



D1.3

First General Annual Report



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Abstract

This report is extracted from interim progress reports (IRPs) produced by the workpackage leaders to summarize the progress on the work done and data collected during the first year of the IS_MIRRI21 project, with indication of possible deviations, delays and mitigation actions.

Contents

1.	Introduction	1
2.	Summary of Activities – 1 st Year	3
2.1.	WP1 Activities “Project Management”	3
2.1.1.	UMinho-MUM (WPL).....	3
2.1.2.	UVEG-CECT.....	4
2.1.3.	Other partners.....	4
2.1.4.	WP1: Delays/Problems and Corrective Actions.....	4
2.2.	WP2 Activities “Research Strategy”	5
2.2.1.	Meetings	6
2.2.2.	Tasks.....	6
2.2.3.	Partners’ contributions to the tasks, deliverables and milestones	11
2.2.4.	WP2: Delays/Problems and Corrective Actions.....	15
2.3.	WP3 Activities “Central governance & Operations”	15
2.3.1.	Partners’ contributions to the tasks, deliverables and milestones	15
2.3.2.	WP3: Delays/Problems and Corrective Actions.....	18
2.4.	WP4 Activities “Transnational Access to IS_MIRRI21”	19
2.4.1.	Tasks.....	19
2.4.2.	Partners’ contribution to the tasks, deliverables and milestones.....	20
2.4.3.	WP4: Delays/Problems and Corrective Actions.....	30
2.5.	WP5 Activities “Capacity building, Training and Education”	31
2.5.1.	Partners’ contributions to the tasks, deliverables and milestones	31
2.5.2.	WP5: Delays/Problems and Corrective Actions.....	35
2.6.	WP6 Activities “CWE Platform”	36
2.6.1.	Meetings.....	37
2.6.2.	Tasks.....	37
2.6.3.	Partners’ contributions to the tasks, deliverables and milestones	38
2.6.4.	WP6: Delays/Problems and Corrective Actions.....	44
2.7.	WP7 Activities “Outreach and Dissemination”.....	45
2.7.1.	Task 7.1 Outreach and Dissemination strategy development and update.....	46
2.7.2.	Task 7.2: Development of communication tools and channels	46
2.7.3.	Task 7.3: Stakeholder engagement	48
2.7.4.	Task 7.4: Public Engagement.....	49
2.7.5.	WP7: Delays/Problems and Corrective Actions.....	50
2.8.	WP8 Activities “Consolidation and Enlargement of Membership”	51
2.8.1.	Tasks.....	51

2.8.2.	WP8: Delays/Problems and Corrective Actions.....	53
2.9.	WP9 Activities “Business Plan and Research Infrastructure Sustainability”	53
2.9.1.	Tasks	54
2.9.2.	Partners’ contributions to the tasks, deliverables and milestones	55
2.9.3.	WP9: Delays/Problems and Corrective Actions.....	57
2.10.	WP10 Activities “Ethics requirements”	57
3.	Resource Consumption & Needs: Efforts and Budget	59
3.1.	WP1 Consumption & Needs.....	59
3.1.1.	WP1: Estimation of efforts, in person months (PM), during Year 1, for each partner: 59	
3.1.2.	WP1: Estimation of Budget Consumed	60
3.1.3.	WP1: Estimation of Budget Needs.....	61
3.2.	WP2 Consumption & Needs.....	62
3.2.1.	WP2: Estimation of efforts, in person months (PM), during Year 1, for each partner: 62	
3.2.2.	WP2: Estimation of Budget Consumption	63
3.2.3.	WP2: Estimation of Budget Needs.....	64
3.3.	WP3 Consumption & Needs.....	65
3.3.1.	WP3: Estimation of efforts, in person months (PM), during Year 1, for each partner: 65	
3.3.2.	WP3: Estimation of Budget Consumed	66
3.3.3.	WP3: Estimation of Budget Needs.....	67
3.4.	WP4 Consumption & Needs.....	68
3.4.1.	WP4: Estimation of efforts, in person months (PM), during Year 1, for each partner: 68	
3.4.2.	WP4: Estimation of Budget Consumed	69
3.4.3.	WP4: Estimation of Budget Needs.....	70
3.5.	WP5 Consumption & Needs.....	71
3.5.1.	WP5: Estimation of efforts, in person months (PM), during Year 1, for each partner: 71	
3.5.2.	WP5: Estimation of Budget Consumed	72
3.5.3.	WP5: Estimation of Budget Needs.....	73
3.6.	WP6 Consumption & Needs.....	74
3.6.1.	WP6: Estimation of efforts, in person months (PM), during Year 1, for each partner: 74	
3.6.2.	WP6: Estimation of Budget Consumed	75
3.6.3.	WP6: Estimation of Budget Needs.....	76
3.7.	WP7 Consumption & Needs.....	77

3.7.1.	WP7: Estimation of efforts, in person months (PM), during Year 1, for each partner:	77
3.7.2.	WP7: Estimation of Budget Consumed	78
3.7.3.	WP7: Estimation of Budget Needs	79
3.8.	WP8 Consumption & Needs	80
3.8.1.	WP8: Estimation of efforts, in person months (PM), during Year 1, for each partner:	80
3.8.2.	WP8: Estimation of Budget Consumed	81
3.8.3.	WP8: Estimation of Budget Needs	82
3.9.	WP9 Consumption & Needs	83
3.9.1.	WP9: Estimation of efforts, in person months (PM), during Year 1, for each partner:	83
3.9.2.	WP9: Estimation of Budget Consumed	84
3.9.3.	WP9: Estimation of Budget Needs	85
4.	Planned work for next 6 months period	87
4.1.	WP1: Work foreseen for the next 6 months (M13-M18)	87
4.1.1.	UMinho-MUM (WPL)	87
4.1.2.	SPI	87
4.1.3.	IAFB	87
4.1.4.	CCG	87
4.1.5.	UVEG-CECT	87
4.1.6.	IP	87
4.1.7.	INRAE	88
4.1.8.	NKUA	88
4.1.9.	UL-MSCL	88
4.1.10.	ULPGC-BEA and its third party FCPCT	88
4.1.11.	UNITO AND ITS THIRD PARTIES:	88
4.1.12.	BELSPO	88
4.2.	WP2: Work foreseen for the next 6 months (M13-M18)	88
4.2.1.	INRAE (WPL):	89
4.2.2.	UMinho-MUM:	90
4.2.3.	UVEG-CECT:	90
4.2.4.	IP:	90
4.2.5.	KNAW-WI Institute:	90
4.2.6.	NKUA:	90
4.2.7.	CCG:	91
4.2.8.	UNITO, including Third-Parties USMI/IRCCS, UMCC/UNIMORE, ITEM/CNR & DBVPG:	91
4.2.9.	UL-MSCL:	91
4.2.10.	BELSPO, including Third-Parties BCCM/IHEM, BCCM/MUCL & BCCM/ULC:...	91

