



TETTRIS

Transforming European Taxonomy through Training, Research, and Innovations

Documentation package for the Call for Proposal for Third Party Projects

WP 7/IBOT-CAS

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TETTRIs related product

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Abstract: This document recapitulates the work performed to achieve deliverable D7.1 - Documentation Package for the Call for Proposals for Third Party Projects of TETTRIs (3PPs), exploring the concept, the process and the different actors involved in defining and launching the 3PPs Call, and assessing the proposals received. It presents the step by step methodology to produce the Call and the resulting outcome. This document's annexes include the concrete documentation package defining the 3PPs Call, which together form Deliverable D7.1.

Keywords: Third Party Funding, 3PPs, Call for Proposals, Guidelines for Applicants, Capacity building, Taxonomy, Taxonomic expertise, Transfer of Knowledge, Action in the field, Biodiversity hotspots and protected areas.

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- ACRONYMS

3PP	Third Party Projects
CETAF	Consortium of European Taxonomic Facilities (General Secretariat)
CIB	Community Implementation Board
COL	Catalogue of Life (Species 2000)
DMP	Data Management Plan
EA	Ethics Advisor
EB	Executive Board
ECS	External Communication Strategy
ECSA	European Citizen Science Association
EU	European Union
FUB-BGBM	Freie Universität Berlin - Botanischer Garten und Botanisches Museum Berlin
GA	General Assembly
HE	Horizon Europe
IBOT-CAS	Institute of Botany of the Czech Academy of Sciences
MNHN	Muséum national d'Histoire naturelle
NHMC-UOC	Natural History Museum of Crete - University of Crete
NHMD	Natural History Museum of Denmark
NHMW	Naturhistorisches Museum Wien
PC	Project Coordinator
PDER	Plan for Dissemination and Exploitation of Results
PiC	Pillar Coordinator
PM	Project Manager
PMT	Project Management Team
PO	Project Officer
RBINS	Royal Belgian Institute of Natural Sciences
REA	European Research Executive Agency
SAB	Strategic Advisory Board
SMNS	State Museum of Natural History Stuttgart
TETTRIs	Transforming European Taxonomy through Training research and Innovations
TL	Task Leader
UGOT	University of Gothenburg
UniFi	University of Florence
VGR	Region Västra Götaland
WP	Work Package
WPL	Work Package Leader

1. INTRODUCTION

TETTRIs aims to bring about a significant transformation in the field of taxonomy to address biodiversity changes by enhancing the capacity for taxonomic research and transferring critical scientific knowledge to key societal stakeholders. In advancing the field of taxonomy and beyond, TETTRIs will implement several technical and systems innovations developed by consortium partners and validated in collaboration with target groups such as citizen scientists, through a mechanism of cascade grants to engage with local partners in the field.

Work Package 7 of the TETTRIs project (WP7: *Third party funding and development of Blueprint for Taxonomic Capacity Building*) is led by IBOT-CAS, with the contribution of CETAF, NHMC-UOC, RBINS, Luomus, MeiseBG, NHMD, UGOT, Naturalis, and ECSA.

The ultimate goal of the WP7 is to implement the cascade mechanism that TETTRIs integrates as an essential and equally novel way for transferring knowledge from the fundamental research realm to the practitioners in the field, those being professionals, citizen scientists and other biodiversity-related actors. In this context, Such a mechanism implies the definition of a procedure to distribute the allocated funding under TETTRIs that amounts near 1,8 Million Euros to the most excellent proposals submitted by parties external to TETTRIs (the Third-Party Projects, 3PPs) that may tackle the objectives of knowledge transfer in the best efficient and successful manner, in order to provide resources and means to create expert local nodes in sites relevant to biodiversity, specifically in hotspots and/or protected areas.

The main objectives for the distribution of the third-party funding reflects the scope of the Call: to pilot, support, guide and supervise the establishment of adequate facilities in several local nodes. It is intended to build capacity near biodiversity hotspots as the key activity of this action, while ensuring the most efficient transfer of knowledge from scientific experts to societal actors.

The third-party funding will be used to implement and validate activities initiated in Work Packages (WP) 1, 2, 4 and 6 and link back to the following project objectives:

- **Objective 3:** Formulate a roadmap for physical and digital reference collections and validate it by creating a pollinator reference collection.
- **Objective 4:** Develop a sector-specific training framework and demonstrate it by facilitating training programmes that increase professional and non-professional taxonomy expertise.
- **Objective 5:** Test and validate the innovations developed with new taxonomic tools.

The WP 1,2,4 and 6 leaders worked closely with WP7 to define 7 topics for funded projects:

Topic 1. Species-level indexing of pollinator collections (WP1).

Topic 2. Improving access to local taxon lists and taxon-related scientific data through pragmatic name-mapping workflows (WP2).

Topic 3. The co-development of Artificial Intelligence (AI)-based image recognition for European terrestrial molluscs (WP6).

Topic 4. The co-development of AI-based sound recognition of European grasshoppers (WP6).

Topic 5. Innovative molecular techniques for taxonomy: integrating genomic tools for the development of cost-efficient genetic markers for species identification and delimitation (WP6).

Topic 6. The development of training programs for taxonomic research (WP6).

Topic 7. Innovative cross-disciplinary projects focused on involvement of citizen scientists in monitoring biodiversity hotspots (Cross-cutting).

This deliverable D7.1 is the direct result of Task 7.1 - *Call for third-party projects to build capacity in biodiversity hotspots and protected areas*. This task is led by Pavla Růžková (IBOT-CAS), with the CETAF playing a key role as responsible for the subcontracting of the 3PP Administrator. It has also counted on the contributions from Luomus, NHMC-UOC, MeiseBG, NHMD, ECSA. It lays the basis and limitations for the projects to be financed and is therefore a key task of the work package and an important pillar for the project. This deliverable is timely submitted as per the Grant Agreement 101081903 on the 30th of June 2023.

2. METHODOLOGY

1. Subcontracting of the 3PP Administrator.

To firstly collect and evaluate proposals, secondly, to monitor and assess the approved 3PPs, and finally disseminate their outcomes, TETTRIs has subcontracted those tasks to an external service provider (the “3PP Administrator”). In line with the Grant Agreement, CETAF coordinated the open tender procedure to select a 3PP Administrator. A Call for Tenders was published on the CETAF website, the TETTRIs website, as well as other partner’s websites, and promoted through social media channels. Based on a Best Value for Money evaluation, CETAF awarded this service contract to *Catalyze B.V.*

The contract with the Administrator started on 15 May 2023, with the definition of activities, the setting-up of a detailed work plan, and the identification of the team members.

2. Establishment of the Call Criteria:

IBOT-CAS as WP7 and Task T7.1 leader oversaw the organisation of the meetings and the coordination of the work for establishing the Call criteria and building the basis for the Call Documentation. Furthermore, the CIB was involved in the review of the Call documentation process and provided valuable inputs. Once members of the partners involved were gathered and following the preliminary setting-up of the process (that took place during the TETTRIs Kick-off Meeting in January 2023 and was fine tuned during M2 of the project), the list below portrays a breakdown of the different meetings and major points tackled by the group throughout M3 to M7:

February 14, 2023 - TETTRIs WP7

- Structure of the Call Documentation: Framework, Specific rules, evaluation criteria, etc
- Scope
- Impact and connection to the Blueprint
- Regional impact, country eligibility
- Budget allocation
- Topics

February 28, 2023 - TETTRIs WP7

- Call for proposal – documentation structure, short comments on different points.
- List of Target groups
- List of Eligible applicants
- Territorial focus (follow up on previous discussion)
- Topics draft documents and division of work
- Citizen Science

March 9, 2023 - TETTRIs WP7 / WP4 meeting (extraordinary)

- Evaluating outputs and budget coherence
- Prepare discussion on the possibility for division of project types (inter-topics projects vs. free topic projects).

- Estimate the expenses for 3PP project for “piloting” WP1, 2, 4 and 6 outputs

March 14, 2023 - TETTRIs WP7

- Presentation of Topics from WP1, 4 and 6
- Discussion on the principles for the Call
- Dissemination and exploitation of the Call
- Design working plan for the subcontracted 3PP Administrator

March 16, 2023 - WP7/INSPIRES Project.

- Discussion and knowledge sharing on InSPIRES experience with cascading grant implementation.

March 28, 2023 - TETTRIs WP7, WP2 topic-leader communication

- Continued discussion on documentations and Call structure
- Decision to exclude free topic projects, projects combining topics, etc.
- Defining materials to be provided to the 3PP Administrator

April 11, 2023 - TETTRIs WP7

- Involvement of WP2
- Financial Scheme
- Technical and Financial Control of the 3PP
- Distribution of the 10% dedicated to citizen science.
- Ethical framework

April 28, 2023 - TETTRIs WP7

- Update on Call documentation developments in relation to practical impact, collaborative approach, innovation, timings, specific eligibility conditions.
- Discussion and feedback on the CIB Meeting and planning of next steps in their involvement.
- Update work plan for next steps

May 12, 2023 - Special WP7/WP4 meeting

- Discussion on WP4 Topics

May 15, 2023 - WP7/WP6 communication

- Discussion on WP6 Topics

May 25, 2023 - WP7/WP2 meeting

- Discussion on WP2 Topics

May 30, 2023 - TETTRIs WP7

- Presentation of last amendments on the Call documentation regarding signature of 3PP contracts, eligibility, update on related information to be linked to the proposal, budget, Topic presentation on the Call, harmonisation of terminology.
- Organisation of Meeting with selected 3PP Administrator - Catayze.B.V.

June 6, 2023 - TETTRIs WP7

- Update on Call: Topics, finalisation, commenting process, incorporation of ethics, publication of the Call.
- Ethics compliance

- Gender & Diversity Compliance
- Communication and dissemination materials and publications
- Webinar for applicants
- Reporting

3. Collaboration with the CIB

The Community Implementation Board (CIB) is intended to be a critical element in the definition of the scope of the proposals and potential target audiences, and also in the assessment of the applications received and the further implementation of the proposals approved and granted.

The CIB is formed by 10 external experts coming from the outside of TETTRIs beneficiaries but still relevant and close to those elements and fields of activity critical to the 3PPs Call such as the field of taxonomy, implementation grants, citizen science.

The CIB is chaired by the Technical Coordinator and has met once on 26 April to set the scene of the collaboration expected from them and plan ahead the different stages of their activity and the input sought at each of those phases.

At this stage, the CIB members were called to review (online) the different documents produced towards the completion of the Call. Their feedback has been highly relevant for fine tuning several aspects such as eligible costs and evaluation criteria.

April 26, 2023 - 1st CIB meeting

- Introductions of TETTRIs and scope of cooperation
- Presentation of the 3PP Call (Including Ethics and Gender & Diversity aspects)
- Setting the next steps

4. Publication of the Call for Proposal

CETAF as Technical Coordinator, with the support of the Coordinator RBINS and in collaboration with *Catalyze B.V.*, worked very closely during the last month prior to the publication date (i.e 30 June 2023, M7) in order to fine tune all the final documentation, discuss logistical matters of the administration of the Call process (among others, coordinating and integrating CIB feedback, handling queries, changing clarifications, testing the submission platform on the website, etc). This work was achieved through constant communication, email exchanges and regular weekly meetings, and by using collaborative tools that allow cooperative editing (i.e. google docs.)

