



## D4.3

# Technical and scientific achievements of the TransNational Access (TNA)



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<b>Abstract:</b>	D4.3 is the third report on the <a href="#">IS_MIRRI21</a> Transnational Access (TNA) programme, covering the period M25-M36. This document reports on the technical and scientific achievements of the <a href="#">IS_MIRRI21</a> TNA pilot programme following the completion of two TNA calls (D4.1 and D4.2, respectively).
<b>Keywords:</b>	Transnational access (TNA), Access providers, <a href="#">IS_MIRRI21</a> partners, users, applicants, TNA offers, Access and Liaison officers, USP, microbial resources.

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## Executive summary

The Deliverable 4.3 (D4.3) illustrates the technical and scientific achievements of the [IS\\_MIRRI21](#) TNA pilot programme.

The core objective of the Microbial Resource Research Infrastructure – European Research Infrastructure Consortium (MIRRI-ERIC) is to facilitate access to a broad range of high-quality bioresources and data to the scientific community.

The transnational access (TNA) pilot programme of MIRRI was developed under the umbrella of the [IS\\_MIRRI21](#) WP4. Within the TNA, [IS\\_MIRRI21](#) offered financial support to external users to get access to MIRRI partners' research facilities, services, and microbial resources across Europe. Targeted users included researchers from academic or research institutions, non-profit organisations, or biotechnology companies. Moreover, the relevance of integrating services into pipelines (called TNA workflows), the functionality of the access platform anchored to the website and finally the delivery of access was evaluated.

In this deliverable, we report methods, results, and conclusions of the [IS\\_MIRRI21](#) TNA pilot. Supporting documents of the TNA are presented in Annexes.

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## 1. Introduction

**Scientists are always on the move**, and with them their knowledge and skills move as well. According to [OECD](#), international mobility is a key driver of knowledge circulation worldwide and has a positive impact on the economic prosperity. Short and long-term relocation of scientists not only allows knowledge transfer at global scale, but also contributes to develop international networks leading to transnational collaborations.

**Research Infrastructures (RIs)** play a key role in knowledge innovation and technology transfer, contributing to building up an efficient research and innovation environment by sharing their experience and supporting the scientific community. To facilitate users' access to RIs resources and their related services, it is essential to set out principles and guidelines that can be used as a reference. In this perspective, **Transnational Access (TNA)** programmes like the ones provided by the RIs of the [ESFRI](#) landscape, were conceived to actively promote international mobility of researchers and, as a result, enhance scientific progress, innovation, and technology. Commonly based on the scientific merit/value/soundness of proposals, TNA programmes give scientists access to otherwise unavailable resources and competences to develop their own research. On top of that, these transnational collaborations enrich researchers' skills portfolio and boost their career development by enlarging their professional network. In line with the ESFRI strategy, the [IS\\_MIRRI21](#) Work Package 4 (WP4) developed and implemented the Transnational Access (TNA) programme as a pilot test of the organization and procedures to access future services, resources, and pipelines that MIRRI-ERIC will provide.

The objectives of the **WP4** have been 1) to demonstrate that the scientific user community is interested in using MIRRI's designed pipelines, 2) to test the feasibility of access and standardise access procedures among [IS\\_MIRRI21](#) partners, from reception of a request to delivery of access, and 3) to evaluate the reliability of the access platform for the access request communication and management.

This work was developed in close collaboration with WP6 for the development of the TNA portal in the Collaborative Work Environment (CWE), WP2 for the creation and implementation of the TNA workflows, WP7 for the design and implementation of the communication strategy and the representatives of all [IS\\_MIRRI21](#) partners participating in the TNA for the proper implementation of the TNA procedures and welcoming the users into their facilities.

## 1.1 Principles of the IS\_MIRRI21 TNA programme

Researchers from academic organisations and companies in the fields of Health & Food, Agro-Food and Environment & Energy could apply to the IS\_MIRRI21 TNA programme to get funded access to microbial resources, services, and facilities of IS\_MIRRI21 partners across Europe (as detailed in D4.1).

IS\_MIRRI21 was aligned with the **FAIR** (Findable, Accessible, Interoperable, Reusable) and **Open Access** principles<sup>1</sup>. All projects receiving Horizon 2020 funding are **required** to make sure that any peer-reviewed journal article they publish is openly accessible and free of charge (article 29.2. Model Grant Agreement). Scientific research data, which is the data underlying publications and/or other data (such as curated but unpublished datasets or raw data) should be open access if there is no conflict of interests regarding distribution of the scientific information, Intellectual Property Rights (IPR), privacy concerns and security.

### Roles and responsibilities

The TNA programme was conceptualised and developed from scratch, and the details were thoroughly described in the **deliverable D4.1** (M1-M12). Three main players orchestrated the TNA programme and ensured its smooth functioning through the lifetime of the IS\_MIRRI21 project. An **Access officer** was appointed at M3 at Institut Pasteur (Paris, France). The access officer was responsible for the management of the TNA programme (troubleshooting, overseeing the correct functioning of the access portal, website content, handling correspondence with applicants, reporting) in compliance with the pre-established rules and policies. **Liaison officers** were representatives of the potential Access providers, who were appointed in July 2020 (M6) and actively contributed to ensure delivery of access and overall to build an efficient TNA programme.

Submitted proposals were evaluated and scored against selection and award criteria. The TNA programme used a panel-based evaluation system, where a **User Selection Panel (USP)** composed of scientific experts evaluated proposals for funding the access to the IS\_MIRRI21 partners. The **USP** was first appointed in November 2020 (M10) for the 1<sup>st</sup> TNA call and later enriched in the context of the 2<sup>nd</sup> TNA call (Table 1 for the complete list of experts).

**Table 1. List of experts recruited for the USP panel**

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<sup>1</sup> Guidelines to rules on open access to scientific publications and open access to research data in Horizon 2020. European Commission – Directorate General for research and innovation. Version 3.2, 21 March 2017.

Name	Domain of expertise	Institution	Position	Call participation
Paola Bonfante	mycorrhizal fungi and plant microbiome	University of Turin	Emerit professor and research leader	1st and 2nd
Uldis Kalnenieks	Biotechnology; microbiology	University of Latvia	Professor and head of the laboratory of microbial bioenergetics	2nd
Giancarlo Perrone	Food Mycology, Toxigenic Fungi Ecology, Genomic and Phylogenetic, Mycotoxins	CNR-ISPA	Senior Researcher	2nd
Praveen Rahi	plant microbiology	Institut Pasteur	Researcher	2nd
Muriel Gugger	cyanobacteria	Institut Pasteur	Group Leader	2nd
Vitor Vasconcelos	cyanobacterial taxonomy	University of Porto   UP · Centro Interdisciplinar de Investigação Marinha e Ambiental (CIIMAR)	Managing Director	1st and 2nd
Marc Stadler	fungus taxonomy; industrial microbiology and mycology, as well as fungal biodiversity research and natural product chemistry	Helmholtz centre for infection research (HZI)	Head of Department Microbial Drugs (MWIS)	1st and 2nd
Susana Rodriguez-Couto	environmental microbiology	Ikerbasque - Basque Foundation for Science	Professor and consultant	1st and 2nd
Paola Battilani	Food mycology	Università Cattolica del Sacro Cuore, Italy, Piacenza - Institute of Entomology and Plant Pathology	Professor	1st and 2nd
David Smith	mBRC quality management and legal framework	CABI, Bakeham Lane, Egham, Surrey, TW209TY, United Kingdom	Director, Biological Resources	1st and 2nd
Edoardo Puglisi	food and environmental microbiologists	Catholic University of the Sacred Heart   UNICATT	Associate Professor	1st and 2nd
Daniela Billi	Cyanobacteria	Tor Vergata University of Rome	Professor	2nd
Laura Garzoli	Marine fungi/ plant pathology	CNR-IRSA of Verbania	Permanent researcher	2nd
Paula Rodrigues	Food mycology	Instituto Politécnico de Bragança	Professor/Researcher	2nd
Marta Filipa Simões	preservation of fungal diversity	State Key Laboratory of Lunar and Planetary Sciences, Macau University of Science and Technology	Assistant professor	2nd
Ipek Kurtbok	Microbial preservation	University of Sunshine Coast, Australia	WFCC president	2nd
Paulo Sampaio	yeast taxonomy	Universidade NOVA de Lisboa	PI Yeast genome Lab	1st
Manfred Ruthsatz	microbiomes and regulatory affairs	Nutrition Health Care - IS_MIRRI21 AB	Executive Director at Nutrition+HealthCARE	1st

## Providers and support offered

Through two TNA calls launched over the lifetime of the [IS\\_MIRRI21](#) project (corresponding to D4.1 and D4.2, respectively), partners provided access to a wide variety of microbial resources, laboratories, state-of-the-art facilities, and technological platforms (Annex 1 list of TNAs offered in the [IS\\_MIRRI21](#) TNA programme).