4.3.	WP3: Work foreseen for the next 6 months (M13-M18)	91
4.3.1.	UMinho-MUM (WPL).....	91
4.3.2.	IP	91
4.3.3.	KNAW-WI	92
4.3.4.	INRAE.....	92
4.3.5.	IAFB	92
4.3.6.	NKUA	92
4.3.7.	UVEG-CECT.....	92
4.3.8.	CCG	92
4.3.9.	UL-MSCL.....	92
4.3.10.	BELSPO and its third parties	93
4.3.11.	UNITO AND ITS THIRD PARTIES	93
4.3.12.	ULPGC/BEA-FCPCT.....	93
4.3.13.	SPI.....	93
4.4.	WP4: Work foreseen for the next 6 months (M13-M18)	94
4.4.1.	IP (WPL).....	94
4.4.2.	IAFB	94
4.4.3.	UVEG-CECT.....	94
4.4.4.	INRAE.....	94
4.4.5.	ULPGC, including the Third-Party FCPCT:	94
4.4.6.	BELSPO, including Third-Parties BCCM/IHEM, BCCM/MUCL and BCCM/ULC: 95	95
4.4.7.	UNITO AND ITS THIRD PARTIES	95
4.4.8.	NKUA	95
4.4.9.	SPI.....	95
4.4.10.	UMinho-MUM.....	95
4.5.	WP5: Work foreseen for the next 6 months (M13-M18)	96
4.5.1.	UMinho-MUM.....	96
4.5.2.	UVEG-CECT.....	96
4.5.3.	INRAE.....	96
4.5.4.	IAFB	96
4.5.5.	NKUA	96
4.5.6.	BCCM/MUCL	96
4.5.7.	BEA-ULPGC and its third party FCPCT	97
4.5.8.	UNITO AND ITS THIRD PARTIES	97
4.5.9.	IP.....	97
4.6.	WP6: Work foreseen for the next 6 months (M13-M18)	97
4.6.1.	UVEG-CECT (WPL).....	97
4.6.2.	INRAE.....	97

4.6.3.	SPI.....	98
4.6.4.	IP.....	98
4.6.5.	ULPGC, including the Third-Party FCPCT	98
4.6.6.	KNAW-WI Institute	98
4.6.7.	BELSPO, including Third-Parties BCCM/IHEM, BCCM/MUCL and BCCM/ULC	98
4.6.8.	IAFB	98
4.6.9.	NKUA	99
4.6.10.	UNITO, including Third-Parties USMI, UMCC/UNIMORE, ITEM/CNR, PLAVIT/CNR and DBVPG/UNIPG.....	99
4.6.11.	IBPM RAS.....	99
4.6.12.	UMinho-MUM.....	99
4.7.	WP7: Work foreseen for the next 6 months (M13-M18)	99
4.7.1.	SPI (WPL).....	99
4.7.2.	IP.....	101
4.7.3.	IAFB	102
4.7.4.	CCG	102
4.7.5.	UL-MSCL.....	102
4.7.6.	INRAE.....	102
4.7.7.	NKUA	102
4.7.8.	UNITO and its Third Parties	102
4.7.9.	BELSPO and linked Third Parties.....	103
4.7.10.	UVEG-CECT.....	103
4.7.11.	ULPGC/BEA-FCPCT.....	103
4.8.	WP8: Work foreseen for the next 6 months (M13-M18)	103
4.8.1.	IAFB (WPL).....	103
4.8.2.	UMinho-MUM.....	104
4.8.3.	BELSPO	104
4.8.4.	UVEG-CECT.....	104
4.8.5.	INRAE.....	104
4.8.6.	UNITO AND ITS THIRD PARTIES	104
4.8.7.	NKUA:.....	104
4.8.8.	SPI.....	104
4.9.	WP9: Work foreseen for the next 6 months (M13-M18)	105
4.9.1.	Tasks.....	105
4.9.2.	CECT-UVEG.....	105
4.9.3.	IP.....	105
4.9.4.	IAFB	106
4.9.5.	CCG	106
4.9.6.	UL-MSCL.....	106
4.9.7.	INRAE.....	106

4.9.8.	ULPGC-BEA and its third party FCPCT	106
4.9.9.	NKUA	106
4.9.10.	SPI.....	106
5.	Conclusion and Final Remarks	106

Content of Figures

Figure 1	TNA Catalogue 1	23
Figure 2	TNA Application	23
Figure 3	– Former proposal of the structure of the EuroMiRC programme in four semesters over two years	32
Figure 4	Schema of MIRRI database respecting the guidelines defined by	40
	the MIRRI ICT Task Force.....	40
Figure 5	Schema of MIRRI data exposure to Dataverse and other third parties such as EOSC for the FAIRification of data that will be done via Dataverse.....	41

Content of Tables

Table 1	- Proposal of workflows (by UVEG-CECT)	9
Table 2	- Final offer of WF for the 1st TNA call	10
Table 3	- IS_MIRRI21 USP members appointed for the 1st TNA call 2021.....	24
Table 4	- The quantitative indicators and results of IS_MIRRI21 dissemination activities (M12).	50



1. Introduction

1. Introduction

Workpackage 1 (WP1) of the **IS_MIRRI21** project coordinates and supervises all processes to ensure the management environment and associated support for the efficient and timely implementation of the project activities. As one of the interim deliverables, Deliverable D1.3 is a report that summarizes the progress on the work done and data collected during the first year, with indication of possible deviations, delays and mitigation actions from all the workpackages (WP) and of the **IS_MIRRI21** project as a whole.

Under the guidance of the Project Coordinator (PC) and Project & Financial Manager (PFM) (ref. Task 1.1, General Agreement, p. 10), WP Leaders and partners reported their estimated budgets, direct costs and persons-month (PM) consumed to accomplish the activities in each WP during the first year and the ones provisioned for the upcoming period of six months for each WP. The PC and PFM combined and summarized the interim progress reports (IPR) collected from nine out of 10 operational WPs of **IS_MIRRI21** to edit this report, follow-up on the progress and communicate the work to our stakeholders at different levels.



2. Summary of Activities - 1st Year

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2.1. WP1 Activities “Project Management”

UMinho hosts the headquarters of MIRRI and runs the operations of [IS_MIRRI21](#) project centrally and through the Coordinator (Nelson Lima) and the MB, providing different kinds of support to the project workpackages.

The WP1 has a total of 52 PM allocated throughout the 36 months project, and as leaders of WP1 Project Management, UMinho-MUM contributes with 28 PM, while UVEG-CECT offers 6 PM for WP1. All the remaining partners have 1.5 PM each to attend Project Steering Committee (PSC) meetings, contribute to reports and deliverables, and other WP1-related tasks. To facilitate communication between partners and participants in WPs, mailing list for PSC and each WP were created.