5. 26th of May 2023 (Virtual)

- 2nd of June 2023 (Virtual)
- 9th of June 2023 (Virtual)
- 12th of June 2023 (Presential at the Royal Belgian Institute for Natural Sciences, Brussels.)
- 23rd of June 2023 (Virtual)
- 28th of June 2023 (Virtual)

The Call for 3PPs is published and open for applications on June 30th 2023 under the [TETTRIs Website](#). A separate section of the website is fully dedicated to this purpose. *Catalyze B.v.* executed the launch on the website and made fully operational the submission portal that

has been developed by *Catalyze B.v.* with the support of the web developer *Webfluencer B.v.*¹.

3. COMMUNICATION, DISSEMINATION AND EXPLOITATION ACTIVITIES

Work Package 8 (WP8) has been closely involved throughout the entire process as the 3PP Call has been subject to a teaser campaign in order to raise awareness and attention amongst all the scientific community and potential applicants.

The different activities have been coherently developed in light of the premises of the PDER (Deliverable D8.1 delivered in M3 and revised and updated in M6)

Up to the publication date, 30 June 2023, this campaign consisted of the following actions:

1. 1st Graphic video

The first activity was the production of a graphic video, shared on the 5th of June 2023 on the different social media channels (Twitter, Facebook, LinkedIn and Instagram) of both, TETTRIs project and CETAF, while all beneficiaries involved in TETTRIs have been encouraged to further disseminate the messages and visuals via their own websites and networks. This [first video](#) reached more than 10.000 viewers on Twitter alone.

2. GIF Sequencing

The second activity consisted of producing a GIF sequencing key details of the Call. It was again shared on all available social media channels (Twitter, Facebook, LinkedIn and Instagram) and put live on the 19th of June 2023. This GIF reached more than 2.000 people on Twitter only.

3. 2nd Graphic Video

The third activity was the production of a [second graphic video](#) releasing more details about the 7 topics of the Call. It was twice (22nd & 28th of June 2023), on social media channels (Twitter, Facebook, LinkedIn and Instagram) reaching about 4.000 people.

4. Q&A Video

The fourth activity consisted of filming and sharing a Q&A video where the Call is officially presented. Two versions were produced: a shorter version to be shared on Twitter and Instagram stories on the 30th of June 2023; and a longer version to be published on the same date on Facebook and the TETTRIs and CETAF websites.

5. Website Section

This action was based on developing an entire [dedicated section](#) of the official website, in coordination with *Webfluencer B.v.*, which contains all the details and documents of the Call. It was designed as to cover the online submission platform and integrates the relevant documentation for potential applicants:

- Background to the Call
- Call scope and Topics documents
- Submit your proposal
- Contact

¹ Entity subcontracted, amongst other services, for the creation and management of the project website: www.tettris.eu

6. Dissemination of the Call

Beyond all the abovementioned actions, the Call will be personally disseminated by the TETTRIs partners and individuals involved. The means for dissemination include mailing lists, articles on newsletters, dedicated posts on their websites and more.

Furthermore, the TETTRIs project has repeatedly encouraged the whole TETTRIs Team and the CIB to disseminate the Call through their own professional networks in order to maximise the reach. With the same purpose, the opening of the Call will also be communicated through official EC platforms.

7. Complementary actions

- Q&A tab: All clarification requests received regarding the Call will be capitalised and published along with the answers on the website – Allowing all potential applicants to access all the information available.
- Info Webinars: Two Webinars will be organised to provide information and answer questions from potential applicants.

4. CONCLUDING STATEMENT

The abovementioned work constitutes the first step of the envisaged process to channel the Third Party Funding and it sets the foundation for using 30% of the TETTRIs budget. It is a key deliverable which is composed of the following:

- Information about the Call for 3PP (Annex 1)
- Scope of the Call (Annex 2)
- Complete Guidelines for applicants (Annex 3)
- Dedicated section of the Website, including an online system for submission of proposals.
- Communication, Dissemination and Exploitation activities.

Information about the Call for 3PP

Grant Capital	1.8 Million Euros
Award amount	Between 50.000 and 200.000 Euros
Application form opens	30 June 2023
Application deadline	30 September 2023, 23:59:29
Earliest start date	1 January 2024
Latest end date	31 October 2025
Contact	administrator.tettris@catalyze-group.com

The Horizon Europe Project Transforming European Taxonomy through Training, Research and Innovation (TETTRIs) is a joint effort of 17 partners tackling the shortage of taxonomic experts and resources in tools, training, and access to funding. As an EU funded project TETTRIs is co-led by RBINS and CETAF (acting as main contact point for 3PP Call). TETTRIs aims to enhance the understanding of the diversity of life on Earth through research, training, and innovation in taxonomy, particularly in European biodiversity hotspots and protected areas.

The TETTRIs Consortium is pleased to announce a call for proposals to fund initiatives under what we call Third-Party Projects (3PP). This call supports research and innovation projects for transforming European taxonomy, with a total budget of nearly 1.8 million euros funded by the European Union, under the Framework Programme Horizon Europe.

The call invites proposals that contribute to validating the nine [TETTRIs outcomes](#) and expanding mechanisms for engaging in taxonomy-related participation in specific areas of high diversity and subject to special protection. The call supports facilities and initiatives in local nodes to enable the transfer of knowledge from educators in taxonomy and researchers working on natural science collections to targeted individuals. These include those working in biodiversity conservation, decision-makers, science teachers, museum educators, university students, citizens, and other stakeholders.

Scope of the Call

The TETTRIs project aims to validate the **in TETTRIs developed innovative approaches** aligning with the broader innovation dimensions of the TETTRIs partnership. These dimensions include:

- Enhance the taxonomic knowledge and understanding of biodiversity, particularly in European biodiversity hotspots.
- Develop and test innovative scientific approaches, tools and technologies for taxonomic research, such as artificial intelligence, machine learning, genomic approaches and imaging.
- Improve the accessibility and dissemination of taxonomic information, including open-access databases through the species-level indexing of collections, and citizen science initiatives.
- Build capacity in taxonomic research and education, particularly in underrepresented European biodiversity hotspots and protected areas, that have historically received less attention, resources, or opportunities in the field of taxonomic research and education.
- Promote public awareness and engagement in taxonomic research and biodiversity conservation.

The validation of the developed innovative approaches will be supported by the call for 3PP. These 3PP should be designed to contribute to the innovative approaches that address one or more of the TETTRIs topics:

The 7 TETTRIs topics:

Topic 1. Species-level indexing of pollinator collections ([Annex 1](#)).

Topic 2. Improving access to local taxon lists and taxon-related scientific data through pragmatic name-mapping workflows ([Annex 2](#)).

Topic 3. The co-development of Artificial Intelligence (AI)-based image recognition for European terrestrial molluscs ([Annex 3](#)).

Topic 4. The co-development of AI-based sound recognition of European grasshoppers ([Annex 4](#)).

Topic 5. Innovative molecular techniques for taxonomy: integrating genomic tools for the development of cost-efficient genetic markers for species identification and delimitation ([Annex 5](#)).

Topic 6. The development of training programs for taxonomic research ([Annex 6](#)).

Topic 7. Innovative cross-disciplinary projects focused on involvement of citizen scientists in monitoring biodiversity hotspots ([Annex 7](#)).

A collaborative approach between the TETTRIs project consultants and 3PP is required to ensure the validation of these innovative approaches. Each 3PP within the call will be assigned a dedicated *TETTRIs consultant* for the duration of the project. The aim of having a dedicated TETTRIs consultant is to ensure sufficient collaboration, provide necessary support and consult on various issues.

“TETTRIs consultants” are experts, specialists or trainers from the TETTRIs project who will be actively involved in TETTRIs project activities as stakeholders. Once a 3PP project is approved, collaboration with TETTRIs consultants can be established. To ensure a collaborative approach in 3PP, it is highly recommended to involve them as well. However, their salaries cannot be financed by the 3PP budget. Instead, their expenses for participating in the 3PP activities, such as per diems, travel, meal allowances, travel health insurance, or accommodation, will be covered by the 3PP budget. The involvement of TETTRIs consultants is further explained in the Topics.

In the overall **validation of the TETTRIs developed innovative approaches** aligning with the broader innovation dimensions of the TETTRIs partnership, the goal is to achieve a practical impact. Therefore, providing a practical impact as specified in the TETTRIs topics ([Annex 1-7](#)) for local nodes, European biodiversity hotspots and protected areas, or

taxonomy knowledge centres (museums, collections, research centres or universities, etc.) is essential. The expected outcomes are presented in the appendices and table below.

The TETTRIs project will support an indicative number of 10-15 projects. The division of selected projects is based on the overall coverage of the 7 TETTRIs topics by the submitted proposals, the budget division and the quality of the proposals.

In this context, proposals' budgets may span from 50k to 200k EUROS and have a duration between 6 and 22 months.

A project may touch on many different topics, but, from the seven topics listed below, applicants must select **ONLY ONE** as the **MAJOR** focus for their project.

An indicative number of expected projects of the call and the expected outcomes of the TETTRIs topics.

TOPIC	Expected Outcome	Indicative number of projects	WP involved
Topic 1. Species-level indexing of pollinator collections (Annex 1)	The proposed projects will help develop a general protocol for retrieving fundamental information on the contents of natural history collections.	3-4 projects	WP 1 and WP2
Topic 2. Improving access to local taxon lists and taxon-related scientific data through pragmatic name-mapping workflows (Annex 2)	The projects must demonstrate that by testing and applying the workflows provided by TETTRIs, they have significantly improved the linkage of taxonomic resources to the international backbone services.		
Topic 3. The co-development of AI-based image recognition for European terrestrial molluscs (Annex 3)	The project will result in the digitalisation (including images) of a large number of molluscs from several natural history collections.	3-6 projects	WP 6
Topic 4. The co-development of AI-based sound recognition of European grasshoppers (Annex 4)	The projects should help to showcase that training professional and non-professional taxonomists in collecting sound recordings can help improve the model.		
Topic 5. Innovative molecular techniques for taxonomy: integrating genomic tools for the development of cost-efficient genetic markers for species identification and delimitation (Annex 5)	The project will result in thorough guidelines and workflows on the practical use and implementation of the genomic tools that leverage taxonomic research in biodiversity hotspots.		
Topic 6. The development of training programs for taxonomic research (Annex 6)	The project should implement one, two or three already developed by TETTRIs partners training program(s), that support three different target groups of participants to gain new knowledge, skills, competencies and behaviours in the field of taxonomy for pollinators, freshwater fauna and soil fauna, in European biodiversity hotspots and protected areas.	3-6 projects	WP4
Topic 7. Innovative cross-disciplinary projects focused on involvement of citizen scientists in monitoring biodiversity hotspots (Annex 7)	The project should raise public awareness and engagement with taxonomic research, biodiversity and conservation, with special focus on local/regional particularities.	1-2 projects	All WPs
Total		10-18 projects	



TETTRIs

Transforming European Taxonomy through Training, Research, and Innovations

Call for 3PP

Proposal Guidelines for Call for 3PP

Date: 30/06/2023 - Doc Version 1.0



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Application guidelines for the proposals for the Call for 3PP

The application guidelines for the proposals for the 3PP provide insight into the eligibility criteria, submission criteria and assessment procedure.