The [IS\\_MIRRI21](#) TNA programme provided two means of access, being on-site/physical and remote. During the physical access, users visited the Access Provider's facility and had

access to its laboratories and equipment, in addition to staff expertise and hands-on training to perform the analyses. Remote access included two possibilities:

- set of experiments carried out at the Access Provider's location, but the user was not physically present at the installations (e.g., sample analysis and processing); or
- shipping of microbial strains/biological materials, based on the users' requests

For both means of access, the **IS\_MIRRI21** TNA programme offered:

- technical and scientific support; and
- administrative and logistic support (**IS\_MIRRI21** TNA programme covered for travel and subsistence expenses up to 30 days, including weekends)

### **Outreach and dissemination**

Just before the launch of the 1<sup>st</sup> TNA call (D4.1), a dissemination and outreach strategy were designed to share information about the programme requirements and administrative procedures and to promote the efficient, transparent, and user-friendly access to relevant documents.

Key tools to support and strengthen the communication strategy were previously detailed in D4.1 (1<sup>st</sup> TNA call) and included:

- an illustrated TNA catalogue containing clear, easy-to-understand information about the TNA offers and the **IS\_MIRRI21** Access providers
- a TNA flyer
- a TNA webpage, social media channels, and internal scientific networks of **IS\_MIRRI21** partners and external collaborators for the continuous advertisement of the TNA programme
- online newsletter
- press materials

Thanks to the outcomes of the 1<sup>st</sup> TNA call, some of these tools were updated for the launch of the 2<sup>nd</sup> TNA call and further actions were taken on social media and internal research networks to spread the word.

### **Evaluation of proposals**

To apply to the TNA programme, applicants were asked to submit a short project proposal to justify their needs to get funded access to the resources of **IS\_MIRRI21** partners.

Three main steps were undertaken for handling proposals:



1. *Eligibility check.* Applicants were encouraged to first contact the **Access officer** to confirm their eligibility to the programme.
2. *Feasibility check.* Before proposal submission, applicants were strongly encouraged to get in touch with the **Liaison officers** at the selected Access provider. The **Liaison officer** determined the feasibility of projects from a technical/logistical perspective and their coherence with the TNA offer. This step was done prior to submission in the TNA portal to enhance chances of successful applications.
3. *Scientific evaluation.* TNA proposals meeting the eligibility and feasibility criteria (previously verified with the Access Officer and the Liaison Officers) were thus evaluated based on their individual merit by the **USP**. Guidelines were established for these independent experts to accompany them, harmonize the reviewing process, and ensure the absence of conflict of interests. Proposals were evaluated and scored individually by the selected reviewers according to criteria assessing three main pillars: (i) originality and impact of the research project (ii) proposed scientific approach and (iii) knowledge and expertise of the applicant. Moreover, the reasons for which the access was needed were considered. Priority (i.e., higher scores) was given to early career scientists, applicants who had not previously used the installation or applicants working in a country where no equivalent facility exists.

The Access officer and the WP4 co-leaders developed the eligibility criteria (in accordance with EC regulations) for MIRRI's TNA pilot program, as well as procedures and guidelines, all of which are found in the [TNA portal](#). Several documents were produced and included in the **deliverable D4.1** (Guidelines for applicants, reviewers, access providers and CWE programmers; a model of User Access Contract; Application form; Evaluation form for reviewers; Technical evaluation form; and Feedback surveys for users, access providers and reviewers).

### **Delivery of access and reporting**

Upon approval of the project and before the access, a legal agreement was signed, generally based on the draft "User Access Contract", between the Parties of the project (user/user group, their home institutions, access provider).

After completion of the TNA access, users were asked to provide a confirmation of access, a TNA activity report, a TNA feedback survey, and a European Commission (EC) feedback survey. In the surveys, users were asked to mention the challenges (if any), the outcomes, and experiences of their access at the selected infrastructure. This feedback was pivotal for the implementation of the TNA programme and, overall, for the improvement of service and resource provision by the MIRRI-ERIC partners.

## **Feedback from TNA users**

Two final symposia were organized by BELSPO on the same day at M36 (Jan 2023), following the completion of both the first and the second TNA calls. TNA users were invited to present outcomes and share experiences of their access to cluster facilities and share their point of view with representatives from RIs, members of the USP and local access officers. A description of the feedback obtained in these two symposia is included in Annex 2 of this deliverable.

## 2. Outcomes of the IS\_MIRRI21 TNA programme

The IS\_MIRRI21 TNA programme was implemented as a pilot project with the main objective of enhancing and refining the upcoming MIRRI (Microbial Resource Research Infrastructure) service provision. The initial focus of the program's 1st call was on conceptualization, designing an effective outreach strategy, and launching the TNA programme.

During the first TNA call, there was a relatively low number of applications, with only 10 received. This can be attributed to the negative impact of the COVID-19 pandemic as well as a lack of alignment between the TNA offerings and the interests of the scientific community. Additionally, budget limitations associated with the project influenced the number of available accesses and constrained the flexibility of the TNA offerings.

In response to the feedback received at the [tna@mirri.org](mailto:tna@mirri.org) and [access@mirri.org](mailto:access@mirri.org) email addresses, several modifications were made for the 2nd TNA call. These changes were based on numerous requests, such as the need for lyophilization training or the supply of freeze-dried strains. The results of a user survey conducted to identify the major interests of the scientific community also played a crucial role in informing the modifications.

As a result of these adjustments, there was an increase in the number of applications during the 2nd TNA call, with a total of 16 received. This included applicants not only from academia but also one from the private sector, and they came from both European Union (EU) countries and overseas. Although the increase was modest, with only six additional applications compared to the first call, it was considered a positive outcome considering the constraints and limitations of the IS\_MIRRI21 project. It is important to note that the 2nd TNA call involved only eight available partners, so the focus was not on a significant surge in applications but rather on utilizing the allocated budget and ensuring that all providers were engaged in the TNA pilot.

Overall, twenty-six applications were received to the TNA pilot programme. More specifically, the 1<sup>st</sup> TNA call resulted in four out of 10 applications selected for funding. Next, as result of the 2<sup>nd</sup> TNA call, seven out of 16 applications were supported. The complete list of granted projects can be found in the TNA portal, section "[TNA results](#)".

Applications were received from all over the world (Fig 1a), with a prevalence of users from Italy (n=7) and Spain (n=5), likely due to the active engagement of their national nodes/networks of national culture collections. Most of the applicants were from academia (46%, n=12), followed by Research organisations (38,5%, n=10) (Fig 1b).