2.1.1. UMinho-MUM (WPL)

UMinho-MUM coordinates [IS_MIRRI21](#). All the work is managed at WP level by the WP Leaders (WPLs). As set by the [IS_MIRRI21](#) Grant Agreement (GA), UMinho-MUM leads the following four tasks, in close collaboration with partners: Task 1.1 Project coordination; Task 1.2 Administrative management and support; Task 1.3 Quality & risk management; and Task 1.4 Data Management Plan for which Deliverable D1.2 was developed and submitted in October 2020.

UMinho-MUM organized 8 PSC meetings held during the first year of the project. PSC meetings are regularly attended by PSC members, including WPLs who are in charge of management at the WP level and partner representatives. PSC members engage in the governance and operations after the initial strategic decision-making by the General Assembly, and Project Coordinator, Project Co-coordinator and Executive Director. The participants usually approve previous meeting(s) minutes, monitor progress, discuss plans, and collaborate with partners and the Management Backoffice (MB), which is envisioned to be the embryo for Central Coordinating Unit (CCU) of future MIRRI-ERIC. This team was structured in a manner to bridge as a liaison between Executive and Operational Units of the project in order to effectively implement the decisions and plans of the [IS_MIRRI21](#) Grant Agreement. The following is a list of conducted meetings:

- Kick-off meeting: 25 & 26 March 2020 (two days)
- First PSC meeting: 18/02/2020, 2 hours
- Second PSC meeting: 05/03/2020, 2 hours
- Third PSC meeting: 23/04/2020, 2 hours
- Fourth PSC meeting: 16/07/2020, 3 hours
- Fifth PSC / Extended to task leaders meeting: 29 and 30/10/2020, 8 hours in total
- Sixth PSC meeting: 30/11/2020, 1 hour

- Seventh PSC meeting: 12/01/2021, 2 hours

WPL and IS_MIRRI21 MB staff were keen on attending PSC meetings. Only a few members missed with apologies, on some occasions, the PSC meetings due to other engagements, especially in times of exams or during lockdown periods which created an overdose of teleconference (TC) meetings.

2.1.2. UVEG-CECT

As leader of Task1.5 of WP1, UVEG-CECT works on the communication through the current MIRRI Portal and on the development of the future CWE Platform (in association with other partners such as CCG, SPI, USMI, IBPM and INRAE). Besides, UVEG-CECT supports internal communication by managing the Synology server and mailing lists for the different groups within the project (WP, PSC, AB, EB among others) as well as for MIRRI stakeholders (like ApM, INCF). The IT Officer (hired by UVEG-CECT) is part of the Management Backoffice (MB) IS_MIRRI21. Along with other partners, UVEG-CECT also contributed to other tasks and deliverables of WP1. UVEG-CECT has revised the deliverable D1.1. “Quality Plan”, has compiled and communicated the gender statistics for the project, and has worked on the GDPR document for IS_MIRRI21. UVEG-CECT contributed to the writing of the Strategic Research & Innovation Agenda (SRIA) and participated in the Online WP8 Workshop IS_MIRRI21 “Implementation and Sustainability of Microbial Resource Research Infrastructure for the 21st Century” held on 23.10.2020.

2.1.3. Other partners

Although the other partners had only to contribute each with 1.5 PM for WP1 for the duration of the project, most of them did an extensive job in the first year in preparing, editing and revision of plans, reports and deliverables besides dissemination and representation of MIRRI in several media and events.

2.1.4. WP1: Delays/Problems and Corrective Actions

2.1.4.1 UMinho-MUM (WPL)

As WPL, UMinho-MUM had to postpone the submission of some deliverables in order to present a more completed output or due to low response from some partners or delays in the process of collecting information mainly associated with the administrative procedures of institutions. For instance, the PSC Members asked for a more extensive and comprehensive Deliverable 8.2, so UMinho-MUM organized a meeting with IAFB, Leaders of WP8, to set a plan to introduce new insights to enhance the deliverable until the end of March 2021 to be approved and submitted to EC, subsequently. Finally, since the legal framework and administrative processes are completely different inside of UMinho-MUM, the process to contract the Executive Director took 7 months and to grant the PFM took 2.5 months. These delays created an extra burden of work for the PC and other UMinho-MUM members.

2.1.4.2 INRAE

Because of the new organization at INRAE (retirement of Dr Serge Casaregola) and the delayed recruitment of project officers caused by administrative delays associated to COVID-19 pandemic, INRAE has not participated at the beginning as much as it was expected to WP1 activities.

2.1.4.3 CCG

CCG states that the most relevant aspect in terms of restrictions to the normal project management activities was the pandemic situation. This is referred more transversely to the entire project, but in terms of project coordination the effect was particularly visible, starting with the fact that the kick-off meeting had to be realized online using telematic tools. Despite the successful kick-off meeting realized by this means, it is of general consensus that a physical face-to-face meeting with all partners discussing and interacting at the same place, would be more beneficial. On the other hand, CCG initiated 100% telework since the beginning of March 2020, which means that the team allocated to the **IS_MIRRI21** project had to work and interact remotely to accomplish the tasks related to the multiple WPs in which its contribution is expected. This, naturally, caused some constraints that the team members tried to mitigate, as much as possible, recurring to all electronic means for communication, interaction and information sharing, in order not to affect its expected contributions for the project.

2.1.4.4 Other partners

Many **IS_MIRRI21** Partners share the view of CCG about the pandemic and telework, hoping at some point soon to get back to face-to-face meetings (especially GA meetings and workshops) and presential work for even more efficiency.

2.2. WP2 Activities “Research Strategy”

In the framework of Workpackage 2 (WP2), partner organisations have collaborated on several activities of the 3 tasks during the first year of **IS_MIRRI21** project. INRAE leads WP2 with 29 out of 82 PM of efforts for three years, followed by KNAW with 16 PM. As the remaining partners, some have 9 PM, some have 5 PM, and others have 2 PM.

The purpose of WP2 is to bring all the expertise in Science & Technology of the partnership at an upper level, taking into account the users' needs linked to Research & Innovation, while seeking to develop service workflows for **IS_MIRRI21**. Thus, the specific objectives are: (1) setting up conditions for the increase of resource provision to fill the taxonomic and geographic gaps; (2) offering cutting edge approaches for the characterization of microorganisms with dedicated workflows; and, (3) setting up conditions of collaboration with other BMS-RIs related to genetic resources and high-end services.

2.2.1. Meetings

Since April 2020, exchanges and agreements among WP2 participants took place during 10 monthly video-conference meetings with participants ranging from 10 to 18. The collective work was developed in parallel to monthly WP2 meetings and through single WP2 participant activities. The meetings served for planning, discussion, exchange of information and decision-making while individual activities of each partner resulted in the development of specific written documents.

2.2.2. Tasks

In line with its purpose and objectives, WP2 has been organized into three main tasks as explained subsequently.