1. Eligibility, timelines and budget

1.1. Eligibility of the main applicant and project partners

The applicant for the 3PP can be a single applicant (Applicant) or a consortium of multiple applicants (formed by a Main Applicant and Partners). Please consider that the composition of the 3PP is encouraged to be a consortium of multiple expertise (i.e., 2-3 applicants). Within the consortium the Main Applicant is seen as the entity applying for the project. The project partners are seen as collaborating entities.

The call for 3PP is open to proposals from *institutions* (entities, associations or consortia) who are involved in research, education, conservation or innovation in *taxonomy* and other biodiversity-related topics. Any type of legal persons (e.g., museums, collections, research institutes, universities, SMEs, NGOs, public entities, etc.) are eligible without restriction or constraints as the main applicant or a partner. Involved parties in the project must have relevant expertise and experience in the proposed project area.

Organisations/beneficiaries in the TETTRIs project are not eligible parties in the call.

1.2. Eligible countries and territorial focus of implementation

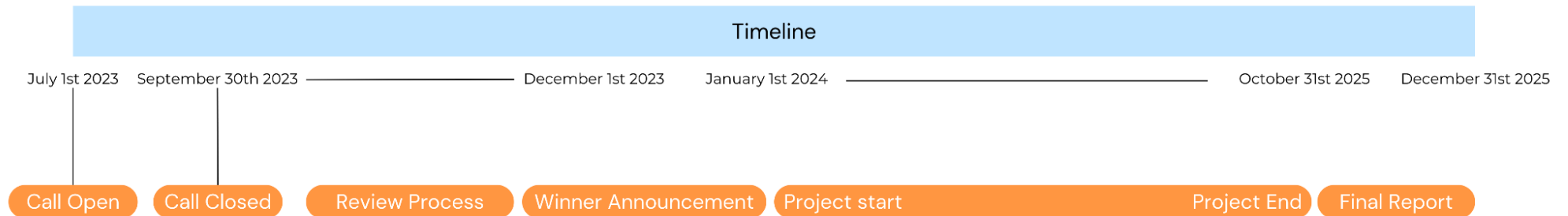
- Member States of the European Union, including their outermost region described in [Annex B](#) of General Annexes of Horizon Europe Programme valid by the date of the call announcement (30th June 2023).
- Countries associated to Horizon Europe. Please see the [Horizon Europe List of Participating Countries](#) on the Portal information on the current list and on the position for Associated Countries valid by the date of the call announcement (1st of July 2023).
- Eligibility limitations for Hungary are set out by the [Council Implementing Decision \(EU\) 2022/2506](#) of 15 December 2022 on measures for the protection of the Union budget against breaches of the principles of the rule of law in Hungary.¹

¹ Individuals affiliated to entities falling under the public interest trusts or any entity maintained by such a public interest trust established on the basis of the Hungarian Act IX of 2021 are not eligible to apply to this call. See section 5 in the Guide for Applicants for more detail. Please indicate whether this applies to you.

1.3. 3PP timeline

The timelines for the 3PP are presented in the image below as well as the descriptive information.

- Open call: 30th June 2023 – 30th September 2023
- **Deadline: 30th September 2023, 23:59:59 CET**
- Review process: 2nd October – 1st December 2023.
- Announcement of grant recipients: December 2023.
- Earliest start date of 3PP: 1st January 2024.
- Latest end date for 3PP: 31st October 2025.
- The project can start and end any time between 1st January 2024 – 31st October 2025.
- The final report will be expected to be delivered within two months after the end of each project.



1.4. 3PP budget

The call for 3PP is granted through cascade funding from the TETTRIs project. The 3PP will be granted a 100% reimbursement of funding. The budget should fall between 50,000 euros and 200,000 euros.

The Main Applicant has to identify the budget distribution among participating partners. The budget has to be justified specifically as part of the project description, see below an overview of eligible and non-eligible costs.

Please note that there is **NO overheads** and that all eligible costs shall be put in **EUROS**.

Eligible cost categories	
Salaries	Those include staff Personal expenses (Salary costs) for project workers (researchers, technicians, curators, others).
Travel	<p>Travel tickets and other related costs, including meal allowance, accommodation and travel health insurance related to the project activities for project workers (researchers, technicians, curators, others).</p> <p><u>Travelling:</u> Use of private cars for field work will be eligible.</p> <p><u>Meal allowance per person per day: (per diem)</u> There is no ceiling for meal allowance per person per day. The meal allowance calculation must be described in the project budget justification. The justification can be described easily using EU, national, international rules or standards, or it can be based on market research. It is eligible to use meal allowance for individuals, as well as for the group, in the form of direct shopping or meals at restaurants.</p> <p><u>Conference costs:</u> If the dissemination of results of the 3PP is needed to be presented at the conference, it is possible to pay travel, meal allowance, accommodation and conference fees.</p>
Equipment, rental and material costs	Equipment and material necessary for the project. The renting of laboratory space (laboratory bench fees), renting of training space (training room, car rental)
Other goods and services	External services, data management services, expenses for communication activities (phone), publication costs, lab consumables,, use of services supporting gender balance and inclusion (e.g., child-care services, assistance services, translation, and others necessary for the effective implementation of the project).
TETTRIs Consultants	
Travel and "per diems" allowance	<p>Costs related to the TETTRIs consultants include travel allowance and "per diems" allowance for TETTRIs project consultants, trainers, trainees, stakeholders including citizen scientists, amateur taxonomists and others.</p> <p>For "per diems" rate please follow the calculations included here in the link above valid at the time of the launch of the call.</p>
Non-eligible cost categories	
Projects generating profit	
Open access costs	
Overhead costs (electricity, water, cleaning and other building costs).	

2. Submission for proposals

2.1. Proposal form

The proposal should provide a clear justification for the proposed project, including its relevance to the TETTRIs project, its scientific merit, and potential impact. For any issues or questions you may have, please reach out to administrator.tettris@catalyze-group.com.

General information

1. **Title of the proposal + acronym:** The title should be concise and informative.

2. **Start of the project / End of the project.**

Earliest starting date of January 1st 2024, latest ending of October 31st 2025.

Minimum duration of 6 months, maximum duration of 22 months.

3. **Location of the project**

Country. Description of the local node, biodiversity hot-spot, protected area or taxonomy knowledge centre on which the project is focused. *max 150 words*

4. **Summary**

The summary should provide a brief overview of the proposed project, its objectives, methodology, and expected outcomes. *max 150 words*

5. **Major topic - please select:**

A project may touch on many different topics, but, **from the seven topics listed below**, applicants must select **ONLY ONE** as the **MAJOR** focus for their project.

Topic 1. Species-level indexing of pollinator collections (Annex 1).

Topic 2. Improving access to local taxon lists and taxon-related scientific data through pragmatic name-mapping workflows (Annex 2).

Topic 3. The co-development of AI-based image recognition for European terrestrial molluscs (Annex 3)

Topic 4. The co-development of AI-based sound recognition of European grasshoppers (Annex 4).

Topic 5. Innovative molecular techniques for taxonomy: integrating genomic tools for the development of cost-efficient genetic markers for species identification and delimitation (Annex 5)

Topic 6. The development of training programs for taxonomic research (Annex 6)

Topic 7. Innovative cross-disciplinary projects focused on involvement of citizen scientists in monitoring biodiversity hotspots (Annex 7).

Please use this table to present answers to sections 1-5

Project information	
Title of the project	<i>Insert project name</i>
Project Acronym	<i>Insert project acronym</i>
Start date	<i>Insert start date</i>
Project duration	<i>Insert project duration</i>
End date	<i>Insert end date</i>

Location	<i>Country. Description of the local node, biodiversity hotspot, protected area or taxonomy knowledge centre on which the project is focused. max 150 words</i>
Project Summary	<i>The summary should provide a brief overview of the proposed project, its objectives, methodology, and expected outcomes max 150 words</i>
Topic selection	<i>Please insert the selected topic and short argumentation max 50 words</i>

6. Information about the main applicant and partners

The applicant describes information and background information of the Main Applicant and potential Partners.

Please use this table to present the information on the applicants

insert more where necessary

Main Applicant	
Name	<i>Insert the name of the organization/institution</i>
VAT number	<i>Insert VAT number or other ID numbers</i>
Location	<i>Insert address, country</i>
Website	<i>Insert link to website (if applicable)</i>
Legal Signatory	<i>Insert the legal representative of the organization/institution</i>
Principal Investigator/ Project Lead	<i>Insert the person responsible for the project</i>
Contact information	<i>Insert the main email address and phone number of PI</i>
Background	<i>Background and experience of the principal investigator/ project lead max 100 words</i>
Role in Project	<i>Describe the contribution of the principal investigator/ project lead into the project max 100 words</i>
Additional involvement	<i>Insert the name, area of expertise, and involvement of the additional people involved in the project max 200 words</i>
Partner 1	
Name	<i>Insert the name of the organization/institution</i>
VAT number	<i>Insert VAT number or other ID numbers</i>
Location	<i>Insert address, country</i>
Website	<i>Insert link to website (if applicable)</i>
Legal Signatory	<i>Insert the legal representative of the organization/institution</i>
Principal Investigator/ Project Lead	<i>Insert the person responsible for the project</i>
Contact information	<i>Insert the main email address and phone number of PI</i>
Background	<i>Background and experience of the principal investigator/ project lead max 100 words</i>
Role in Project	<i>Describe the contribution of the principal investigator/ project lead into the project max 100 words</i>
Additional involvement	<i>Insert the name, area of expertise, and involvement of the additional people involved in the project max 200 words</i>

Excellence

7. Objectives of the project

Provide a background description of the project idea and clear definitions of the project objectives. *max 300 words*

8. Approach

Provide a description on the proposed approach (concept and methodology) in the project to achieve the proposed objectives in the project. *max 500 words*

9. Constitution of the project team / consortium (if applicable)

A description of the constitution of the project team/consortium, how each partner/team member relates to the project objectives and how different disciplines come together to achieve those project objectives. Finally, describe how the project team/consortium aims to collaborate operationally. *max 500 words*

10. The collaborative approach with TETTRIs

Based on your topic selection, please provide a brief description of how you foresee the collaboration with the TETTRIs consultants. Specific instructions on the TETTRIs topics are provided in the Annex 1-7. *max 150 words*

Impact

11. Impact

Specify how the proposed project contributes to addressing the needs of local nodes, biodiversity hotspots, protected areas or the taxonomic knowledge. Please relate to the specific impact description in the TETTRIs Topics (Annex 1-7). *max 500 words*

The proposal should describe;

- The expected impact of the project, including any potential applications or benefits to the broader scientific community.
- The contribution to taxonomic knowledge and increasing taxonomic research capacity.
- A potential continuation beyond the lifetime of the project.
- An indication on the potential stakeholders, users, target-groups that are involved (if relevant). As reference, please have a look at examples of a stakeholder grid (power-interest matrix).