Fig 1a. Country of origin

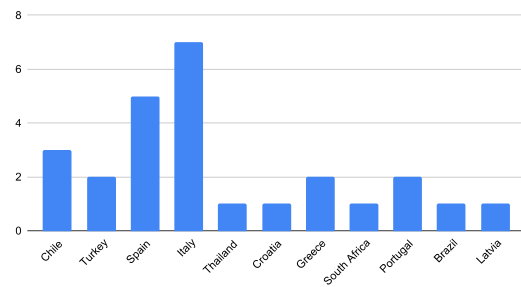
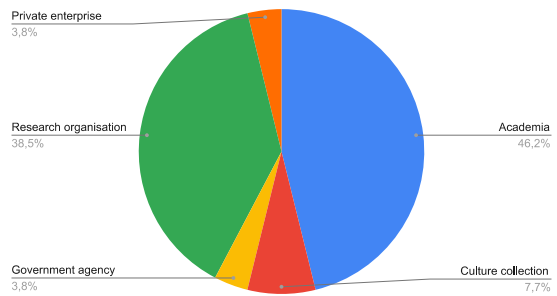
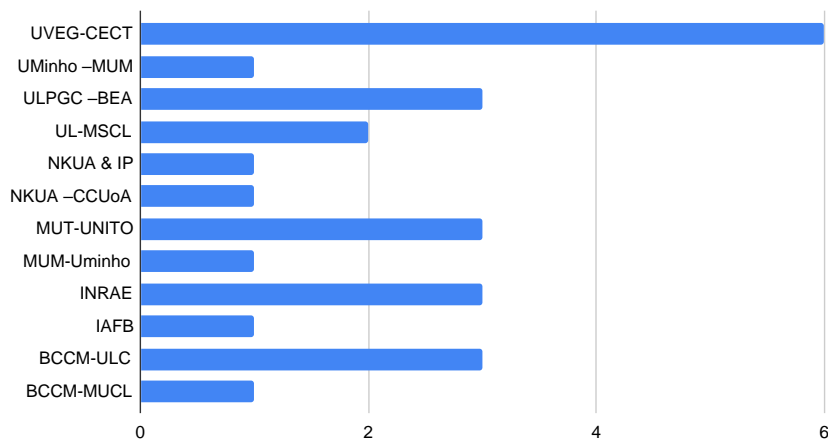


Fig 1b. Type of institution



Researchers applying for the TNA were in different stages of their professional path: senior scientists (n=10), PhD fellows (n=9), early-career researchers (n=5) and technicians (n=2). The female applicants were more than 50%. The most requested access providers were UVEG-CECT (n=6), ULPGC-BEA, MUT-UNITO, BCCM/ULC and INRAE (n=3 each), UL-MSCL (n=2) (Fig. 2).

Fig 2. Most requested Access Providers



The most requested TNAs were on-site access to services and facility (Fig. 3a) and most of the projects were in the areas of Applied Life-Sciences and Non-Medical Biotechnology (31%) and Food microbiology (27%) (Fig. 3b). The proposals were also aligned with the areas of the Strategic Research and Innovation Agenda of MIRRI.

Fig 3a. TNA type

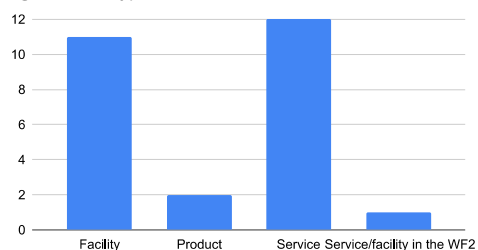


Fig 3b. Scientific domain



The TNA program successfully provided 53 units of access out of the expected 60, taking into account the withdrawal of the Russian partner during the project. This means that 87% of the expected accesses were delivered to 11 projects from 11 users.

In terms of budget, €151,289 was spent on providing access during the two transnational access calls. This expenditure represents 86% of the total amount approved in the Grant Agreement, which was €176,374.

### 3. Feedback

#### 3.1 User feedback symposia

The two symposia planned for each TNA access were finally organized at BELSPO (Brussels, Belgium) on the same day and in the same place, following the completion of TNA accesses. There were several advantages: bringing together a bigger group (40 instead of 20 people) facilitating networking, reducing the number of trips necessary for each participant to reach Brussels and thus the carbon footprint resulting from travelling, and optimizing budget consumption.

Besides the Access officer and the TNA awardees of the two calls, members of the User Selection Panel and Liaison officers were invited as key actors in the TNA evaluation process (scientific review and feasibility check, respectively). Representatives of other European Research Infrastructures (EMBRC, IBISBA) and from the European commission were invited too. Representatives of several Access Providers were also invited.

The two symposia were overall structured as follows: a brief introduction on the TNA program and another session in which TNA awardees, providers, and representatives from other RIs shared their experiences.

At the end of the second workshop, the session with users' presentations was followed by a round table discussion led by Marleen Bosschaerts, in which all attendants participated (awardees, TNA providers, USP members, IS\_MIRRI21 partners and external specialists) (see Annex 2 for agenda and workshop minutes). During the round table, MIRRI's Policy and Best Practices on TNA, related topics and connected issues arising during the user presentations were discussed and possible solutions presented.

Overall, awardees were satisfied with their TNA experiences, and agreed on the added value of TNA for their personal and professional growth as scientists, as well as the excellence of the accessed facilities and support received. The awardees were surprised that their scientific network expanded this much through the IS\_MIRRI21 TNA programme. For instance, one awardee got a new job opportunity that she would probably not have qualified for without her TNA experience. Some of them were given with the opportunity to learn a new, otherwise inaccessible technology. Everyone agreed on the difficulties encountered due to the emergence of COVID-19, which slowed down the production of results, but overall manageable.

Regarding the advertisement of the two calls, most people became aware of the TNA opportunity through the MIRRI website, mailings of their host institutes and personal contacts. For TNA users, the main reasons to participate in the TNA programme was the uniqueness of the offer.

The TNA accesses will become tangible mostly in publications in peer-reviewed journals. Indeed, one publication from this programme already saw the light (PMID: 36838246). These outcomes might later be used as indicators of the success of the IS\_MIRRI21 TNA programme. The TNA clearly has a strong, positive impact on scientists' careers. Even other students – that did not participate (yet) in the TNA – could benefit from this experience through the sharing of knowledge of the awardees. The TNA providers were conscious of the positive impact of their sharing of expertise and material, and saw this as a fruitful valorization, also for them.

During this pilot, some difficulties emerged:

- Pre-establishing workflows. Given the budget constraints and limitations of the IS\_MIRRI21 grant agreement, the TNA offer was too specific. It was thus challenging to predict users' needs beforehand rather than allowing tailored workflows adjusted to users' needs.
- Burden of administration procedures: recruiting USP members, variable responsiveness of the legal departments at providers' institutions for the revision of the User Access Contract (UAC), local administrative issues. Also, the UAC should

be probably modified, including additional clauses such as one concerning protection of the provider in case the access is cancelled last minute due to force majeure. On a more general level, this denotes the need of establishing collaborations with legal entities or include people with legal skills in the MIRRI CCU.

- Limited-service provision and its flexibility in the frame of the TNA pilot.

## 4. Conclusions and perspectives

In conclusion, the TNA programme exhibited a higher participation rate from academia and research organizations compared to the private sector. This can be attributed to factors such as the time required for companies to reach a desired Technological Readiness Level (TRL), the preference for continuous selection processes, and the limitations and restrictions associated with the TNA programme. To address this discrepancy, it is recommended to establish direct contact with stakeholders and collaborate with facilitators to bridge the gap between academia and industry. Enhancing interoperability among research infrastructures and providing local access options can also be beneficial for attracting more private sector users. Clearer application guidelines, improved communication channels, and the establishment of an alumni association can address concerns regarding the complexity of the application process and encourage participation from young scientists. Strengthening national nodes and promoting outreach efforts in partner countries remain important objectives. Emphasizing training opportunities, fostering collaboration, and exploring partnerships with relevant programmes (such as the Marie Skłodowska-Curie) can further enhance the TNA programme. Harmonizing administration procedures and implementing initiatives such as directories of successful trainees and libraries of results and publications will contribute to showcasing the programme's outcomes and impact.

