operational functionality of the joint project team.
Joint financing	Yes	The common budget is allocated to partners in a balanced way, depending on the proposed objectives, the type and volume of activities, the number and type of staff involved. Each partner must comply with the measures imposed on co-financing, its modalities and level. Each contribution is reflected in the budget annexes and is detailed in the Partnership Declaration, the participation of each partner in the project being highlighted through the result indicators.

C.7.6 Horizontal principles

Please indicate which type of contribution to horizontal principles applies to the project, and justify your choice.

Horizontal principles	Type of contribution	Description of contribution
Sustainable development	positive effects	The project addresses a common research strategy regarding the possibility of improving the gene pool. It involves the effective use of existing valuable genomic resources and opening opportunities for future generations by identifying and exploiting the genotypes of local Allium populations, through conservation and sustainable use. Advertising materials, studies, events of major importance for the protection of the valuable gene pool will be produced.
Equal opportunities and non-discrimination	neutral	No discrimination in terms of age, sex, nationality or religion will be made. In the labour relations of any kind will be prohibit any discrimination. Public access to activities is free, venues for the activities and events will be organized properly to facilitate access and participation of people with motor disabilities. In the selection of target groups will be applied the principle of equity, no discrimination will be made by any criteria.
Equality between men and women	positive effects	Project will improve accessibility of women to the labor market, and reduction of gender discrimination. Women will benefit the same way of social insurance as men. In the project team, pregnant women will benefit of legal conditions in force and maternity leave will be allowed according to the law and also men can benefit of paternity leave. Employees will be protected against direct and indirect sexual discrimination and the team will be composed according to the principles of gender equality.

C.8 Long-term plans

As a programme, we would like to support projects that have a long-lasting effect in the territory and those who will benefit from them. Please describe below what you will do to ensure this.

C.8.1 Ownership

Please describe who will ensure the financial and institutional support for the outputs/deliverables developed by the project (e.g., tools), and explain how these outputs/deliverables will be integrated in the work of the institutions.

Each of the partners will provide financial and institutional support for the entire infrastructure and the outcome of the project. The main tool remains the preservation and promotion of local Allium landraces. Following the implementation of the project, a study will result that will be used by those who will continue to access similar projects and will also support future research. Property the rights to the studies will belong to all partners and will be freely distributed and available on the project website. Each study or laboratory work that will be done in the laboratories will be disseminated to partners and students and will help develop the partners to become reference institutions for the conservation of the valuable gene pool of local Allium landraces.
The crossborder area is a source of valuable genes that could be used by researchers to obtain superior genotypes through breeding programs.
Expert training: through participation in the project team, target group of researchers and teachers from USVT Romania and MATE Hungary respectively, will contribute to their better training. Research results will be disseminated through peer-reviewed papers and communications for prestige university, and on the other hand the results will be used in the educational process and thus improve the quality of students' learning.
Achieving institutional research objectives - project implementation will contribute to the strategic objectives of the development of USVT Romania, respectively MATE Hungary, and the purchase of equipment - the purchased equipment will contribute to the development of research in universities.

C.8.2 Durability

Some outputs/deliverables should be used by relevant groups (project partners or others) after the project's lifetime, in order to have a lasting effect on the territory and the population. For example, new practices in urban transport need to be used by local authorities to have cleaner air in the city, and the whole population will benefit from this. Please describe how your outputs/deliverables will be used after the project ends and by whom.

Ensuring sustainability will be achieved through the participation of local and regional authorities (farmers, local farmers), who will contribute to the political-economic development, conservation of the gene pool of valuable local Allium landraces and who in turn will be able to initiate similar actions. Following the students' participation in the target groups, the main activities of the project will provide a practical generation effect, as each student in turn will promote notions of sustainable gene pool conservation. The development both in the university environment (effects on the community) and in the private environment of the capacity to preserve the valuable genome of the local Allium landraces will contribute to the formation of a new generation of young people who value the preservation of the valuable gene pool.
Local farmers/private agricultural producers will be encouraged to preserve and exploit the autochthonous germplasm of Allium plants, which will contribute to the increase in consumption obtained in the border area, with direct effects on the economic development of the region.
The sustainability results will be obtained by mediating the value of the gene pool of local landracess of Allium sativum L. respectively Allium cepa L., in the cross-border area by ensuring, maintaining and preserving the plants. The mission to achieve partnerships with similar structures in the country and abroad, offering thus the flow of information and exchanges between local populations of existing plant material.

C.8.3 Transferability

Some outputs/deliverables that you will deliver could be adapted or further developed to be used by other target groups or in other territories. What will you do to make sure that relevant groups are aware of your outputs/deliverables and are able to use them?

Through the complex way of approach and the selected target groups, the results of the project can be
transferred to:
- educational/research institutions from the border region or other regions/countries contributing to the training of new generations who will have the ability to protect and exploit local natural resources;
- the participation of the representatives of the Public Authorities from both countries in the events organized within the project will lead to the promotion of the results in other units in the cross-border area, the awareness of the value of the genetic material with a stable and valuable gene pool and the importance of capitalizing on the results in order to establish future government strategies regarding the conservation of the genetic pool indigenous with a major impact on agriculture, health, etc
- Local and regional communities: through the participation of farmers and local agricultural producers, results
obtained will be disseminated in cross-border rural communities encouraging the appreciation and the protection of local landraces of Allium sativum L. respectively Allium cepa L.