12. Dissemination and communication

Describe how the outcomes of the project will be disseminated and communicated, as well as the stakeholders, users, target-groups that will be reached. At the basic level, the project partners have to publish information about the project on its website in accordance with the EU publicity rules. *max 200 words*

Quality and efficiency of the implementation

13. Work plan

Description of the different tasks (3-7 tasks), their descriptions, activities, and the timeframe of the tasks. Please fill out the tables below and provide a Gantt Chart presenting the timelines of the tasks in the project. Outputs will be described following specific instructions described in Topics 1-7 (Annex 1-7).

In case of larger projects it is compulsory to include a Project Management task. Larger projects are seen as projects with >3 partners, budget >€100k and/or longer than 12 months.

Task X: <i>name Task (Task Lead)</i>		Months of Task [X-X]
Task description, including the relating project objectives and activities (maximum 3). <i>max 400 words</i> Objective of task ...		
Output of Task	<i>Describe the envisioned result of the task</i>	

Task X: <i>name Task (Task Lead)</i>		Months of Task [X-X]
Task description, including the relating project objectives and activities (maximum 3). <i>max 400 words</i> Objective of task ...		
Output of task	<i>Describe the envisioned result of the task.</i>	

Task X: <i>name Task (Task Lead)</i>		Months of Task [X-X]
Task description, including the relating project objectives and activities (maximum 3). <i>max 400 words</i> Objective of task ... Task description		
Output of Task	<i>Describe the envisioned result of the task</i>	

14. Requested budget

The budget should fall between 50,000 euros and 200,000 euros.

The applicant has to identify the budget distribution among the main applicants and each partner if the proposer is a group of entities.

Please read the rules about the eligibility of budget costs in the part “Application guidelines for the proposals for the Call for 3PP”.

15. Budget Justification

The applicant has to justify the project proposal and explain the costs of budget items per partner. One part of the evaluation of projects will be based on the cost-effectiveness of the budget and the justification is necessary. Without justification of the budget, evaluation of the project will not be possible and the project will be rejected.

Salaries	
Main Applicant	Cost
Justification of costs	
Partner	Cost

Justification of costs	
Partner	Cost
Justification of costs	
Total cost	€

Travel	
Main Applicant	Cost
Justification of costs	
Partner	Cost
Justification of costs	
Partner	Cost
Justification of costs	
Total cost	€

Equipment, rental and material costs	
Main Applicant	Cost
Justification of costs	
Partner	Cost
Justification of costs	
Partner	Cost
Justification of costs	
Total cost	€

Other goods and services	
Main Applicant	Cost
Justification of costs	
Partner	Cost
Justification of costs	
Partner	Cost
Justification of costs	
Total cost	€

TETTRIs Consultants	
# consultant	Cost
Justification of costs	
# consultant	Cost
Justification of costs	
# consultant	Cost
Justification of costs	
Total cost	€

Ethics and Gender & Diversity

The proposal should include both an ethical checklist and a gender diversity checklist as for the submission of EU proposals. This should clearly address human (personal data), environment (safe handling of endangered flora and fauna) and artificial intelligence (ensure that evolved artificial intelligence tools are trustworthy and not based on prejudices against race, sex, or special needs) issues.

Ethical check

Please fill out the [ethical issue table](#) as produced by the European Commission as Annex 2, and be referred to the information in [Annex 8](#)

Gender & Diversity check

Please fill out the [gender and diversity grid](#) and be referred to the information in [Annex 9](#)

2.2. Submission of proposal

The deadline for submitting proposals is 30th September 2023, 23:59:59 CEST using the online submission portal - [Submit your Proposal](#)

3. Qualification, Assessment and Evaluation process/criteria

The evaluation committee consists of two parties, the 3PP Administrator and the Community Implementation Board (CIB). The 3PP Administrator is specialised in organising and evaluating proposals, in monitoring and assessing the approved 3PP, and finally in disseminating their outcomes. TETTRIs envisages subcontracting those tasks to an external experienced service provider. The Community Implementation Board (CIB) of TETTRIs is composed of individuals whose expertise cover various societal sectors relevant to TETTRIs and have in-depth knowledge on the critical areas that the project is focusing on, such as taxonomic research, citizen science and biodiversity conservation.

The qualification, assessment and evaluation process for project proposals will be done in four steps.

- Level 1. Eligibility check
- Level 2. Basic quality assessment
- Level 3. Top-quality assessment
- Level 4. Ranking and selection

Level 1: Eligibility Check

The Evaluation Committee will:

- Verify if the applicant and partners meet the eligibility criteria outlined in the call for proposals
- Check if the proposal was submitted within the deadline and includes all required documents and information. If not, the applicant will be contacted in order to submit the missing details.
- Check if there is a selected main topic in the proposal. If not, the applicant will be contacted in order to specify the main topic.
- Check if the budget requested and timelines are within the boundaries described in the Call.

Level 2: Basic Quality Assessment

The Evaluation Committee will:

- Check if the applicant is experienced in the main selected topic of the project, e.g., the applicant or partners have a good track record for delivering the outputs:
 - o *This will be checked based on the information provided in part 6 of the general information.*
- Check if the proposal meets the specific eligibility and quality criteria for the selected topic.
 - o *This will be checked based on the information provided in the excellence, impact and implementation section.*
- Assess the collaborative approach; the cooperation with TETTRIs consultants, specialists or trainers is planned in the project in line with the specific descriptions of the Topics :
 - o *This will be assessed based on the information provided in part 8 of the excellence section*
- Assess the described outcomes related to the expected outcomes as described in the Topics:
 - o *This will be assessed based on the instructions in the topic descriptions, excellence and impact section*
- Assess the practical impact described in the proposal:
 - o *This will be assessed based on the information provided in part 10 of the impact section*
- Assess the proposed stakeholder engagement towards the practical impact.

- *This will be assessed based on the information provided in part 11 of the impact section*
- Check/conform to the ethics grid, gender equality and diversity.
 - *This will be checked based on the information provided in the ethics section and part 12 of the impact section*

Level 3: Advanced Quality assessment

The Evaluation Committee will:

Evaluate the submitted proposals based upon their excellence, impact, quality and efficiency of implementation. Within each evaluation section the proposals will be scored based on the scoring rate below:

- 0 – The proposal fails to address the criterion or cannot be assessed due to missing or incomplete information.
- 1 – Poor. The criterion is inadequately addressed, or there are serious inherent weaknesses.
- 2 – Fair. The proposal broadly addresses the criterion, but there are significant weaknesses.
- 3 – Good. The proposal addresses the criterion well, but a number of shortcomings are present.
- 4 – Very Good. The proposal addresses the criterion very well, but a small number of shortcomings are present.
- 5 – Excellent. The proposal successfully addresses all relevant aspects of the criterion. Any shortcomings are minor.

1. Excellence (30/100%)

The following aspects will be taken into account, to the extent that the proposed work and the work described in the work programme are aligned:

- Clarity of the project's objectives, and the extent to which the proposed work is ambitious, and goes beyond the state of the art.
- Sufficiency and competence of the collaborative approach, and how the collaboration with TETTRIs consultants will be hosted in an efficient manner.
- Soundness of the proposed methodology, including the underlying concepts, models, assumptions, appropriate consideration of the gender dimension in research and innovation content.

2. Impact (40/100%)

The following aspects will be taken into account, to the extent that the proposed work corresponds to the description in the work programme:

- Credibility of the pathways to achieve the expected outcomes and impacts specified in the work programme of the proposal, and the likely scale and significance of the results foreseen.
- Suitable approach to implement stakeholder engagement and to reach practical impact, considering the support of gender balance, inclusive activities and including citizen science.
- Suitability and quality of the measures to maximise expected outcomes and impacts, as set out in the dissemination and communication plan.

3. Quality and efficiency of the implementation (30/100%)

The following aspects will be taken into account, to the extent that the proposed work corresponds to the description in the work programme:

- Quality and effectiveness of the work plan, and appropriateness of the effort assigned to work packages, and the resources overall.
- Capacity and role of each participant, and the extent to which the consortium as a whole brings together the necessary expertise.
- Efficient budget distribution considering the activities within the project and the expertise necessary for the implementation of actions.

Level 4: Ranking and Selection

Based on the scoring in the top-quality assessment the Evaluation Committee will:

- Select the highest-ranked project proposals for funding
- Consider the indicative division of the budget in the call for proposals.
- Create a final list of project proposals to be supported.

4. Proposal approval

4.1. Approval information

4.1.1. 3PP Contract

Applicants who are selected for funding will receive an email notification with the invite to sign the binding contract with CETAF. Once the 3PP Contract (the “Contract”) has been signed, the Main Applicant will be responsible for managing the grant and distributing the funds among other project partners. In case of a consortium project, it is highly advised to set up a collaboration agreement.

4.1.2. 3PP Funding Schedule

The funding schedule will be as follows:

- 30% will be paid as a pre-finance funding no later than 10 days after the official project start.
- Additional finance funding will be made mid-way through the project, following a technical report and review meeting. This funding will be up to 45% of the requested budget.
- Final funding of 25% will be made following approval of the Final Technical and Financial Report.

The terms of 3PP Funding will be part of the 3PP Contract to be signed between the project partners and CETAF.

4.1.3. 3PP Reporting

The Main Applicant will be required to provide progress updates on the output of tasks based on progress and a final report at the end of the project. The Main Applicant should expect a minimum of two reports, reporting frequency is linked to the length of the project. The final report should include a summary of the project's outputs and clearly describe the outcomes and links to impact, as well as any challenges or obstacles they have encountered. This report should be supplemented by a financial report. Projects should also be evaluated to ensure that they meet the requirements of the cascading grant mechanism and contribute to the overall goals of the TETTRIs project. A reporting template will be provided at the time of reporting.

4.2. Projects communication and dissemination

4.2.1. Communication

Coordinated by Natural History Museum of Denmark, 3PP communication activities should aim to raise awareness about results, communicate progress, and educate a broad audience about the benefits of the TETTRIs innovations. They should also aim to establish the credibility of the expected novel methods and tools of the project methods within the general public, generating exposure and visibility for TETTRIs. Moreover, engaging with the general public and societal actors will increase awareness of taxonomy in general to a wide range of audiences.

4.2.2. Dissemination

Dissemination activities will be targeted toward researchers in taxonomy, non-professional taxonomists, users in need of taxonomic knowledge for their practice, and decision makers in policy, governance, spatial planning and various academic bodies. These parties are the crucial stakeholders to further develop, implement, and improve the TETTRIs innovations. Project partners should disseminate to these audiences through appropriate communication channels in collaboration with CETAF.