## **5. Annexes**

**Annex 1 – List of TNA offered in the IS\_MIRRI21 pilot programme**

**Annex 2 - TNA workshop agenda, participants, and minutes**



<b>Access Provider</b>	<b>Call</b>	<b>TNA offer</b>	<b>Type of access</b>
Centre de Ressources Biologiques de l'Institut Pasteur - CRBIP	1st	Analysis by BioNumerics of MALDI-TOF mass spectrometry profiles	In-person
Culture collections of the National and Kapodistrian University of Athens - CCUoA	1st	Bacteria and archaea from extreme Greek environments	Remote
Spanish Type Culture Collection - CECT	1st	Delicate microorganisms	Remote
Spanish Bank of Algae - BEA	1st	Experimental plant for microalgae and cyanobacteria production	Remote
Westerdijk fungal biodiversity institute - CBS	1st, 2nd	Heterologous expression of silent fungal gene clusters	In-person
Culture Collection of Industrial Microorganisms - CCIM	1st	Identification of Alicyclobacillus sp. by molecular biology techniques	In-person
Agro-food & Environmental Fungal Collection - MUCL	1st	In vitro culture of arbuscular mycorrhizal fungi	Remote
Centre International de Ressources Microbiennes - CIRM	1st	In vitro screening of anti-infectious activities: antibacterial, antiviral and antiparasitic	Remote
Mycotheca Universitatis Taurinensis - MUT	1st	Metabarcoding of fungal communities	Remote
Cyanobacteria Collection - ULC	1st, 2nd	Cyanobacterial isolation, cultivation and preservation	In-person
Micoteca da Universidade do Minho - MUM	1st, 2nd	Food Mycology	In-person
Microbial Strain Collection of Latvia - MSCL	1st, 2nd	In vitro screening and testing of Minimal Inhibitory Concentration (MIC)	Remote
Fungi Collection: Human & Animal Health - IHEM	1st, 2nd	Pathogenic fungi: preservation, MALDI-TOF MS & medical importance of dermatophytes BELSPO-BCCM/IHEM	In-person
Agro-food & Environmental Fungal Collection - MUCL	2nd	Arbuscular mycorrhizal fungi strains produced in vitro	In-person
Spanish Type Culture Collection - CECT	2nd	Archaea, bacteria, yeast and filamentous fungi from the UVEG-CECT public catalogue	Remote
Mycotheca Universitatis Taurinensis - MUT	2nd	Identification of fungi in pure culture	In-person
Spanish Type Culture Collection - CECT	2nd	Microbial preservation methods and quality control procedures	In-person
Mycotheca Universitatis Taurinensis - MUT	2nd	Multi-Locus Microsatellite Typing (MLMT)	Remote
Spanish Type Culture Collection - CECT	2nd	Phylogenomics and phenotype prediction of prokaryotes	Remote

## **Symposia TNA IS\_MIRRI21**

23 January 2023

10 AM – 6 PM



Participants' list: see annex 1

### 1. Introduction

Both symposia took place on the same day and in the same place, because of three main reasons, as listed below:

- Networking: we bring together a bigger group (40 persons instead of 20), making more attractive the attendance to all participants and especially for the awardees. It also allowed us to invite colleagues from other Research Infrastructures (RIs) such as IBISBA and EMBRC, and Dominik Sobczak from the European Commission.
- It is more ecologically efficient: even though Brussels is at the heart of Europe, some participants would probably have come on both occasions from where air transport is necessary.
- Economic reasons: organising both symposia at the same time had budgetary advantages too, flights and hotels must be booked only once.

### 2. Agenda

Monday, January 23, 2023

#### **Symposium first Transnational Access (TNA) Pilot Programme**

**10:00 Opening and welcome** – Marleen Bosschaerts (*BELSPO, Belgium*)

**10h05 – 10h55 Session 1 – MIRRI and the 1<sup>st</sup> TNA call** - Chair: Marleen Bosschaerts (*BELSPO, Belgium*)

**10:05 – 10:15 Introduction to MIRRI:** Nelson Lima (*IS\_MIRRI21 coordinator, University of Minho, Portugal*)

**10:15 – 10:25 Introduction to the TNA:** Adriana Chiarelli (*Access officer MIRRI, Institut Pasteur, France*)

**10:25 – 10:45 The experiences from the awardees**

Speaker 1: Assunta Saide (*Stazione Zoologica Anton Dohrn, Italy*)

Speaker 2: Agapi Doulgeraki (*Institute of Technology of Agricultural Products, ELGO-DEMETER, Greece*)

**10:45 – 10:55 Q&A related to session 1**

**11:10 – 11:50 Session 2 - From Academia to Bioindustry: challenges, opportunities and lessons learned from the “Biotech’ Business Mentorship Support (BBMS)” pilot programme** - Chair: Luís Soares (*MIRRI Executive Director, Portugal*)

**11:10 – 11:15 Introduction to the British Embassy Lisbon and motivation for the BBMS programme:** Frederico Lyra (*British Embassy Lisbon / UK Science & Innovation Network*)

**11:15 – 11:35 The experiences from the awardees**

Speaker 1: Fortunato Palma Esposito (*Stazione Zoologica Anton Dohrn, Italy*)

Speaker 2: Roksana Majewska (*North-West University of South Africa, South Africa*)

**11:35 – 11:45 The BBMS Programme – Balance and lessons learned:** James Barsby (*Intercil Consulting*)

**11:45 – 11:50 Q&A related to session 2**

**11:50 – 12:30 Session 3 TNA experiences from other RIs** - Chair: Marleen Bosschaerts (*BELSPO, Belgium*)

Speaker 1: Davide Di Cioccio – Access officer EMBRC

Speaker 2: Fayza Daboussi - Access officer IBISBA

**12:20 – 12:30: Q&A related to session 3**

Monday, January 23, 2023

## Symposium second Transnational Access (TNA) Pilot Programme

**14:00 Opening and welcome** – Marleen Bosschaerts (*BELSPO, Belgium*)

**14:05 – 14:20 The relevance of ESFRI RIs and their TNA programmes for the ERA** - Dominik Sobczak (*European Commission: DG Research and Innovation*)

**14:20 – 15:40 Session 1 - MIRRI and the 2<sup>nd</sup> TNA call** – Chair Aurora Zuzuarregui (*CECT, University of Valencia, Spain*)

**14:20 – 14:30 Lessons learned from the 1<sup>st</sup> TNA call and improvements:** Adriana Chiarelli (*Access officer MIRRI, Institut Pasteur, France*)

**14:30 – 15:25 The experiences from the awardees**

Speaker 1: Carina Menezes (*Estela Sousa e Silva Algae Culture Collection, Portugal*)

Speaker 2: Marina Carrasco-Acosta (*University of Las Palmas de Gran Canaria, Spain*)

Speaker 3: Giovanni Andrea Vitale (*Stazione Zoologica Anton Dhorn, Italy*)

Speaker 4: Ana Igual Wöllstein (*Spanish Type Culture Collection, Spain*)

Speaker 5: Victor Manuel Ignacio Gallardo Muniz (*Universidad de La Frontera, Chile*)

Speaker 6: Joana Domingues (*Associação centro de biotecnologia de plantas da beira interior, Portugal*)

**15:25 – 15:40 Questions related to session 1**

**16:05 – 16:35 Session 2 - Experiences from the TNA providers – Chair: Philippe Deleu (BELSPO, Belgium)**

Speaker 1: Dominique Clermont (*Institut Pasteur, France*)

Speaker 2: Annick Wilmotte (*BCCM/ULC, Université de Liège, Belgium*)

Q&A related to session 2

**16:35 – 17:20 Session 3: Round table on key issues of the TNA experience – moderated by Marleen Bosschaerts & Philippe Deleu (BELSPO, Belgium)**

MIRRI's Policy and Best Practice on TNA, plenary discussion with all participants (awardees, TNA providers, USP – members, IS\_MIRRI21 partners and external specialists)

**17:20 – 17:35 Conclusions and Closing words - Philippe Desmeth (BELSPO, Belgium) & Nelson Lima (University of Minho, Portugal)**

### 3. Report

## Symposium first Transnational Access (TNA) Pilot Programme

### 1. Opening by Marleen Bosschaerts

Welcoming to Brussels, and to BELSPO headquarters. Explanation on the BCCM, and the Belgian activities. BCCM has become the Belgian Node of MIRRI-ERIC. Presenting the agenda of the Symposium.

### Session 1 – MIRRI and the 1<sup>st</sup> TNA call

### 2. Introduction to MIRRI by Nelson Lima

Evolution of the MIRRI Research Infrastructure in a practical perspective. Explanation on mission, objectives, and activities of MIRRI. The operationalisation of MIRRI runs through the IS\_MIRRI21 project. The different work packages and output of the IS\_MIRRI21 project were presented. Explanation on the Collaborative Work Environment (CWE), membership and enlargement of MIRRI.

### 3. Introduction to the TNA by Adriana Chiarelli

From conceptualisation to implementation. What is the role of the TNA in MIRRI?