2.2.2.1 Task 2.1 Improvement of the MIRRI resource provision and characterization to fulfil users' needs through cutting-edge approaches (M01-M36)

Task 2.1 is led by INRAE with the participation of NKUA, UVEG-CECT, CCG, KNAW-WI, UL-MSCL, IP, UNITO. This task is further divided into two sub-tasks:

- **Sub-task 2.1A** aims at promoting collaborative trans-national field collection activities among MIRRI partners. Such projects have the potential to improve the resource provision taking advantage of the integrated expertise of different MIRRI partners in isolation and preservation of different microbial groups collected from broad range of natural and man-made environments. For this sub-task, one milestone (M2.1 Establish a list of requirements for trans-national collection) and one deliverable (D2.1 on MIRRI the agreement for trans-national field collection) were scheduled during months M6 and M12 of the **IS-MIRRI21** project, respectively. Milestone M2.1 (M6) was reached with 2 months delay and resulted from the collaborative work and exchanges occurred among all WP2 project partners during the monthly meetings.

Deliverable D2.1 (M12) MIRRI agreement on Trans-National field collection is a report document that was elaborated using the information provided by all partners, e.g., grids of Access & Benefit Sharing (ABS) and Bio Safety Levels (BSL) per country, and following discussion with WP2 participants during WP2 meetings. Thus, each participant helped in the preparation of one grid for ABS compliance in different countries involved in MIRRI and another grid highlighting differences in the BSL status of microorganisms among different countries, with MIRRI partners. Deliverable 2.1 report was drafted by INRAE, partners at KNAW-WI edited the first draft, all WP2 partners contributed to the editing of the document prior to the internal revision process operated by IP and UNITO. Deliverable 2.1 was submitted on the 26th of February 2021.

- **Sub-task 2.1B** aims at improving MIRRI strain characterization identifying common procedures and standards and promoting exchange of expertise in order to fulfil future users' needs through cutting-edge approaches. This sub-task is developed through multiple parallel

activities that have the objective to strengthen MIRRI expertise in commonly applied techniques and open the way to the application of new technologies. Sub-task 2.1B will result in the elaboration of a set of common protocols / standards for MIRRI, relying on the protocols used by the different culture collections taking part in the **IS-MIRRI21** project. Through discussion and scientific knowledge exchanges, it will be possible to find a common MIRRI position on new approaches for resources isolation, characterization and preservation notably for what concerns: i) Genome sequencing, associated data analysis and sharing; ii) MALDI-TOF profiles generation and sharing; iii) Microbiota conservation and characterization; iv) Culturomics.

For sub-task 2.1B, one milestone (M2.2 list of procedures and standards used for strain characterization) and one deliverable (D2.2) were scheduled for M12 and M36, months of the **IS-MIRRI21** project, respectively. In the past months, WP2 participants started to collect and share protocols for strain isolation and preservation, a template for MIRRI protocols has been proposed and a common MIRRI protocol for yeast and fungi isolation was produced. For what concerns strain characterization, WP2 participants are currently working on the identification of the common list of procedures and standards as planned for milestone 2.2. Finally, a WP2 workshop to promote scientific discussion on new approaches and cutting-edge technologies for strain characterization will take place in September 2021.

Accordingly, Milestone M2.2 (M12) is the result of a collaborative activity that involved all WP2 participants and members of the expert cluster in Taxonomy. It is expected that Milestone M2.2 will be reached with a couple of months delay.

2.2.2.2 Task 2.2 Interactions with other BMS-RIs

This task (M01-M36) is led by UMinho-MUM with the participation of INRAE, IP, KNAW-WI, and UNITO. The future MIRRI-ERIC will have different types of interactions with other ESFRI Health & Food (H&F) / Life Sciences (LS) RIs have been identified.

MIRRI-ERIC activities are closely linked to those of BBMRI-ERIC (biobanking of predominantly human resources for biomedical research) and EMBRC-ERIC (marine resources) as all three RIs focus on the preservation of genetic resources. Cooperation will focus on assuring complementarity, legal matters related to the Nagoya Protocol, access to resources, public-private relationships, implementation of data-processing and analysis tools among others.

Since a key aspect of information of MIRRI-ERIC holdings rely on sequence data and their analyses, MIRRI-ERIC will also cooperate with ELIXIR, the infrastructure for life-sciences information.

Close cooperation and synergies with LifeWatch-ERIC, the European e-Science distributed Infrastructure focused on how to measure the impact of Global Climate Change issues on Earth Biodiversity and Ecosystem Research, will be developed. The connection will be established through LifeWatch-ERIC facility situated in Spain, which will develop and deploy tools that will support MIRRI-ERIC to accomplish its goals: (1) Construction of the MIRRI strains data catalogue (MIRRI-IS, MIRRI Information System) to guarantee the interoperability among available data on

the preserved resources; and (2) Complex analyses of data associated to the resources used in the digital service offer of MIRRI-ERIC. This mission will be achieved by providing access to a multitude of datasets, e-Services and e-Tools enabling the construction and operation of Virtual Research Environments (VREs), which provide the environments for integrating data, software and computation as developed in pan-European infrastructure cooperation. These developments are part of the in-kind contribution of Spain to MIRRI-ERIC.

During its construction phase, MIRRI has already interacted with those H&F RIs, through some of its partners. MIRRI was represented in the H2020 projects CORBEL, EMBRIC and RItrain. MIRRI is also represented together with 12 other H&F / LS RIs in the ongoing cluster projects RI-VIS (kick-off February 2019) and EOSC-Life (kick-off March 2019). RI-VIS will increase the visibility of European RIs to broader scientific communities, industry and strategic partners in third countries. Coordinated by ELIXIR and financed for four years, the EOSC-Life project aims at making data generated by LS RIs available and analysable through the European Open Science Cloud (EOSC).

Together with the involvement in the EOSC construction, the most significant interactions will be those with the other service-providing H&F / LS RIs such as Instruct-ERIC, Euro-Biolmaging ERIC and EU-OpenScreen ERIC, since they will give the opportunity to increase knowledge on MIRRI-ERIC's own resources and to develop workflows of high-quality services that integrate technologies of several RIs. Generating data on MIRRI-ERIC's own resources via high throughput screenings (e.g., metabolomics, imaging) will be invaluable in the increase of the attractiveness of the resources preserved by MIRRI-ERIC. It will be essential to establish a strong community of service providers to bring the highest quality and complementary services as possible to the MIRRI-ERIC users. In this respect, facilitating coordinated access of its own users to the existing LS RIs to take advantage of the workflows created initially for MIRRI-ERIC resources will constitute an added value for the users and therefore for MIRRI-ERIC.

There is a relatively new project placed on the 2018 ESFRI roadmap, IBISBA, which will develop new technologies and strategies for public and private researchers involved in the field of industrial biotechnology. It will be a perfect partner of MIRRI-ERIC by supporting the practical implementation of joint projects between MIRRI-ERIC Partner mBRCs and their public or private users, helping to strengthen the possible industrial applications generated as a result of the collaboration.

Finally, an added value of establishing MIRRI-ERIC will be the possibility to apply for additional (European) funding per se, but also in collaboration with other H&F / LS RIs, as coordinator and/or partner, as it is already the case with the EOSC-Life and RI-VIS projects.