Annex 1. Topic 1: Species-level indexing of pollinator collections

1. Challenges to address by the Proposal

For researchers, as well as local nature conservation organisations and citizen scientists, reference collections composed of reliably identified specimens are an important tool supporting species identification. However, finding reference collections is difficult because there is no common portal to access information on the content and location of these collections. In addition, many potentially very valuable reference collections are hidden because their contents have not been listed and published due to lack of resources or expertise.

The proposal should address this challenge and aim to contribute towards the establishment of distributed national reference collections of pollinators. This will be achieved by carrying out digital species indexes for some European pollinators' collections, thus improving the online accessibility to the information about the pollinator species present in these collections. Pollinators, in the context of the TETTRIS project, only include butterflies (Papilionoidea), bees (Apoidea), and hoverflies (Syrphidae).

2. Practical impact on site

The proposal should be designed with input from local stakeholders to address the needs of the local community and contribute to pollinator conservation in the region. Improved access to collections facilitates identifications, a crucial aspect of monitoring programs, and thus assist conservation efforts and contribute towards well informed policy decisions in the region leading, for instance, to recommendations for pollinator-friendly land management practices. The proposal should be particularly beneficial for the management of the protected areas in Europe, especially those around biodiversity hotspots with the highest diversity of pollinator species, many of which are threatened or endangered.

3. Collaborative approach

Proposals should include collaboration with a TETTRIS project consultant to achieve the results of the TETTRIS project focused on improving access to reference collections of pollinators. The proposal is expected to complement this task and participate in:

- 1) providing a digital species-level index of at least six target pollinator collections in collection holding facilities of different sizes and organisation type (private, small and possibly specialised museums, larger general repositories such as national museums). The index is to include species names, numbers of specimens and the presence of type specimens. From half of the collections, also information on geographic distribution at the general level (e.g., country) and possible provenance from specific hot-spot areas will be collected. Those wishing to submit a proposal are encouraged to co-apply with other institutions to take advantage of different expertise and share their tools and resources.
- 2) collecting experiences and concrete information on resources needed (time, money, personnel etc.) to develop a general protocol for creating species-level indices for natural history collections of different types.

4. Innovation

Above the framework of collaboration with TETTRIS consultants, supported projects can also include own creative activities and innovations, such as (**but not limited to**):

- **Citizen science:** involvement of citizens (after proper training), assisted by amateur/professional taxonomists or curators in species-indexing of reference

collections (as defined in point 3.1 above), either *ex novo* or by completing existing indexes;

- **Reference collection improvement:** Performing a gap analysis through the above-mentioned indexes (completeness of the species included in the collection from a specific geographic area in respect to a previously published checklist) and planning a field campaign and/or duplicates exchange initiative to fill the gaps. This should also involve taxonomists, amateurs and citizens with the local institutions in charge of the conservation management of one or more biodiversity hotspot areas (provided that sampling is legally permitted);
- **Protocol development:** Help develop efficient protocols to retrieve species indexes based on a given physical arrangement of the collection (e.g., collect experiences whether it is better to extract and rearrange the specimens in new boxes before indexing, or list the names as they appear in the accession books, etc.);
- **Artificial intelligence (AI):** Test AI recognition tool (e.g., extract nomenclatural information through OCR (optical character recognition) softwares applied to images of drawers, accession books, inventories etc.

5. Expected outcomes from the proposal

The proposals' work will create valuable data on pollinator species in European collection holding facilities, focusing on the threatened or endangered species. The data will also be used to create an online mapping tool showing the geographical locations of European pollinator collections on a map, and thus help locate important reference collections of pollinators near, e.g., hotspot and conservation areas. Together, the data collected from different collection holding facilities, will form a distributed national reference collection of pollinators.

The platform and tool will be freely accessible to the public, including local communities, biodiversity hotspots, and managers/researchers of protected areas, as well as to researchers and knowledge resource centres such as museums and research institutions. This tool will greatly improve accessibility to collections and provide valuable information to be used in conservation efforts, species monitoring, and research on pollinator diversity and ecology.

By reporting the experiences and providing concrete information on resources needed to create species-level indexes, the proposed projects will help develop a general protocol for retrieving fundamental information on the contents of natural history collections.

6. Specific conditions:

- Proven expertise/skills in the target groups, i.e. insects, are strongly recommended. In the case that multiple skills and equipment are needed that cannot be provided by a single institution/candidate, co-applications of multi-institution consortia or temporary associations are strongly recommended (see point 3.1). Potential candidates may both collaborate with the concerned institution or perform the work themselves upon the institution's permission.
- Proposals submitted by consortia/associations operating at national level will have an added value *per se* (over those proposed by individual entities and/or disperse geographically).

General Instructions to applicants:

To be considered for funding, proposals should clearly address all three key aspects of the topic, i.e. 1) demonstrate a strong practical impact, 2) implement a collaborative approach, and 3) integrate innovative dimensions to biodiversity identification, monitoring and/or conservation.

Proposals should provide a detailed budget and timeline, as well as clear metrics for measuring project success.



Applicants should also demonstrate relevant experience and expertise in areas such as biodiversity science, citizen science, data analysis, and stakeholder engagement.

Citizen science aspects can be involved in all topics. However, Proposals focused primarily or exclusively in Citizen science engagement will fall under Topic 7.

See the Call text for further detailed information.

Annex 2. Topic 2: Improving access to local taxon lists and taxon-related scientific data through pragmatic name-mapping workflows

1. Challenges to address by the Proposal

Proposals should address the challenge of linking local, regional and national taxon lists or other taxon related data types to international resources such as EUNomen/PESI, CoL, World Flora Online and GBIF Checklist Bank. This challenge is pressing because linking locally curated taxon lists provides an important contribution to the integration of much needed de-centrally curated research data, such as monitoring in specific regions, red lists, and data curated in collection management systems and observation databases.

2. Practical impact on site

Proposals should contribute to better linking the taxonomic data and systems they curate at the European and international level and make the developed linkage opportunities available to the community (e.g., via publications).

3. Collaborative approach (compulsory activities)

The proposals should involve collaboration, for example, between taxonomic experts, collection managers, biodiversity informaticians, and national red list infrastructure who have expressed interest in testing the workflows. Supported projects will test TETTRIs' name matching and linking workflows, which will be available at the start of the project, for specific use cases. Based on the results, complementary infrastructure components and methods may be developed to enable and optimise the workflows for linking taxon-related data and have a positive impact on the data integration goals of TETTRIs. In this context, the Taxonomic Resolution Engine (TRE) may serve as an innovative solution to create and maintain links between various resources, providing a more consistent way to query them, and enable the integration of new local taxon-related resources as they become available. The TRE provides a Wikibase based platform to curate links between taxon-referenced resources and taxonomic checklists. In order to make the links "informed", relevant slices of checklists will be made available in the TRE.

TETTRIs WP2 team members will support the setup of 3PP projects, ensure that development efforts contribute to the TETTRIs objectives and assist the documentation results.

Applicants representing smaller infrastructures or not yet fully elaborated information resources for testing mapping methods are explicitly invited to apply, possibly also as part of a partnership. Preparatory work, such as the revision of a local checklist for specific taxonomic groups or the preparation of collection information, can also be brought to the proposal.

A first version of the name mapping workflows and recommendations to be developed in the project will be published (starting in July 2023) in a suitable way and linked to the TETTRIs website. Please note that the methods will evolve over the project lifetime and 3PP projects are expected to contribute to the content.

4. Innovation

In addition to the collaborative approach with TETTRIs consultants, supported projects can also include own creative activities and innovations, such as (**but not limited to**):

- **Citizen Science:** Proposals could involve Citizen Scientists who work with local lists and would like to link them to international checklists. Special platforms or UIs could be created to facilitate access to scientific checklist services and workflows.
- **Machine Learning:** Artificial intelligence, machine learning and language processing methods could be developed to enable automated or semi-automated mapping between taxon lists and to automate the quality control of existing mappings.

- **Open Data:** Proposals would make the taxon-mapping data open and accessible to everyone. This could encourage collaboration and innovation, and allow other researchers and organisations to use the data for their own projects. A special role could be played here by the representation of scientific name information and its linkage on Wikidata.

5. Expected outcomes

Successful projects must demonstrate that by testing and applying the workflows provided by TETTRIs, they have significantly improved the linkage of taxonomic resources to the international backbone services. Alternatively, or in addition, it can be demonstrated that additional technical developments have led to an improvement in the linking capabilities.

6. Specific conditions

None

General Instructions to applicants:

To be considered for funding, proposals should clearly address all three key aspects of the topic, i.e. 1) demonstrating a strong practical impact, 2) implement a collaborative approach, and 3) integrate innovative dimensions to biodiversity identification, monitoring and/or conservation.

Proposals should provide a detailed budget and timeline, as well as clear metrics for measuring project success.

Applicants should also demonstrate relevant experience and expertise in areas such as biodiversity science, citizen science, data analysis, and stakeholder engagement.

Citizen science aspects can be involved in all topics. However, Proposals focused primarily or exclusively in Citizen science engagement will fall under Topic 7.

See the Call text for further detailed information.

Annex 3. Topic 3: The co-development of AI-based image recognition for European terrestrial molluscs

1. Challenges to address by the Proposal

Proposals should contribute to a more efficient and accurate understanding of the distribution and diversity of terrestrial molluscs, which could be used to inform conservation efforts, invasive species management and biodiversity protection.

2. Practical impact on site

Proposals should be based on real needs of local biodiversity hot-spots, protected areas or taxonomy knowledge centres all over Europe, to develop an artificial intelligence (AI) system for field and collection work, making it easier and faster to identify terrestrial molluscs in the field and in the collection.

Proposals will involve a cooperation between 3-4 natural history collections to digitise a selection of terrestrial molluscs (with emphasis on Vertiginidae, especially *Vertigo* species) and make these records and images available through GBIF. The work will focus on recognition of shells of terrestrial molluscs (so non-alcohol collections). The final selection of the species to be digitised needs to be taken in consultation with the TETTRIs consultants.

3. Collaborative approach (compulsory activities)

In cooperation with TETTRIs consultants, proposals should aim to co-develop an AI system to recognize terrestrial molluscs using image recognition technology. Based on these images an image recognition algorithm will be built as part of TETTRIs project which needs to be tested both in the field and in the collections. The field test could take the form of a field course on terrestrial molluscs where the use of the model is part of the training. Most of the budget should be spent on digitalisation (including images) in order to get a sufficient amount of training data. All images together with the connected metadata should be made publicly available through GBIF. The project will be implemented without the need for extensive training, as protocols are already in place. However, some investment of time by the TETTRIs expert will be needed to ensure that all participants follow the same protocol and target the focal species. If any, the cost for travel and accommodation for those TETTRIs experts to join the workshops should be budgeted in the proposals for 3pp.