Transnational collaborations can help solving complex problems. TNAs are common in the European RIs. Presentation of the providers and their offer. Modalities of the programme, eligibility, and key steps of the application. Clarification of roles of the different parties involved: the Access Officer, the User Selection Panel (USP) for the evaluation of proposals, and the Liaison officers. Outcome of the first TNA-programme was presented.

#### **4. Experience from the awardees**

Assunta Saide (Stazione Zoologica Anton Dohrn, Italy) – title: “Microalgae: a source to be explored (MAREX).”

Agapi Doulgeraki (Institute of Technology of Agricultural Products, ELGO-DEMETER, Greece) – title: “Targeting Vdc Operon to Assess Guaiacol Synthesis Of Alicyclobacillus Isolated From Fruit Juices”.

### **Session 2 - From Academia to Bioindustry: challenges, opportunities and lessons learned from the “Biotech’ Business Mentorship Support (BBMS)” pilot programme**

#### **5. From Academia to Bioindustry: challenges, opportunities and lessons learned from the “Biotech’ Business Mentorship Support (BBMS)” pilot programme**

Luis Soares: explanation on the BBMS programme, a partnership between MIRRI and the British Embassy Lisbon.

Frederico Lyra (Science and Innovation Officer, British Embassy Lisbon / UK Science and Innovation Network): motivation, interesting to collaborate with a pan-European institution and interesting results in a pilot programme with MIRRI. Promote science and innovation collaborations between the UK and the EU in the post-Brexit era.

James Barsby (Managing Partner, Intercil Consulting): Balance of the BBMS programme, experience, lessons learned and opportunities for improvement. Supporting the MIRRI programme. Mentoring academic researchers on defining their project’s value proposition, further validating their idea, and understanding their innovation’s route to market.

***All three speakers confirm the positive results of the BBMS programme and express their interest in continuing the cooperation, so the opportunity for a new edition of the BBMS programme will be jointly assessed.***

#### **6. Experience from the awardees**

Fortunato Palma Esposito (Stazione Zoologica Anton Dohrn, Italy) – title: “Identifying and prioritizing novel marine actinobacteria for drug discovery (IDEACT).”

Roksana Majewska (North-West University of South Africa, South Africa) – title: “Unveiling the Secrets of Epizoic Diatoms: charismatic microflora as bioactive compound producers (USED).”

### Session 3 - TNA experiences from other RIs

#### 7. TNA experiences from other RIs

Davide Di Cioccio (Access officer EMBRC): the TNA programme of EMBRC-ERIC covers access to ecosystems, biodiversity, research facilities and platforms. EMBRC-ERIC is involved in several projects containing TNA programmes with an important budgetary impact. In the feedback there are some complaints about the administrative burden, but the TNA is very successful allowing researchers to go out of their scientific comfort zone. The TNA offered by EMBRC-ERIC seem not to be very appealing for private companies (less applicants).

Fayza Daboussi (Access officer IBISBA): the TNA of IBISBA works with open calls, with the focus on the DBTL-P cycle (Design-Build-Test-Learn-Process). A lesson learned from TNA experience is to concentrate on more user-friendly tools and to reinforce the communication. Here, 38% of the applicants that are granted come from private companies. This can be explained by the type of services provided by IBISBA, with a focus on industrial biotechnology.

***It would be interesting for MIRRI, EMBRC and IBISBA (and possibly also other RIs) to offer common TNA activities, offering TNA that combines the individual offers of the RIs in workflows/pipelines (like was done in some cluster projects).***

### Symposium second Transnational Access (TNA) Pilot Programme

#### 8. The relevance of ESFRI RIs and their TNA programmes for the ERA

Dominik Sobczak (European Commission - DG Research and Innovation): overview to actual views on and challenges of the TNA programmes. Historical creation of a European space to facilitate research across the Union without barriers and introduction of Research Infrastructures with open and coordinated access. Important: exchange of best practice. Explanation on ESFRI Roadmap (63) and the ERIC status (25) and the important though limited financial support for transnational access. Few RIs have central access programmes, so their creation will be stimulated by the Commission. Modalities of access also evolve an increased remote and virtual access was noticed.

***The EC stimulates RIs to offer TNA programmes and to exchange best practices on TNA among RIs.***

### Session 1 - MIRRI and the 2<sup>nd</sup> TNA call

#### 9. Lessons learned from the 1st TNA call and improvements by Adriana Chiarelli

Major goals for the second TNA: making the offer and timing more flexible and improving outreach and dissemination to attract more end-users from different sectors and different countries. New TNA catalogues, more differentiated between facilities, services, and products. A new flyer was disseminated through social media, mails and the partners and a webinar on the TNA was held. The USP (Users Selection Panel) was enlarged.

Outcomes of the second TNA: Higher number of applications, not only from academia but also from the private sector, with applicants from EU countries and overseas. Result: collaborations that otherwise would not be possible, new future partnerships and invaluable experience.

## **10. Experience from the awardees**

Carina Menezes (Estela Sousa e Silva Algae Culture Collection, Portugal) – title: “Improving, developing and expanding the Estela Sousa e Silva Algal Culture Collection (ESSACC4ALL).”

Marina Carrasco-Acosta (University of Las Palmas de Gran Canaria, Spain) - title: “MARine Fungi for BIOTEchnological purposes (MAFBIO).”

Giovanni Andrea Vitale (Stazione Zoologica Anton Dhorn, Italy) - title: “Siderophores from Marine Rare Actinobacteria (SidMaRAct).”

Ana Igual Wöllstein (Spanish Type Culture Collection, Spain) - title: “optimization of long-term ARBUSCULAR MYCORRHIZAL FUNGI (AMF) preservation procedures to broaden the species diversity at the CECT (AMFdivCECT).”

Victor Manuel Ignacio Gallardo Muniz (Universidad de La Frontera, Chile) - title: “Polyphasic identification of fungal pathogens in Chilean wheat (ChileanWheatFungID).”

Joana Domingues (Associação centro de biotecnologia de plantas da beira interior, Portugal) - title: “Didymellaceae fungi isolated from Arbutus unedo L. fruits (FungiArbunedo).”

## **Session 2 - Experiences from the TNA providers**

Dominique Clermont (Institut Pasteur, France): collaborated with Fortunato Palma Esposito on the project IDEACT. Positive experience, training of a young scientist and continuing this collaboration and this team, working on new projects. Also, the exchange of knowledge is very positive.

Annick Wilmotte (BCCM/ULC, Université de Liège, Belgium): collaborated with Carina Menezes. Positive outcome: 26 cyanobacterial strains were deposited into BCCM/ULC at the end of the TNA, possible publication, and promising results on three microcystin-producing strains. Fruitful exchange of information and hopefully long-term collaboration between the 2 collections. Side effect: an applicant not selected tries to find financial support to come.

## **Session 3: Round table on key issues of the TNA experience**

### **Reasons of the access – uniqueness of the offer**

All awardees confirmed that their research activities would not have been possible without the TNA. They are all grateful for this experience and highlighted the added value of TNA for their growth as scientists. Some learned to work with a new technology, explored new methods, and faced new challenges in a positive manner. Producing results at a normal pace was less attainable due to the pandemic, but research continues.

One awardee regretted that results of her TNA are still not complete. This will be taken up with the TNA provider.

The TNA will clearly have an impact on the scientific carriers of the awardees. Even other students – that did not participate (yet) in the TNA – benefit from this experience through the sharing of knowledge of the awardees. The awardees are surprised that their scientific network expanded this much, through the IS\_MIRRI21 TNA programme, but also through the BBMS programme. One awardee got a new job opportunity that she would probably not have qualified for without her TNA experience.

### **RIs' combined TNA offer**

There is a possible synergy between the RIs, and a will to collaborate. All participants agreed that the possibility of a combined offer among RIs is interesting.

To this end, the TNA procedures of the different RIs should be analysed and harmonized. Software development is an important key to this objective.

### **Communication of the TNA offer – Advertising the call**

For MIRRI, most people became aware of the TNA through the website, mailings of their host institutes and personal contacts.