2.2.2.3 Task 2.3 Development of workflows

Task 2.3 (M01-M36) is led by UVEG-CECT with the participation of CCG, NKUA, IP, UL-MSCL, KNAW-WI, and INRAE. One of the main goals of MIRRI is to enhance the knowledge of microbial biodiversity and promote the professional development. Therefore, it is essential to identify and publicize the services, resources and expertise offered by MIRRI to the scientific community,

industry, policy makers, and also promote international cooperation by facilitating the mobility of researchers.

MIRRI partners offer a broad portfolio of services and a high level of knowledge and expertise in different microbial groups, with a great diversity of applications, some known and others to be explored. In addition, the interconnection of these services in pipelines, propels knowledge to the highest level, offering researchers a synergistic value that enables to enrich the research experience.

As a proof of concept of the MIRRI services and pipelines organization and management, in [IS_MIRRI21](#) project, the Transnational Access program is under development. The WP4 (co-led by IP and UVEG-CECT) is in charge of the management of the TNA. By applying to the TNA calls, researchers can access, beyond their borders, the most outstanding services, resources and expertise at European level in microbial diversity.

UVEG-CECT, as co-leader of WP4 and leader of Task 2.3 “Development of workflows” in WP2, elaborated in summer 2020 a proposal of 5 workflows, interconnecting services of the current TNA, to offer a research experience that would enhance the knowledge in specific areas (food, health, biodiversity, bioindustry) or microbial groups (archaea, bacteria, microalgae, fungi) (as depicted in Table 1).

Table 1 - Proposal of workflows (by UVEG-CECT)

Workflows (WF)	Step1 (TNA Code of facility/product/service Title)	Step2 (TNA Code of facility/product/service Title)	Step 3 (TNA Code of facility/product/service Title)
Microalgae/cyanobacteria			
WF1. Mass collection to extract metabolites	TNA F8.2 BELSPO-BCCM/ULC Cyanobacterial isolation, cultivation and preservation	TNA F6.2 ULPGC-BEA Experimental plant for microalgae and cyanobacteria production	
Bacteria and archaea			
WF2. Discovery of antimicrobial compounds/activities	TNA P3.1 UVEG-CECT Delicate microorganisms	TNA S4.1 INRAE-CIRM In vitro screening of anti-infectious activities: antibacterial, antiviral and antiparasitic	
	TNA P11.1 CCUoA Bacteria and archaea from extreme Greek environments		
	TNA P14.1 IBPM Microbial Strains from extreme Russian environments	TNA S10.1 MSCL/UL In vitro screening and testing of Minimal Inhibitory Concentration (MIC)	
WF3. Identification and characterization of <i>Alicyclobacillus</i>	TNA F9.2 IAFB-CCIM Identification of <i>Alicyclobacillus</i> sp. by molecular biology techniques	TNA S5.2 IP-CIP Analysis by BioNumerics of MALDI-TOF mass spectrometry profiles	

Fungi			
WF4. Complete characterization of food fungi	TNA S1.1 UMinho-MUM Food Mycology	TNA F7.1 KNAW-CBS Heterologous expression of silent fungal gene clusters	TNA S4.1 INRAE-CIRM In vitro screening of anti-infectious activities: antibacterial, antiviral and antiparasitic
			TNA S10.1 MSCL/UL In vitro screening and testing of Minimal Inhibitory Concentration (MIC)
WF5. Characterization and typing of dermatophytes	TNA F8.1 BELSP0-BCCM/IHEM Dermatophytes: taxonomy, identification and medical importance	TNA S13.3 UT-MUT Metabarcoding of fungal communities	

This proposal was presented at the workshop "Transnational Access Programme: guidelines and procedures" held on September 21-22, 2020 and organized by the IP, coordinator of the TNA. This presentation is available to the MIRRI partners in Synology: <https://synology.mirri.org:5019/d/f/578087345027326495>. After the workshop, the partners involved in each WF contacted IP to define the final proposal. Eventually, 3 workflows will be offered in the first TNA call (Table 2), as it was announced in the TNA catalogue (final version of December 2020).

Table 2 - Final offer of WF for the 1st TNA call

Workflow	Access Provider	Countries
WF1. From Field Collection to Metabolites Extraction	BCCM-ULC and BEA	Belgium and Spain
WF2. Identification of taxonomically related <i>Streptomyces</i> strains from extreme Greek environments using mass spectrometry profiles.	CCUoA and IP	Greece and France
WF3. Coupling MALDI-TOF mass spectrometry protein and molecular biology techniques to identify taxonomically related <i>Alicyclobacillus</i> strains.	IAFB and IP	Poland and France

The description of the workflows is detailed in the catalogue and publicly available at the IS_MIRRI21 website (https://ismirri21.mirri.org/wp-content/uploads/2020/07/TNA-catalogue-IS_MIRRI21_16122020_vfinal.pdf).

Under Task 2.3, Milestone M2.3 (M12) First draft of the MIRRI service workflows required for WP was achieved on time. That is, the first offer of the TNA workflows (Table 2) required for WP4 was achieved in August 2020 and shared with MIRRI partners in September 2020 during the workshop "Transnational Access Programme: guidelines and procedures", with the presentation "Scientific Workflows", by Lidia Rodrigo (UVEG-CECT). The final proposal of workflows for the first TNA call

was published in December 2020 within the TNA catalogue. This document, among others, is publicly available on the IS_MIRRI21 website: <https://ismirri21.mirri.org/project-platforms/tna/>

2.2.2.4 MIRRI-SRIA Strategic Research & Innovation Agenda 2021-2030

The development of MIRRI-SRIA was an emerging task that was found important to be added under WP2 and to which all partners contributed. The purpose of MIRRI-SRIA is to analyse the global research and innovation landscape, in order to anticipate gaps and opportunities, seeking to better address the effective needs of MIRRI user communities, and helping them deliver the maximum value and impacts from their projects, technologies and products. The strategic agenda document was designed to highlight the interconnection between MIRRI resources, capabilities and expertise and the global and European strategic agendas. Although MIRRI-SRIA, was not initially included in the IS-MIRRI21 project schedule, WP2 participants agreed to carry out and prepare for this new outcome, proposed by the MIRRI Executive Director Luís Soares.

2.2.3. Partners' contributions to the tasks, deliverables and milestones

2.2.3.1 INRAE (WPL)

INRAE coordinated the development of the different activities planned for **task 2.1**, organized and animated the WP2 meetings facilitating knowledge exchange and promoting the involvement of WP2 participants. INRAE coordinated the collection of information required to attain milestone M2.1 and the contribution of WP2 to the ABS and BLS grids. INRAE wrote the first draft of the deliverable D2.1 document and assured the progression of the several steps of revision procedure carried out by WP2 participants and followed by the designated internal IS_MIRRI21 reviewers. INRAE collected and analysed protocols, prepared the template of the common MIRRI protocol and drafted the common protocol for strain and fungi characterization. INRAE coordinated the exchanges and planned the procedure required to attain milestone M2.2.