4. Innovation

In addition to the collaboration with TETTRIs consultants, proposals may also include own creative activities and innovations, such as (**but not limited to**):

- **Citizen science:** The project should involve the development of a citizen science program focused on terrestrial molluscs. This program could involve training and mobilising volunteers to assist in collecting and digitising image data, as well as testing the image recognition model in the field. The program could also involve outreach and education efforts to increase public awareness of the importance of terrestrial molluscs and their conservation.
- **Invasive species management:** The project should focus on the use of the image recognition model to assist in the management of invasive species. For example, the model could be used to identify invasive molluscs in the field or in collections, allowing for more targeted and efficient management efforts. The work package could involve collaborations with local conservation organisations and government agencies to develop and implement invasive species management plans.

- **Biodiversity protection:** The project should focus on the use of the image recognition model to support biodiversity protection efforts. For example, the model could be used to monitor populations of threatened or endangered mollusc species, allowing for more effective conservation measures. The work package could involve collaborations with local and international conservation organisations to develop and implement biodiversity protection plans.
- **Data sharing and collaboration:** The project should focus on data sharing and collaboration between natural history collections beyond the ones already involved in the proposed work. This could involve the development of standardised protocols for digitising image data, as well as the creation of a centralised database or platform for sharing and analysing the data. The project could also involve collaborations with other projects or initiatives focused on biodiversity conservation or image recognition, allowing for greater synergies and knowledge exchange.
- **Technology development:** Finally, the project should focus on the development of new technologies or approaches to improve image recognition or data collection. For example, it could explore the use of machine learning algorithms to improve the accuracy and efficiency of the image recognition model, or the use of novel imaging techniques (e.g., 3D imaging) to capture more detailed data on mollusc specimens. It may also involve collaborations with universities, research institutes, or technology companies to develop and test new approaches.

5. Expected outcomes

The project will result in the digitalisation (including images) of a large number of molluscs from several natural history collections. These need to be made available through GBIF and will serve to train an image recognition model. The focus will be on Vertiginidae as these contain several EU Habitats Directive species. The field course should result in training on digitalisation and the use of image recognition of 20-25 (volunteer) malacologists. As part of the field course the image recognition model created in WP6.1 of the TETTRIs project should be tested on both collected material and specimens observed in the field.

6. Specific conditions:

- Involved partners in the proposals should have a well maintained and high quality (in reference to identification) mollusc collection ideally curated by an expert
- Involved partners need to have experience with digitisation projects and uploading data to GBIF
- The main applicant and/or the proposal's partners should be well embedded in an organisation active with the taxonomy and conservation of European terrestrial molluscs (e.g. IUCN Mollusc Specialist Group, non-professional taxonomists etc).
- Partners should have easy access to areas with high diversity in terrestrial molluscs.

General Instructions to applicants:

To be considered for funding, proposals should clearly address all three key aspects of the topic, i.e. 1) demonstrating a strong practical impact, 2) implement a collaborative approach, and 3) integrate innovative dimensions to biodiversity identification, monitoring and/or conservation.

Proposals should provide a detailed budget and timeline, as well as clear metrics for measuring project success.

Applicants should also demonstrate relevant experience and expertise in areas such as biodiversity science, citizen science, data analysis, and stakeholder engagement.

Citizen science aspects can be involved in all topics. However, Proposals focused primarily or exclusively in Citizen science engagement will fall under Topic 7.

See the Call text for further detailed information.

Annex 4. Topic 4: The co-development of AI-based sound recognition of European grasshoppers

1. Challenges to address by the Proposal

The creation of machine learning tools to recognize male grasshopper (Orthoptera) sounds can have a practical impact on biodiversity monitoring and conservation efforts. By training people in sound-based identification of grasshoppers and collecting sound data using open access websites, new sound recognition models can be developed and published. The creation of machine learning tools to recognize grasshopper sounds is an innovative approach to biodiversity monitoring and conservation.

2. Practical impact on site

The application of sound recognition can be useful for both professionals and active naturalists, who are willing to take a little bit of extra effort to contribute to biodiversity protection. These models can be used for standardised monitoring of grasshopper populations, particularly in the Mediterranean area, where the highest diversity of Orthoptera is found.

3. Collaborative approach (compulsory activities)

In 2023, 2024 and 2025 TETTRIs consultants will annually build a new sound recognition algorithm for European grasshoppers. The quality and geographical coverage of this algorithm largely depends on the availability of training data. The proposed project should help to showcase that training professional and non-professional taxonomists in collecting sound recordings can help improve the model, resulting in a better model which in its turn results in more users and more training data becoming available. In cooperation with TETTRIs consultants and trainers, two workshops (in 2024 and 2025) will be organised. The exact date of the workshop will be arranged in co-operation between the selected project(s) and TETTRIs trainer. Workshops will be focused on training on sound-based identification of grasshoppers, collecting sound data and making this and the connected metadata publicly available through Xeno-canto or similar open access repositories, and applying AI-sound recognition for monitoring. Selected project(s) will be responsible for ensuring participants in each workshop and for organisation of the workshop – see specific eligibility criteria.

4. Innovation

In addition to the collaboration with TETTRIS consultants, proposals can also include own creative activities and innovations, such as (**but not limited to**):

- **The workshops can be repeated in the project with distance support of TETTRIs consultants** to provide an opportunity for more participants to learn about sound recognition technology and apply it in their biodiversity monitoring efforts. The workshops can be an opportunity for interested taxonomists to attend and collaborate.
- **The sound recognition models can be updated annually based on the data collected during the workshops and through open access websites.** The application of sound recognition technology in biodiversity monitoring is a new field and can lead to further innovations in the future, particularly with the involvement of citizen scientists.
- **Investigating the impact of invasive species, disease, weather, season or climate change on grasshopper sounds:** The sound recognition models can be used to monitor the impact of invasive species on grasshopper populations. This can help identify areas where invasive species are causing significant damage to ecosystems.

- **Exploring the use of sound recognition in biodiversity assessments:** Sound recognition models can be used in biodiversity assessments to identify species present in an area. This can provide a faster and more efficient method of biodiversity assessment, particularly in areas where visual surveys are difficult or impossible.

5. Expected outcomes

Proposals should help to showcase that training professional and non-professional taxonomists in collecting sound recordings can help improve the model, resulting in a better model which in its turn results in more users and more training data becoming available.

6. Specific conditions

Partnership:

- The main applicant and/or the project partners is well embedded in the organisation active with the taxonomy and conservation of European Orthoptera (e.g. IUCN Grasshopper Specialist Group, non-professional taxonomists).
- Selected projects will be responsible for ensuring 15-20 participants in each workshop and for organisation of the workshop.
- Involved partners should have experience with curating and uploading sound files to GBIF or Xeno-canto
- Involved partners should be established in different parts of Europe including at least two from southern Europe.
- A beneficiary should lead the organisation of the workshops, preferably in the region with the highest diversity of Orthoptera (Mediterranean area or the Alpine region).

Complementarity and collaborations within the partnerships is allowed in order to meet the abovementioned criteria.

Supporting elements:

- A first test model for sound recognition of grasshoppers will become available in 2023 and will be annually updated based on data (among others) collected during the field workshop
- A first test of such a workshop will be held in 2023 and the workshops trainers for 3PP projects to be held in 2024 and 2025 will be ready.

General Instructions to applicants:

To be considered for funding, proposals should clearly address all three key aspects of the topic, i.e. 1) demonstrating a strong practical impact, 2) implement a collaborative approach, and 3) integrate innovative dimensions to biodiversity identification, monitoring and/or conservation.

Proposals should provide a detailed budget and timeline, as well as clear metrics for measuring project success.

Applicants should also demonstrate relevant experience and expertise in areas such as biodiversity science, citizen science, data analysis, and stakeholder engagement.

Citizen science aspects can be involved in all topics. However, Proposals focused primarily or exclusively in Citizen science engagement will fall under Topic 7.

See the Call text for further detailed information.

Annex 5. Topic 5: Innovative molecular techniques for taxonomy: integrating genomic tools for the development of cost-effective genetic markers for species identification and delimitation

1. Challenges to address by the Proposals

Recent advances in the development of genomic tools that screen genome-wide variation in non-model organisms allow taxonomists to identify and delineate species and discover new species at an unprecedented level. These methods are expected to have a strong added value when traditional morphological or standard single-locus genetic markers (e.g. COI, chloroplast genes) provide insufficient resolution to discern species within complexes of closely related species. Especially in biodiversity hotspots, the undetected presence of such species complexes can underestimate their biodiversity. Although current genomic techniques in principle allow for accurate detection of previously unrecognised species or species relationships, the application of these tools requires considerable expertise that is still poorly integrated within taxonomic research. Therefore, it remains challenging for many taxonomists to select and apply the most appropriate and cost-effective method from the plethora of technologies currently available and to gain the required molecular and bioinformatic expertise. TETTRIs aims to address this issue by facilitating the development of innovative, easily applicable and reliable genomic marker sets, targeted to a specific taxonomic group, that allow taxonomists with more limited genomic and bioinformatic experience to discover species complexes and identify species in European biodiversity hotspots and protected areas with maximal resolution. In particular, TETTRIs experts are developing multilocus amplicon sequencing pipelines, which allows to screen custom designed multilocus marker sets using e.g. highly portable and easy-to-use genome sequencers. Complementary to this, additional high-resolution approaches based on genome-wide screens using RAD-Seq or low-coverage sequencing that allow to delimitate particularly complex taxonomic groups are also under development by TETTRIs.

2. Practical impact on site

To further advance genomic marker sets, the envisaged methods need to be previously tested and validated. TETTRIs supports applications that aim to implement more advanced genomic and bioinformatic tools currently under development by TETTRIs experts. A major goal of this call is to test and validate a user-friendly multilocus marker sequencing pipeline that facilitates taxonomic research of species complexes in European biodiversity hotspots and protected areas. Target groups include species complexes of plants and insects, with a priority for pollinators, in European biodiversity hotspots and protected areas.

Among other topics, the implementation of these new methods will be articulated in the project.

Selected projects will:

- implement and validate, in close collaboration with the TETTRIs consortium, a molecular and bioinformatic protocol to develop a multilocus marker set for the identification of species in taxonomic complexes. Preferred taxa include species complexes of plants (in collaboration with BG Meise) and insects (in collaboration with RBINS and NHM Vienna), with a priority for pollinators, in biodiversity hotspots.
- validate the resolution of the multilocus marker set by comparing the obtained results with those from more advanced tools that screen genetic variation, e.g. single nucleotide polymorphisms (SNPs) at a genome-wide scale (e.g. low coverage whole-genome sequencing, genotype-by-sequencing, RADseq). Application of these advanced genomic tools will be supported by the TETTRIs consortium.
- Implement and validate an on-line user-friendly species delimitation platform, developed by NHM Paris within the TETTRIs consortium, based on the results

obtained from the multilocus marker set and SNP data as well as pre-existing morphological and/or genetic data.

- contribute to the development of comprehensive guidelines to disseminate the methodology to other taxonomists.
- generate an example reference dataset that can be used in workshops and courses on genomic data analysis in a taxonomic context.
- demonstrate that the implemented protocol improves the taxonomy of the proposed species complex in a biodiversity hotspot.