For communication, social media, webinars and more informal contacts are important. EMBRC did a survey, and half of the users were aware about the TNA through word of mouth. Access requests for EMBRC from the private sector are mostly done with their own funds, and not through a TNA.

IBISBA experienced a positive effect of video materials.

### **Deposit of biological material**

In some cases, the awardees have deposited strains in the collection of the hosting institute. This possibility is interesting but depends on contracts and legal issues, agreements, and permissions on national level. However, the host institutes do not expect this as a result of TNA.

### **Experience of the User Selection Panel (USP)**

For the USP members, it was clear what was expected. The scoring tools should be revisited. They confirm that it is important that the TNA providers are involved from the beginning of the process to do the eligibility check.

Only 50% of the USP panel could be internal (i.e., belonging to the host institutes of TNA providers). Considering that TNA providers are often part of very big host institutes (e.g., INRAE), finding suitable external experts become a challenge.

### **Administrative aspects**

For most candidates the online application system worked fine. The responsiveness and advice from the Access Officer were very good.



## **Post-access activities**

The awardees felt sometimes overwhelmed by the multiple requests for post-access activities (reporting, several surveys, quotes, short video, symposium, ...).

It is a pity that the survey of the European Commission could not be shared with the Access Officer or the Liaison officers. This creates a situation where the awardees have to answer the same questions multiple times.

Some technical issues with the ARIA platform (submission of applications and evaluation of proposals) arose, but have been solved, and the coordination among different WPs of the IS\_MIRRI21 project is already better (WP4 on TNA, WP7 on outreach and dissemination). The pandemic situation and changes in positions made communication more difficult at first.

## **11. Conclusions by Philippe Desmeth and Nelson Lima**

Perspectives on the TNA: to build a collaborative work environment, and to open the gates for education and training.

The need to structure internally:

- To create an alumni association and a pool of talent. To optimise the working of the TNA, and to facilitate communication.

And the need to structure the community externally:

- Reaching out to other stakeholders, including those from private sectors, and foster collaborations with facilitators like the BBMS. Dialogue with the European Commission and interaction with other RIs: IBISBA, BBMRI, EMBRC, LifeWatch, etc...
- Explore possible connection with other possible partners like the Marie Skłodowska-Curie Programme
- To investigate upon other Life science fields.

Next challenges and opportunities:

- Updating a directory of facilities
- Making a directory of successful trainees
- Setting up a library of results and publications resulting from the TNA activities

**Annexes:**

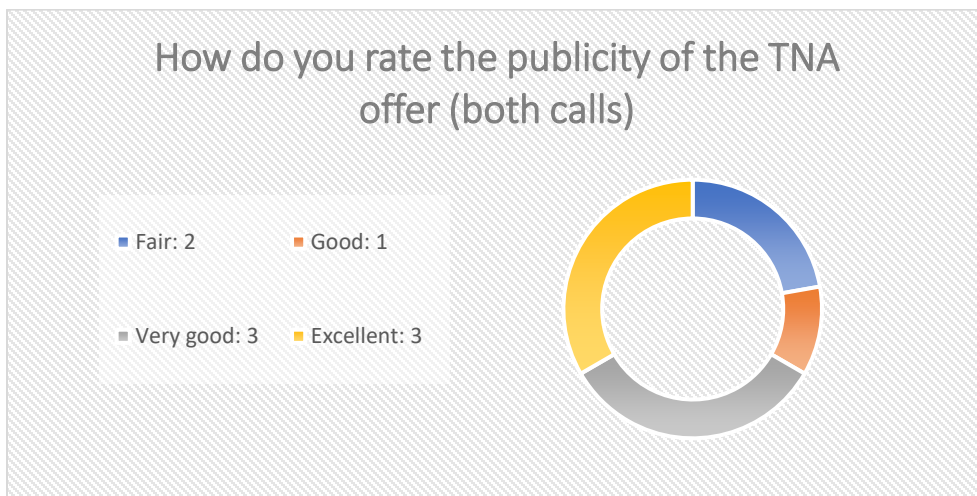
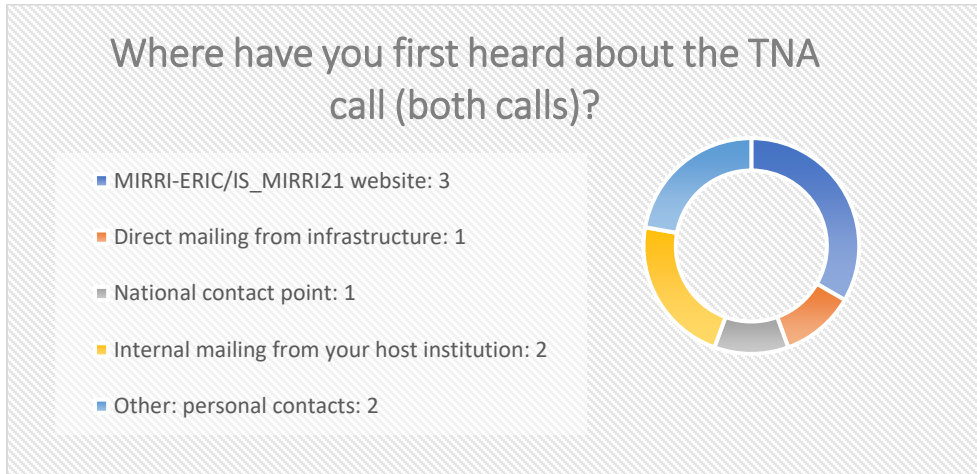
1. Participants' list
2. Results post-TNA Surveys