Task 2.3: INRAE contributed to the work carried out by UVEG-CECT on the development of workflows and integrated services for the strategic agenda.

In **SRIA**, INRAE identified the teams for the writing of strategic areas paragraphs and coordinated the activities of the different participants. Members of the INRAE team, in collaboration with other WP2 participants, contributed to the writing of strategic areas 1, 3, 5 and 6. INRAE collected and organized the information required for the table on MIRRI resources in chapter 3 of the SRIA and participated to the preparation of the list of integrated services in chapter 3 of the SRIA (activity related to task 2.3). INRAE contributed to the collection of pictures related to the strategic areas 3, 4, 5 and 6 of the SRIA.

2.2.3.2 UMinho-MUM

UMinho team attended WP2 meetings and collaborated with WP2 team on the tasks, milestones and deliverables. Thus, in alignment with the European and International strategic plans for 2021-2030, the MIRRI Executive Director (ED), Luís Soares, proposed the MIRRI-SRIA and worked closely with WP2 team to define the strategic pillars of the agenda. In the process of developing

the agenda, the MIRRI ED worked on the overall co-coordination of the Agenda (together with INRAE), analysis of similar documents, conceptualization of the Agenda in terms of the scope, organisation, and contents, analysis of global, European and national strategic agendas/referentials including: UN Sustainable Development Goals; A new strategic agenda for the EU 2019-2024; European Commission's priorities for 2019-2024 (political guidelines); Horizon Europe – clusters, missions, partnerships; ESFRI Roadmap – Strategy Report & Landscape Analysis; Smart Specialisation Strategies – Belgium, France, Greece, Italy, Latvia, Netherlands, Poland, Portugal, Spain, Romania (Russia n.a.). The Coordinator Nelson Lima contributed to the writing the strategic area 2, as well as to the several iterations, revisions and final editing of the document. Luís Soares contributed to the analysis of the alignment between MIRRI's resources, services and expertise with the strategic agendas/referentials above, writing/editing texts, and participation in working meetings. The MB is currently working on the visual design of the SRIA with LKCOM Agency. Finally, the ED represented MIRRI in the LS RI Strategy Group – mapping of MIRRI services and expertise for participation in future Horizon Europe calls.

2.2.3.3 UVEG-CECT

In the framework of Task 2.1. the CECT team provided protocols for strain identification and characterization, and shared them with the rest of partners. They are available at WP2 Synology folder : <https://synology.mirri.org:5019/d/f/585723354309243257> Besides, it reviewed and updated the table "Clusters of Expertise" (<https://synology.mirri.org:5019/oo/r/583000202927978819>), where the contacts of the mBRCs are compiled, classified by areas of expertise, so that INRAE could better identify them in order to establish working groups for collaboration in the standardization of protocols CECT also contributed to ABS and BSL grids by filling them with the legal and current information applying to Spain.

As leader of Task 2.3. the CECT worked on the development of workflows based on the TNA offer included in the project as a pilot. To a more extended content, as mentioned above, CECT defined the first list of MIRRI integrated services for the SRIA, that includes workflows identified for the current TNA offer, and new possibilities of specific workflows based on the expertise and general services already implemented by the mBRCs. CECT contributed to the first draft of the SRIA in writing the text for Area 3, building the table "Application-specific and integrated services" and overall improving and reviewing the document. CECT actively participated to all the scheduled meetings.

2.2.3.4 IP

The IP has participated in 9 WP2 meetings, where it has contributed to set a roadmap for the harmonization of methods and administrative/legal issues related to transnational activities developed by IS_MIRRI21 partners across Europe (in order to accomplish the **Deliverables D2.1 and D2.2**), to the development of the MIRRI SRIA in order to get in line with the ESFRI roadmap 2021 (in compliance of the **Task 2.1**) and the implementation of the 3 workflows involving 5 IS_MIRRI21 partners that will be offered in the 1st TNA call 2021 (in compliance of aims proposed

by the **Task 2.3**). The IP has contributed to the writing of the SRIA first draft. Specifically, IP reviewed the strategic area 1. Research on pathogenic microorganisms and human / human-animal infectious diseases. Thanks to its well-known expertise and experience in the field of infectious diseases and biomedical research, the IP contributed to identify research opportunities and set priorities regarding the development of resources and technologies focused on pathogens and infectious diseases of high impact on medicine and agriculture. Moreover, the IP also proposed a multidisciplinary approach and highlighted the potential of its microbial resources to target issues of medical relevance and impact for health and economy such as: (i) the link between microorganisms and carcinogenesis (e.g. the role of cyanobacteria in tumour development in humans, the study of various oncogenic viruses [such as HBV, HIV, HTLV, HPV, EBV...], the capacity of specific bacteria to induce colon cancer [probably through their microbial compounds] and (ii) the cyanobacteria and other microorganisms as a source of anti-cancer compounds. On the other hand, the access officer has gathered more around 300 images from all partners (contributing herself with 80 pictures) for the illustration of the MIRRI-SRIA.

2.2.3.5 NKUA

NKUA participated in the WP2 teleconferences so as to remain informed about developments in the work package and to contribute to its discussions. NKUA also shared isolation protocols for **task 2.1** and also contributed information to the ABS and BSL grids on the laws pertaining to the collection and handling of microbes within Greece. NKUA in cooperation with IP developed a workflow that will be available as a TNA offer for **Task 2.3**. NKUA was responsible for writing Area 4 for the MIRRI-SRIA 2021-2030, titled "Resources and methods for biological management of soils and crops", and examined the rest of the agenda. In addition, it contributed photos of bacterial strains in case they were needed to illustrate the strategic agenda.

2.2.3.6 KNAW-WI

KNAW-WI attended most of the scheduled teleconferences and contributed to the discussions. It provided a protocol for isolation of soil fungi, and went through the protocols developed for **Task 2.1**. As was agreed in the 7th WP2 meeting, KNAW-WI designed a MIRRI Sheet on ABS information (excel format template) as part of the requirements for planned transnational sampling activities. This sheet was amended following discussions with all partners, and used by partners to fill in up-to-date information on the implementation of the Nagoya Protocol in their country and related ABS requirements. The Sheet on ABS information was annexed to **Deliverable 2.1**, for which KNAW-WI also provided input especially on ABS. KNAW-WI also contributed to the writing of MIRRI-SRIA, especially area 7 on rescuing and preserving microbial biodiversity.

2.2.3.7 CCG

During the period, CCG has accompanied and participated for the discussion meetings, aiming at obtaining deeper know-how on the needs of the MIRRI members, among other, for workflows definitions (**task 2.3**), on the strategy for MIRRI, clusters of expertise and integrated services. This accompaniment had the dual objective, for CCG as non-member of MIRRI, of being more

informed about the MIRRI members activities (ongoing and foreseen) for research on microbiology and, mainly, important contribution for better tailored implementation of the Collaborative Working Environment (CWE) features and functionalities, which happens in the context of WP6. This participation in WP2 meetings and activities allowed a constant update of requirements elicited for CWE in the context of WP6, which is a proper deliverable (D6.1), but also a document of reference for CWE's technical implementation.