3. Collaborative Approach (compulsory activities)

Proposals will involve collaboration between the applicant and TETTRIs specialists (from WP6). By working together, both parties will benefit from the mutual expertise and knowledge, resulting in a more comprehensive and effective development of the molecular pipeline. TETTRIs specialists will facilitate lab work by providing lab and bioinformatic guidelines. Lab work and bioinformatic analysis will be carried out by the applicant in close collaboration and within the labs for molecular systematics of the TETTRIs partners.

The exchange of information will then:

- provide a testing mechanism that evolves with the intermediate results obtained in the application of the methods,
- postulate potential enhancements and improvements of the tested methods,
- articulate in-situ modifications to accommodate the specificities of the lab platforms where the application will be used, and
- ultimately, facilitate the development of a thoroughly tested and validated documented guidebook by the TETTRIs partners.

4. Innovation

Some complementary expertise to increase the innovative aspects of the outcomes may be added to the Proposal. Examples include:

- Specify why the use of genomic tools is expected to leverage the taxonomic knowledge of the focal species complex and why current morphological traits and more classical genetic markers are currently insufficient to classify and identify species within the proposed species complex.
- Putative proposals for additional innovations in molecular techniques such as (but not limited to):
 - new innovative complementary bioinformatics tools specifically tailored for genomic data analysis in a taxonomic context. This could involve the use of artificial intelligence and machine learning algorithms to improve the accuracy and efficiency of species identification.
 - Exploration of potential emerging cost-effective tools for genomic library preparation or sequencing that are relevant for taxonomic exploration.
- A plan how the project results will be disseminated to the local/amateur taxonomists that are less familiar with the interpretation and use of molecular tools for taxonomy (e.g. through taxon specific symposia, societal journals, newsletters,...).
- Interlink the outcomes of the Proposal to improve the reference collection of pollinators (Topic 1).

5. Expected outcomes from the Proposals

Based on the applications, thorough guidelines and workflows on how to use the different approaches will be generated and integrated in the outcome of the TETTRIs project. To that end, the expected outcomes of the 3PPs are:

- a proposed set of multilocus genomic markers obtained using a molecular genetics and bioinformatics protocol developed by the TETTRIs consortium

- sequence data from this multilocus marker set of multiple species and individuals of the focal species complex.
- a genome wide SNP dataset, partly obtained from the same individuals, that will be used to compare the resolution of the multilocus markers set with those of genome-wide SNP variation.
- an in-depth taxonomic clarification of the focal species complex by integrating the results obtained from morphological, multilocus and SNP data using the on-line species delimitation platform developed by NHM Paris within the TETTRIs consortium.

6. Specific conditions

Expertise and experience:

The applicant should have:

- Demonstrated experience with basic molecular lab work and bioinformatics (DNA extraction, PCR, library preparation, basic genomic data analysis...),
- demonstrated taxonomic knowledge of the proposed taxonomic group in biodiversity hotspots.

Supporting elements:

Required in the project description – the applicant shall:

- Collaborate and/or be integrated in a network of local (amateur) taxonomists to perform its taxonomic/faunistic work.
- Specify why increased taxonomic knowledge of the focal taxonomic group(s) is relevant for the conservation of biodiversity hotspots.
- Provide all necessary material. A basic set of specimens suitable for molecular analyses should be available, but a collection of additional specimens suitable for molecular analysis can be included in the project.
- Provide an overview of the currently available genomic resources of the species complex.

General Instructions to applicants:

To be considered for funding, proposals should clearly address all three key aspects of the topic, i.e. 1) demonstrating a strong practical impact, 2) implement a collaborative approach, and 3) integrate innovative dimensions to biodiversity identification, monitoring and/or conservation.

Proposals should clarify how they will accommodate the genomic and bioinformatic expertise requirements during the execution of the project.

Proposals should provide a detailed budget and timeline, as well as clear metrics for measuring project success.

Applicants should also demonstrate relevant experience and expertise in areas such as biodiversity science, citizen science, data analysis, and stakeholder engagement.

Data and sequences generated during the project should be published openly. Projects must comply with all national and international regulations regarding access and benefit sharing of genetic resources.

Citizen science aspects can be involved in all topics. However, proposals focused primarily or exclusively in Citizen science engagement will fall under Topic 7.

See the Call text for further detailed information.

Annex 6. Topic 6: The development of training programs for taxonomic research

1. Challenges to address by the Proposal

Proposals should aim to strengthen the local capacity for biodiversity conservation by performing training activities including the use of taxonomic tools to expand and sustain local taxonomic expertise. They must implement and evaluate specific taxonomic training programs, being developed within TETTRIs project, in biodiversity hotspots and protected areas, focused on soil fauna, freshwater fauna and pollinators. Those training programs will follow the methodology “train the trainers” entailed in the TETTRIs project, aiming at the widening of taxonomic understanding and multiplying the educators locally. They will involve a blended learning approach that integrates both online and in-person components.

2. Practical impact on site

Proposals should have various practical impacts on biodiversity conservation at local level. Needs analysis and final evaluation should be provided by the applicant, following the corresponding templates designed by the TETTRIs project (see 6. Specific conditions).

Firstly, the training programs will enable local communities to conduct taxonomic research and monitoring activities that are vital for effective biodiversity conservation.

Secondly, these projects will raise awareness and understanding of the importance of biodiversity conservation among local communities, which will foster a culture of conservation.

Lastly, they will establish long-term partnerships between local institutions and international networks, promoting the sustainability of biodiversity conservation efforts in the area.

3. Collaborative approach (compulsory activities)

In the proposals a close collaboration with TETTRIs’ trainers and specialists is necessary to be demonstrated and implemented.

Proposals shall commit to ensure that one or more applicant members will have to participate in the training of future trainers, i.e. to be trained by the TETTRIs group in order to become a future local trainer of the proposed project (future local trainers hereafter). This training will be conducted centrally under the TETTRIs project.

Basic training course specifications and target groups

The following courses will be provided for future trainers’ training, and it is possible to select one or more courses to implement and evaluate, as 3rd Parties Projects (3PPs). The courses are designed specifically for specific target groups, and it is essential to adhere to this:

- a) **Soil fauna** (on the surface of and in the soil) - target group: **new generation of taxonomists**, which means **early-stage researchers and university students at B.Sc., M.Sc., Ph.D. level**. High level training course on surface and soil-living animals. The course will also incorporate advanced species identification techniques, like e-DNA, AI applications, imaging, etc.
- b) **Freshwater fauna**: - target group: **decision-makers**, including policy-makers and Governance, public servants and spatial planners, as well as **wildlife and NGO managers, conservationists, museum educators, science teachers and practitioners** related to environmental topics in industry and agriculture. In the case of vacancies, the new generation of taxonomists’ target group (as described above) could also participate. Intermediate training course on freshwater fauna and its importance for biodiversity and the implementation of the Water Framework Directive (WFD) 60/2000 for the characterization of the fresh waters’ ecological quality.

- c) **Pollinators - target group: citizen scientists. Low threshold training course.** The course will also cover information on the use of AI tools and/or digitised national reference collections.

The training for future trainers will be conducted in two parts, online and face-to-face, which is necessary to consider while scheduling the timeframe of the 3PPs.

The training framework is the same for all the three courses.

Supported projects will be contacted by TETTRIs trainers at the beginning of the project implementation, and together they will agree on the specific training dates.

Framework training schedule

a) **online training will take place from September 2024 to December 2024.** In September 2024, a link will be provided to the future local trainers, and **for one month** the online part will be open on the TETTRIs Moodle platform. At the end of the online course, they will be asked to evaluate the online training experience, send their feedback and cooperate with the TETTRIs trainers to incorporate their suggestions in the final version of the course.

b) **Face to face (field and lab) training will take place from February 2025 to May 2025, on-site, with a duration of maximum 5 working days.** According to the climatic conditions of the selected 3PP area, and within the above timeframe, a TETTRIs trainer will visit the location of the selected project and lead the training for the future local trainers, providing guidelines for their future training on the local nodes, adjusting it in their local environment and functional circumstances.

To provide this support, 3PP's budget needs to allocate funds for the TETTRIs' trainer, the course organiser, the future local trainers from the 3PP, and the supportive training participants (project partners or stakeholders), including per diems, travel expenses, accommodation, meals, and potentially travel insurance. At the same time, it is necessary not to forget about the planning of expenses for first-aid kits, supplies, tools, and materials for obtaining natural samples and observations, following the "TETTRIs 3PPs Budget Form" here:

https://docs.google.com/spreadsheets/d/1oleEO_YBL_UokLZpyhoLvqVdH2USNLP5/edit?usp=drive_link&ouid=103685327543233047503&rtpof=true&sd=true

The supported project will be responsible for the complete organisational provision of field training and the participation of the target group specified, always with the guidance of the TETTRIs trainer.

At the end of the face-to-face part, the trainees will be asked to evaluate it, send their feedback and cooperate with the TETTRIs trainers to incorporate their suggestions in the final version of the course.

Certificate

After having successfully completed both the online and the face-to-face trainings, the future trainers will be awarded a certificate that will entitle them to use the acquired knowledge, skills, materials, and online resources to conduct further similar blended (online and face-to-face) training programs, even after the TETTRIs project has ended. More specifically, the provided certification will include the following:

1. Certificate of Attendance by TETTRIs with ECVET Units (European Credit system for Vocational Education and Training)
2. Certificate by TETTRIs according to Europass Certificate Supplement (certifying analytically the knowledge, skills, competencies and behaviours gained)
3. ECTS Credits for students in case of a University candidate (optional).

Final version of the course

The final version of the courses will be created at the end of the TETTRIs project, based on the evaluation and the feedback conducted in cooperation and shared with the future trainers who will have successfully completed them.

4. Innovation

In addition to the collaboration with TETTRIs consultants, proposals can also include own creative activities and innovations, such as (**but not limited to**):

- The training programs will provide participants with the knowledge, skills, competencies and behaviours to train new participants from the target groups, using the specific training course implementation with possible remote support from the TETTRIs trainer. After completing the online and face-to-face training of future trainers, a course led by a future local trainer and with distant support from the TETTRIs trainer could be held within the project. It is necessary to adhere to the basic course specification and target group for which the new local trainer has been trained.
- The training programs will provide participants with the knowledge, skills, competencies and behaviours which can be immediately used within the project to involve newly trained participants, for example, in conducting surveys, identifying species, implementing the Water Framework Directive (WFD) 60/2000 for the characterization of the fresh waters' ecological quality, and monitoring population trends in the studied locality.

5. Expected outcomes

The availability of taxonomic knowledge and expertise is fundamental to understand biodiversity and take the proper measures to conserve and restore it. In parallel, it is essential to integrate the taxonomic science in education, governance, and industry to support decision making and ensure long-term relevance of taxonomy as instrumental science for biodiversity.