**Participants list**
**Annex 1**

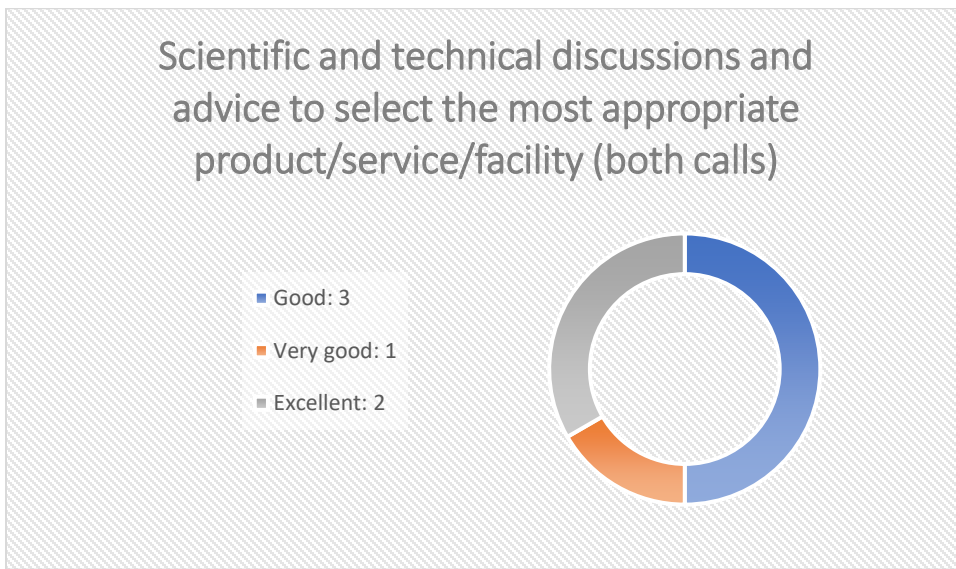
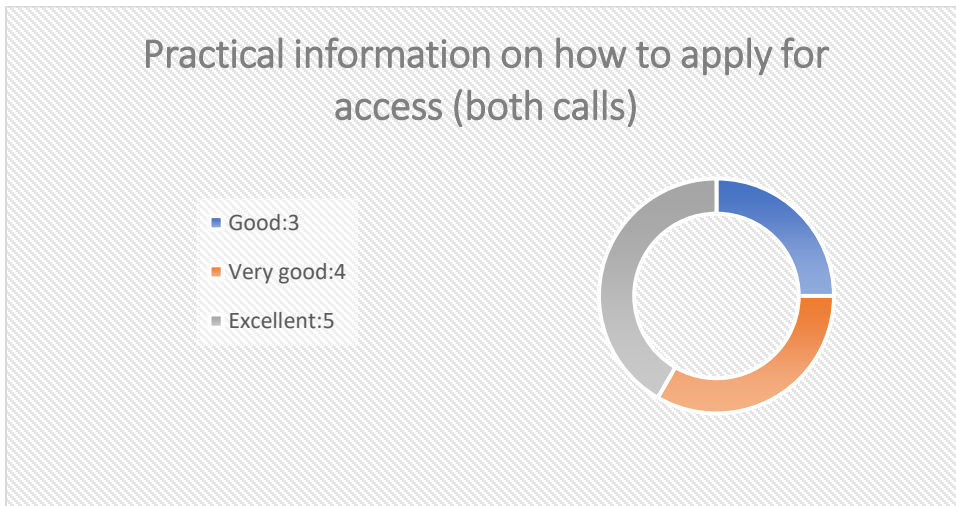
<b>Last name</b>	<b>First name</b>	<b>Role</b>	<b>Affiliation</b>	<b>Country</b>
Almeida Peña	Carlos	Other	Spanish Bank of Algae - ULPGC	Spain
Aznar	Rosa	IS_MIRRI21 WP4 participant	CECT - UVEG	Spain
Barsby	James	External expert	Pilot (BBMS) BioTech Business Mentorship Support Service Programme Lead to MIRRI researchers	United Kingdom
Becker	Pierre	Liaison officer	BCCM/IHEM - Sciensano	Belgium
Bosschaerts	Marleen	IS_MIRRI21 WP4 participant	BELSPO - BCCM	Belgium
Bucka-Kolendo	Joanna	Liaison officer	Institute of Agricultural and Food Biotechnology - State Research Institute	Poland
Carrasco-Acosta	Marina	Awardee	Universidad de Las Palmas de Gran Canaria	Spain
Chiarelli	Adriana	Liaison officer	CRBIP	France
Clermont	Dominique	Liaison officer	Institut Pasteur	France
Daboussi	Fayza	External expert	INRAE	France
Deleu	Philippe	IS_MIRRI21 WP4 participant	BELSPO - BCCM	Belgium
Depauw	Anne	External expert	BELSPO - BCCM	Belgium
Desmeth	Philippe	External expert	BELSPO - BCCM	Belgium
Di Cioccio	Davide	External expert	EMBRC-ERIC	France
Domingues	Joana	Awardee		
Doulgeraki	Agapi	Awardee	Institute of Technology of Agricultural Products, Hellenic Agricultural Organization - DIMITRA	Greece
Ferrari	Mariana	IS_MIRRI21 WP4 participant	CRBIP, Institut Pasteur	France
Gallardo	Victor	Awardee	Universidad de La Frontera	Chile
Garzoli	Laura	USP member	National Research Council of Italy, Water Research Institute CNR-IRSA	Italy
González Bonilla	Ignacio	Other	Spanish Bank of Algae (BEA) - ULPGC	Spain

Gugger	Muriel	USP member	Institut Pasteur	France
Helloin	Emmanuelle	Liaison officer	INRAE	France
Igual Wöllstein	Ana	Awardee	Colección Española de Cultivos Tipo (CECT)	Spain
Laskaris	Paris	Liaison officer	University of Athens	Greece
Lauritano	Chiara	Awardee	Stazione Zoologica Anton Dohrn	Italy
Lima	Nelson	IS_MIRRI21 Coordinator	University of Minho, MIRRI-PT	Portugal
Lira	Frederico	External expert	British Embassy Lisbon	United Kingdom
Majewska	Roksana	Awardee	North-West University	South Africa
Menezes	Carina	Awardee	Instituto Nacional de Saúde Doutor Ricardo Jorge	Portugal
Packeu	Ann	Expert	Sciensano	Belgium
Palma Esposito	Fortunato	Awardee	Stazione Zoologica Anton Dohrn	Italy
Rahi	Praveen	Expert	CRBIP, Institut Pasteur	France
Ruiz	Monica	External expert	BCCM/MUCL, Université catholique de Louvain	Belgium
Saide	Assunta	Awardee	Szn	Italy
Soares	Luís	IS_MIRRI21 Executive Director	MIRRI-ERIC	Portugal
Sobczak	Dominik	External expert	European Commission	EU
Vaz	Marcelo	Liaison officer	BCCM/ULC, Liège University	Belgium
Vitale	Giovanni Andrea	Awardee	Stazione Zoologica Anton Dohrn	Italy
Wilmotte	Annick	Liaison officer	BCCM/ULC, Liège University	Belgium
Zuzuarregui	Aurora	Liaison officer	Spanish Type Culture Collection (CECT- UVEG)	Spain

Diffusion and communication of the TNA offer - Advertising of the call



**Information on TNA webpages of MIRRI - Application system and submission**



How will you rate the online application process (convenience, suitability)? (2nd call)

■ Very good: 4

■ Excellent: 5



9 out of 9

**Reasons of the access – uniqueness of the offer**

Do you know if the offer by the TNA facility you visited is provided by another entity in your home institution country?

■ Yes: 1

■ No: 5



1<sup>st</sup> or 2<sup>nd</sup> call

Would you be able to collect data at this research infrastructure without the support of IS\_MIRRI21? (both calls)

■ Yes: 0

■ No: 9



9 out of 11

The awardees of the first call specified why:

Unable to pay the user fee: 3

Unable to pay travel and subsistence for one or more of the group members: 2

<b>Comments from awardees</b>
With the TNA I have had the opportunity to meet people from all over the world who is working in the same area than me, which has been very interesting. Also, I have learnt to collaborate with new people to carry out different techniques.
Yes, it enabled me to meet other colleagues working in the same area but with stronger expertise and greater knowledge. The contacts made have already led to a possibility of collaboration between the 2 institutes that otherwise would not be possible.
This experience helped me to reach new scientific results, to get in touch with a new researcher with whom I hope to continue to collaborate in the future to finalize a publication on the data obtained during the TNA, as well as for future research collaborations and/or possible applications to funding calls.
Improve communication tools; New job prospects; New professional relationships, which could lead to new future partnerships.
I suggest extending the possibilities of TNA access to allow awardees researchers to carry out stays with several access providers.
The TNA programme is a great chance to the postdoctoral young researchers who would like to amplify their networks. In my concern, the TNA is an exemplary project on which many other projects should be based to provide scientific, economic and bureaucratic support to researchers who want to carry out research visits that allow them to broaden their networks and initiate international collaborations.
The TNA visit has reinforced my networking and also has represented a valuable opportunity to start a new collaboration between the University of Torino and the University of Las Palmas de Gran Canaria.

### **Evaluation process from the point of view of the awardees**



Do you think the evaluation and selection of proposals were fair and transparent (2nd call)?