2.2.3.8 UNITO, including Third-Parties USMI/IRCCS, UMCC/ UNIMORE, ITEM/CNR and DBVPG

UNITO with the Third-Parties involved has actively participated to WP2 meetings. UNITO and its Third-Parties participated to **task 2.1** contributing to the BSL grids, providing the information relative to the current legal procedures in Italy. In addition, UNITO and its Third-Parties, contributed to the first draft of Deliverable 2.1. Each involved collection (TUCC, UMCC, ITEM and DBVPG) has given their own protocol for the isolation of fungi, yeasts and bacteria from different sources (soil, foods, air, etc.). These protocols were used to generate the proposed general procedure for the isolation of fungi including yeast from soil, water and food. Additional protocols for the isolation of filamentous fungi, yeast and bacteria from different substrates were drawn and shared among the partners. These protocols will be useful for the TNA. UNITO contributed to the writing and reviewing of the first draft of the MIRRI-SRIA, UNITO wrote the text for the strategic area 5 (Resources and methods for biomonitoring and/or bioremediation of microbial pathogens, pharmaceuticals and plastics in soils and waters).

2.2.3.9 UL-MSCL

During the first year UL-MSCL could attend only few WP2 teleconferences, because sometimes they overlap with the study process at the Faculty of Biology. Collaboration with the long-term partner Ltd "Bioefekts" was continued: 2 Webinars (November 2020, January 2021) were organized regarding to the potential application of selected microscopic fungi strains with biotechnological properties. Protocol for the determination of biological activity of cultivation liquid of microbiological plant fertilizers (for internal use) was elaborated. Elaboration of another protocol (plant tissue culture's sterility) still is under progress. UL-MSCL collected and provided necessary information for ABS and BLS grids (Latvia).

2.2.3.10 BELSPO, including Third-Parties BCCM/IHEM, BCCM/MUCL and BCCM/ULC

Even without foreseen PM for WP2, during this first year, BELSPO and its Third-Parties, attended nine monthly meetings, filled the information on the implementation of the ABS requirements for Belgium in the grid for the Trans-National Sampling and commented on the content of the Biosafety grid for fungi (**task 2.1**). Members have proposed to participate to the expert group tasked to write the "List of procedures and standards used for strain characterization" **milestone 2.2**. They read and commented on the draft of the **Deliverable 2.1**.

2.2.4. WP2: Delays/Problems and Corrective Actions

2.2.4.1 INRAE (WPL)

INRAE encountered multiple difficulties during the first months of IS_MIRRI21 project that resulted in a delay of Task 2.1 activities. Such delay is associated to multiple factors:

- 1) the rearrangement of the direction unit at INRAE-CIRM, the arrival of a new coordinator Michel-Yves Mistou, the retirement of Serge Casaregola that came earlier than expected and the arrival at INRAE-CIRM-Levures of Jean-Luc Legras that become the person in charge of WP2;
- 2) difficulties related to COVID-19 pandemics. Administrative activities at INRAE were blocked during the lockdown and the recruitment of the project officer in charge of WP2 was delayed for several months; and,
- 3) the active involvement of INRAE members and other WP2 participants in the SRIA document decelerated the work performed to Task 2.1.

2.2.4.2 NKUA

NKUA encountered difficulties similar to INRAE for what concerns COVID-19 pandemics and associated delays in the hiring of personnel for the project. Despite the delay accumulated for Tasks 2.1 along the first months of the project all milestones and deliverables scheduled for this task in the first year of the project were reached or are about to be completed. Milestone 2.1 was reached with 2 months delay, the submission of the deliverable D2.1 was postponed from end of January 2021 to the end of February 2021, while milestone 2.2, that was planned for the month 12 is delayed to month 14.

2.3. WP3 Activities “Central governance & Operations”

Led by UMinho-MUM, the WP3 is expected to establish the central governance and operational procedures of MIRRI to be functioning as an ERIC legal entity characterised as distributed, but centrally coordinated, pan-European Research Infrastructure. MIRRI will be governed by the provisions stated in the MIRRI-ERIC Statutes, which sets out the principles for the governance and management of MIRRI-ERIC and its services, activities and operations, and the Technical and Scientific Description (TSD), which describes the principal tasks and the economic activities that will be carried out by the RI.

2.3.1. Partners’ contributions to the tasks, deliverables and milestones

The activities performed from M1 to M12 are written as per the three tasks and subtasks of WP3:

- Task 3.1: Management and operational procedures
- Task 3.2: Common standards and legal framework (including biosecurity)
 - Subtask 3.2.1: Common Standards
 - Subtask 3.2.2: Building trust with stakeholders in MIRRI’s compliance to the Nagoya protocol

- Subtask 3.2.3: Implementing Biorisk management and improving Biorisk and Bioethics awareness within mBRC staff, users and other stakeholders.
- Task 3.3 Implement a MIRRI Cluster on Legal Framework

2.3.1.1 Task 3.1: Management and operational procedures

UMinho-MUM is the leader of task 3.1. The main achievements were the establishment of the Management Backoffice (MB), which is the embryo of the Centrally Coordinated Unit of MIRRI. All predicted members were hired, and the MB is now fully operational, with a few setbacks due to the pandemic situation.

UVEG-CECT contributed to the task by hiring the IT Specialist (ITS) as part of the MB. IP hired the Access Officer which is, temporarily, fulfilling the functions of access and communication officer in the MB (CCU), from Paris. The access officer has helped in the establishment and implementation of internal operational rules and procedures such as the review of the code of conduct and ethics.

The partner **BELSPO (including Third-Parties BCCM/IHEM, BCCM/MUCL and BCCM/ULC)** has contributed to the activity “prepare tools, including measure a series of indicators for different assessments” by coordinating the input of MIRRI partners that was needed for the ESFRI 2020 monitoring exercise. The indicators are listed in the Technical and Scientific Description MIRRI document yet submitted to the EC on the step-2 to become ERIC.

2.3.1.2 Task 3.2: Common standards and legal framework (including biosecurity)

KNAW-WI, the leader of task 3.2, in collaboration with the partners involved in the task, compiled a list of questions for the Stakeholders interviews on ABS. One for individual professionals from academia or private bodies who are users and/or depositors of strains in public collections, and one for stakeholder organisations. Interviews were conducted by several partners in the period between November 2020 to January 2021. To assure confidentiality, each partner interviewed its own relations who were anonymized in the completed interview forms.

CCG aimed at exploring the steps and plans towards the central governance and operations of MIRRI, particularly in the context of task 3.2, the matters related to biorisk and biosecurity may be of particular relevance for Collaborative Working Environment (CWE) functionalities implementation, requiring for **CCG** a deeper understanding and knowledge.