Through the training programs it is expected that participants will gain new knowledge, skills, competencies and behaviours in the field of taxonomy, thus increasing expertise within the target groups of new generation taxonomists, citizen scientists, and other taxonomy-related professionals, which will lead to the creation and improvement of taxonomic research capacity near biodiversity hotspots and protected areas.

6. Specific conditions

- **At the start** of each selected project, it is necessary to conduct a **needs analysis** (template prepared by TETTRIs) to identify the knowledge and skills' gaps in taxonomic research for biodiversity conservation, in the local biodiversity hotspots and/or protected areas, with a focus on pollinators, freshwater fauna, and/or soil fauna.
- **At the end** of each selected project, it is necessary to fill in an **evaluation form** (template prepared by TETTRIs), which will show if the gaps of the needs' analysis have been covered, and to which extent.
- **Future local trainers** will be identified in the project proposal as individuals who are **experts in taxonomy** of taxa belonging to pollinators, freshwater fauna, and/or soil fauna and have some experience in adult learning on taxonomy-biodiversity topics. Future trainers are not general educators.
- **TETTRIs project infrastructure, specialists and trainers will be available** from 1 September 2024 to 31 May 2025.

General Instructions to applicants:

To be considered for funding, proposals should clearly address all three key aspects of the topic, i.e. 1) demonstrating a strong practical impact, 2) implement a collaborative approach, and 3) integrate innovative dimensions to biodiversity identification, monitoring and/or conservation.

Proposals should provide a detailed budget and timeline, as well as clear metrics for measuring project success.



Applicants should also demonstrate relevant experience and expertise in areas such as adult training, biodiversity science, citizen science, data analysis, and stakeholder engagement.

Citizen science aspects can be involved in all topics. However, proposals focused primarily or exclusively in Citizen science engagement will fall under Topic 7.

See the Call text for further detailed information.

Annex 7. Topic 7: Innovative cross-disciplinary projects focused on involvement of citizen scientists in monitoring biodiversity hotspots

1. Challenges to address by the Proposal

Citizen science (as defined by the [European Citizen Science Association](#) and the '[10 principles of citizen science](#)'¹⁾) is already an established instrument, to contribute to the generation of taxonomic data needed to understand the loss of biodiversity, increase public interest, engagement, behavioural change and ultimately influence policy level decisions and progress towards the UN Sustainable Development Goals. However, several challenges are associated with citizen science generated data, also in the field of taxonomy. Successful proposals should be citizen science projects generating taxonomic data or providing capacity building near local biodiversity hotspots or protected areas addressing as many of the following challenges as possible:

- Ensure quality and reliability of data collected by citizen scientists by providing appropriate training and instructions to volunteers, and implementing standardised and rigorous protocols for data collection
- Engage and support participants appropriately to raise maximum interest, provide feedback on the results and impact of the citizen science generated data, and foster long-term community engagement
- Address the issues of sampling bias and insufficient or uneven coverage by the appropriate protocols Aim for standardised data collection and integration to ensure interoperability of the data and enhance their scientific value
- Make data and campaign outcomes openly accessible to the citizen scientists themselves, the public, the scientific community as well as policy makers
- Address ethical concerns related to data privacy, informed consent and any potential impacts on the species or ecosystems being studied

All projects should aim to be as inclusive as possible and involve citizens from different backgrounds and age groups, as well as strive for gender balance, unless this is not possible for a specific reason (to be stated in the application).

Proposals can take any form of citizen engagement and involvement (e.g. longer-term campaigns for example throughout the year, bioblitzes, educational campaigns etc). Projects under this topic are not under the obligation to generate taxonomic data for the taxa in the other call topics, but may do so.

2. Practical impact on site

Proposals should clearly demonstrate how they will contribute to biodiversity conservation and/or monitoring efforts in identified hotspots or in protected areas. Proposals can contribute to pre-existing monitoring or conservation efforts, demonstrating a clear new value or need, or be new initiatives. Proposals should also include a description of how they aim to raise citizen awareness, participation and integration into the project. Projects putting the focus on more-in-depth or longer educational campaigns, should describe the capacity building potential. All projects should describe how they will contribute to sustainable community engagement or behaviour change (if applicable).

The proposal should also include a well-defined plan for data collection, analysis, and dissemination of results, as well as a clear description of how the project outcomes will be used to inform decision-making processes.

¹Ten principles of citizen science, ECSA. - <https://www.ecsa.ngo/documents/>

If a project addresses a particular need of a local biodiversity hotspot or protected area, or development or improvement of citizen engagement, this should be stated in the proposal.

3. Collaboration approach (compulsory activities)

To effect impact, citizen science projects require the support of local stakeholders and the local population. Proposals can be community-initiated or led by experts, and should involve a cross-disciplinary team of experts and stakeholders, including, for example, biologists, ecologists, data scientists, citizen scientists, and representatives from relevant policy and management organisations. The proposal should outline a clear framework for stakeholder engagement, including how citizen scientists will be recruited, trained, involved and supported throughout the project. Support by a TETTRIs project consultant with expertise in citizen science will be available for successful proposals to provide advice during the project planning, execution and evaluation if needed. Proposals are also encouraged to link geographical regions, or cross country borders when appropriate for the chosen biodiversity hotspot.

4. Innovation

Proposals can include own creative activities and innovations, such as **(but not limited to)**:

- novel and innovative approaches to biodiversity monitoring and/or conservation, using cutting-edge technologies and/or new methodologies.
- Novel or innovative approaches of citizen education, engagement or involvement in the project, particularly in terms of ensuring sustainability of citizen engagement and fostering a sense of environmental stewardship.
- Proposals should clearly describe the innovative aspects of the project and how they will contribute to advancing the field of biodiversity science.

5. Expected outcomes

- Proposals should raise public awareness and engagement with taxonomic research, biodiversity and conservation, with special focus on local/regional particularities (e.g. a particular species, ecosystem etc.)
- The data generated should directly contribute to local or regional conservation efforts, in terms of societal or policy-level change. The proposal should also demonstrate the effort to generate data able to be integrated into national and European-level taxonomic classification databases and platforms, and data and summarized results should be openly available and accessible.
- Proposals focusing on educational campaigns should clearly demonstrate their value for capacity building in taxonomic research and education, and demonstrate their efforts to be as inclusive as possible.

6. Specific conditions

Proposal leaders/consortia should have proven expertise/skills in citizen science campaigns and citizen engagement in the field of biodiversity, and should be well connected to local stakeholders. As stated above, projects can take a longer-term nature, or be short-term campaigns but should demonstrate significant impact. In case proposals are evaluated equally, co-creation or more in-depth involvement of citizens in the proposal (in addition to data collection), or proposals encouraging collaboration with other projects, institutions, local or other governmental authorities will be given priority.

General Instructions to applicants:

To be considered for funding, proposals should clearly address all three key aspects of the topic, i.e. 1) demonstrating a strong practical impact, 2) implement a collaborative approach, and 3) integrate innovative dimensions to biodiversity identification, monitoring and/or conservation.

Proposals should provide a detailed budget and timeline, as well as clear metrics for measuring project success.

Applicants should also demonstrate relevant experience and expertise in areas such as biodiversity science, citizen science, data analysis, and stakeholder engagement.

See the Call text for further detailed information and instructions on eligibility, budget, content of the proposal and other formal requirements

Annex 8. Ethics

General requirements

Proposals need to comply with

2. **HORIZON EUROPE Ethics principles** (Charter of EU Fundamental Rights)
3. **The General Data Protection Regulation (EU 2016/679)**, protecting citizens' privacy and increasing the responsibility when processing personal data
4. **The National** legal, ethics requirements and codes of conduct

Compliance to ethics principles is one of the evaluation criteria of submitted proposals

Proposals need to:

- 1° **identify** the ethics issues raised by the proposal, and
- 2° **explain** his/her approach to manage these issue(s).

Please note that an interesting research project will often raise ethics issues. What is important for the evaluation is to explain how each of those issues will be addressed and managed in the project.

Main Ethics issues: summary

- **HUMANS:** Define Informed Consent procedures and participants recruitment criteria (in training , co-creation, use cases, tool validation,...).
- **PERSONAL DATA:** Build General Data Protection Regulation (GDPR) compliance procedures (when collecting/processing personal data from team members and external stakeholders).
- **ENVIRONMENT:** Ensure safe handling of endangered flora and fauna (local protocols).
- **NON-EU countries:** Ensure local legislation is respected and demonstrate capacity building for local communities/researchers.
- **ARTIFICIAL INTELLIGENCE:** Ensure the chosen AI techniques are trustworthy, do not integrate features discriminating /stigmatizing people.

Ethics issues table

- **Ethics issues Table:** to be filled by each proposal (Horizon Europe template) and a free text section allowing the proposer to include comments/explanations. [Link](#) to template
- **Supporting material :** Horizon Europe Guidance note about filling the Ethics issues table - [Link](#) to the guidance note

For any question

Please contact: Carole Paleco, at cpaleco@naturalsciences.be

Annex 9. Gender and Diversity

General remarks

The integration of the gender & diversity dimension into research and innovation content has become a requirement by default across the Horizon Europe programme. TETTRIs project pays particular attention to ensuring gender balance in the composition of the beneficiaries of the Call for Third-party Projects (3PP), and among the participants to the project activities.

Gender and Diversity Grid

A Gender and Diversity grid has been prepared to help you meet EU requirements on this topic in your project. You will find ten (10) questions to be answered before the project starts and two (2) more questions to address at the end of the project. The gender and diversity grid is presented in text below as well in the [gender diversity grid](#).

General:

- Project leader name and surname
- Project title
- Contact person email

Before the project starts:

1. Is the selection of participants in your project open to any gender or origin?
2. Before starting the selection of participants, did you consider the possibility of a gender gap in the number of participants?
3. Are the training & meeting times appropriate for participants with family commitments?
4. Have possible barriers to gender equality been taken into account in the design of the training/project activities?
5. Does the project ensure that participants with any gender identity and from any origin can provide inputs, access, and participate in project activities?
6. Are the practical and strategic needs of gender diversity adequately addressed in the equipment and materials used for the project?
7. Are sex-disaggregated data and/or gender equality performance indicators used (where possible) throughout the project?
8. Are the language and images used during the training gender sensitive?
9. Do the project activities include a gender-sensitive approach, especially with regard to information, documentation and results?
10. Is gender expertise required from the trainers and other resource persons?

At the end of the project:

1. Did the objective of promoting gender and diversity equality influence the activities and outcomes of the project?
2. If a gender gap was present among the project consortium and participants, did you adjust your criteria and methods to reduce it?

Please note that this will be set-up as an online form, editable and consultable anytime by the content provider and by a TETTRIs Coordination team, to facilitate recurrent analysis of the results reached at different stages of the 3PP development.

Supporting documentation

For more information on the Gender dimension context in the European Research Area and research projects see

https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/democracy-and-rights/gender-equality-research-and-innovation_en

For any question



Please contact: TETTRIs Co-Champions on Gender and Diversity:

- Carole Paleco, at cpaleco@naturalsciences.be, and
- Maria Andrade Delgado, at maria.andrade-delgado@mnh