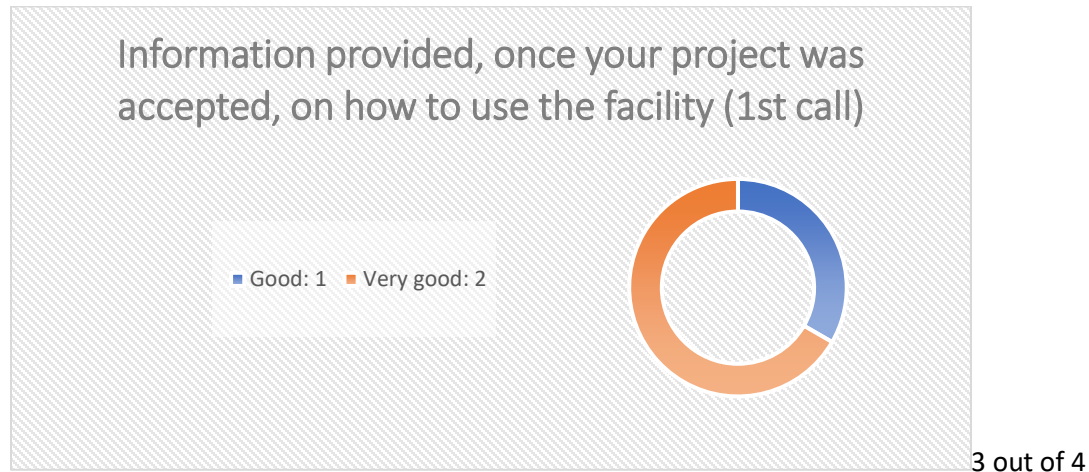
■ No: 0 ■ Yes: 6



**6 out of 7 (but here you indicate why one is missing. Do the same for all the rest)**

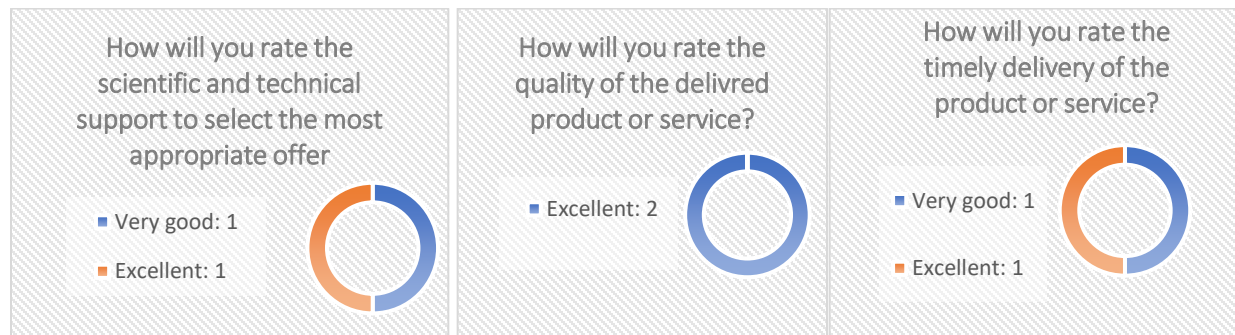
One awardee felt that he did not have the relevant information to assess fairness and transparency of the evaluation.

## First call



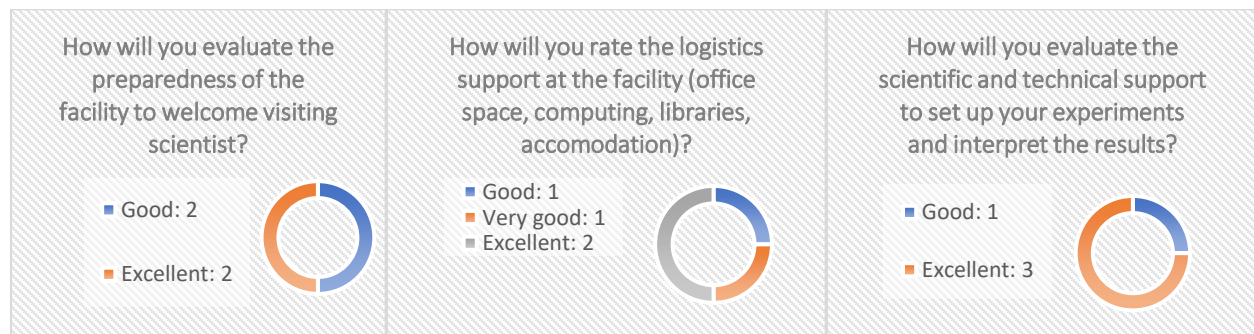
**On three different questions about the first call, awardees only answered very good:**  
Logistics support at the facility (office space, computing, libraries): Very good: 2  
Scientific and technical support to set up your experiment and interpret the results: 3  
Administrative support (including the reimbursement of travel & subsistence expenses: 2

## Second call: Remote access



**Again, what did the rest answer?**

## Second call: Physical access



**Comments from awardees**

At Pasteur Institute (host) a training and safety course is mandatory to have access to the laboratories. The course takes several hours. In order to save time during the Access, the course could be carried out online before the Access.

Sometimes it wasn't clear who must sign the documents, for example, the "Letter Acceptance"

My experience in the program was very good. The content of the program was adequate, the facilities also, and the technical staff was always accessible and excellent.

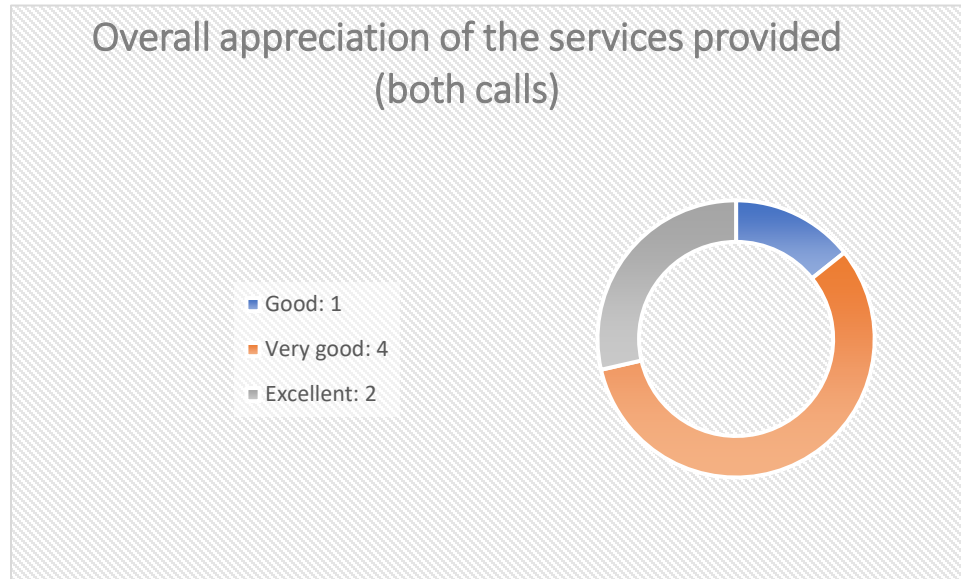
It was a great and invaluable experience. However, as it was not possible to finish all of the results during the access, it was really hard for me to manage my normal professional life with this added work.

I think there should be closer monitoring by someone from the host-institution.

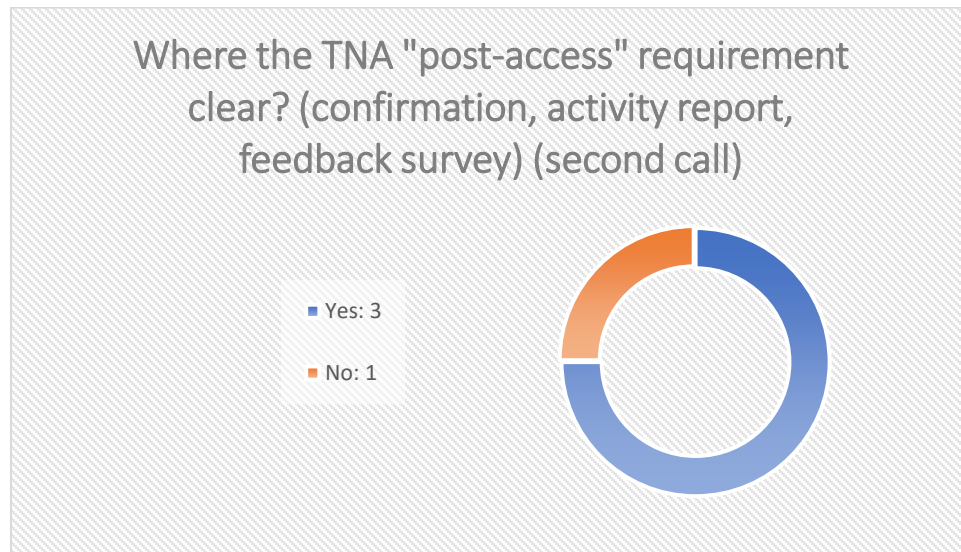
The infrastructure of the MUT has been ideal for me to carry out my TNA project. The MUT staff in charge was the best part of this experience. They support me during the whole project teaching me both culturomics, as well as molecular techniques for the identification of the isolated marine fungi.

### Overall appreciation

Both calls: for the 2<sup>nd</sup> call in case of PHYSICAL ACCESS



### TNA post-access



4 out of 7



# MIRRI IS21

IMPLEMENTATION AND  
SUSTAINABILITY FOR  
THE 21ST CENTURY

MICROBIAL RESOURCE RESEARCH INFRASTRUCTURE