Subtask 3.2.1: Common Standards

The partner **BELSPO (including Third-Parties BCCM/IHEM, BCCM/MUCL and BCCM/ULC)** has identified the **IS_MIRRI21** partners that already have a certified and/or accredited quality management system (QMS) in place. Six of them (including one collection with no formal QMS) were selected to be audited according to the new ISO 20387 biobank standard. **BELSPO** is working on an internal audit checklist based on the ISO 20387 standard. The selected partners will be invited to complete this checklist prior to the audit itself. The selected partners are: **BCCM/IHEM** (ISO 17025), **CECT/BEA** (ISO 9001), **CRB-IP** (NF S96-900), **Westerdijk Institute** (ISO 9001), **MUM** (ISO 9001) and **VKM** (IBPM- no certified quality management system).

A small pool of internal auditors has been created (Vincent van de Perre from **BELSPO**, Anabela Martins from **UMinho-MUM**, Gerard Verkleij from **KNAW-WI**). The aim is to audit in a variety of situations regarding QMS in order to evaluate the feasibility of ISO 20387 implementation in different settings. In addition, the use of a standardised list will ensure that all auditors perform the audits in the same way to have comparable results.

Accordingly, the participation of the **ULPGC-FCPCT-BEA** in this WP is essentially in accompaniment and participation in the workshops planned in it. Since the **BEA** has been postulated as a collection to be audited internally according to ISO 20387:2018. Moreover, the **BEA** has acquired the ISO 20387:2018 documentation through the **ULPGC** library service.

A workshop to present and explain the new ISO 20387:2018 standard for biobanks is scheduled for 17 June 2021. It will be preceded by a webinar to introduce the topic and inquire about the most relevant topics of the standard for the target public (i.e., managers of BRCs from within and outside the MIRRI partnership).

Subtask 3.2.2: Building trust with stakeholders in MIRRI's compliance to the Nagoya protocol

UVEG-CECT designed the interviews and interviewed 3 users/depositors and 3 organizations. While, **UL-MSCL** restored contacts and communication with Ministry of Environmental Protection and Regional development Rep. of Latvia regarding the Nagoya protocol.

Through the involvement of the **BEA** staff in charge of the ABS regime **BEA** has conducted 4 interviews on ABS, which included users, depositors and international organizations related to its culture collection of microalgae and cyanobacteria.

The **IP** performed five surveys about to “compliance of Nagoya protocol (NP) and ABS regulation” in order to contribute to Task 3.2.2. The Access Officer interviewed representatives of two Research Infrastructures, two depositors and one customer of the CIP by video call during one to two hours. Then the interviews were transcribed into a format and sent to the Task leader. **INRAE** performed interviews with **CIRM** stakeholders, aiming to investigate the level of awareness around the Nagoya protocol and the ABS implementation by the organization, and the impact of the regulations on the stakeholders’ activities. The stakeholders were from the public, private, and semi-public sectors.

UNITO performed six surveys about to “compliance of Nagoya protocol (NP) and ABS regulation”. These interviews targeted both individual persons (customers and depositors) and public/private organisations (stakeholders organisations). **BELSPO** offered to perform some of the stakeholder interviews.

Subtask 3.2.3: Implementing Biorisk management and improving Biorisk and Bioethics awareness within mBRC staff, users and other stakeholders.

KNAW-WI created a MIRRI Biosecurity expert cluster which the main task will be to advise staff of MIRRI mBRCs on issues such as Biorisk management and Bioethics developments associated with Biosecurity, and give input in the guidance document on Biosecurity for the MIRRI mBRCs.

The first steps were made to discuss the three online workshops in WP3 that will be held in June 2021. SPI arranged a bilateral meeting with KNAW and BELSPO to discuss the WP3 workshops and webinars anticipated in 2021. **SPI** is waiting to have more information regarding the workshops and the dissemination materials needed. However, according to the dates agreed by **KNAW** and **BELSPO**, the platform for the workshops has been booked by SPI as follows:

- Thursday, 3 June 2021 (08:00 AM - 08:00 PM CET): ABS workshop
- Thursday, 10 June 2021 (08:00 AM - 08:00 PM CET): Biosecurity WS
- Thursday, 17 June 2021 (08:00 AM - 08:00 PM CET): ISO 20387:2018

2.3.1.3 Task 3.3 Implement a MIRRI Cluster on Legal Framework

KNAW-WI contacted experts in different aspects of Biosecurity from diverse fields to enquire if they are willing to act as Biosecurity experts in the MIRRI Biosecurity expert cluster. From the contacted people an initial Biosecurity expert cluster, comprising eight experts, was established. This group includes MIRRI partners (five experts) as well as external experts (three experts).

BELSPO, IP, INRAE, UVEG-CECT, UNITO and third parties provided a list of experts for the establishment of the MIRRI cluster on legal framework (general legal issues, Nagoya Protocol, Biosecurity and Biosafety) to the task leader.

NKUA searched for experts and found one working at the ACA-DC culture collection that belongs to the Agricultural University of Athens who can join the legal cluster. Moreover, **UNITO** contacted the *Accredia* Italian system to establish a dialogue about the certification and accreditation of Italian biobanks.

Finally, **BELSPO, NKUA, IP, INRAE, SPI, CCG, UNITO, UVEG-CECT** and **UL-MSCL** representatives have participated in the WP3 meetings.

2.3.2. WP3: Delays/Problems and Corrective Actions

The internal audits proposed in the frame of task 3.2.1. can only be done efficiently on site. Taking into account the sanitary crisis, it is not (yet) possible to visit the selected partner collections. The standardised checklist that will be completed by the collections provides a good basis for the work to be done. For the most optimal result, the site visits remain essential.

MS9 Establish a Legal Framework expert group, was expected by M12. The description of the MS states that the cluster must be up and running but for this we need, at least, the preliminary version of the CWE, allowing all functionalities needed to run the cluster (forum, access to materials, etc.). Therefore, the fully functional cluster is not expected before the implementation of the beta version of the CWE, expected by M18. However, an initial list of experts has been compiled and, in February, the new MIRRI website was launched (www.mirri.org) and includes a description of the Legal cluster and the e-mail address to contact (access@mirri.org), so users will be able to start making queries to the group. In the next month, we will define rules of procedure to address the coming queries, the criteria to select experts and the possibility to launch a call for external experts.

2.4. WP4 Activities “Transnational Access to IS_MIRRI21”

The Institut Pasteur together with the CECT co-lead the WP4 “Transnational access to IS_MIRRI21” (TNA), with 22 and 18 PM, respectively. The main purpose behind WP4 is to develop and coordinate a TNA pilot that promotes transnational access among different external users and the mobility of researchers.

The WP4 has three main tasks related with the development and implementation of the TNA programme for IS_MIRRI21 project. The work developed in this WP will allow to test the interest of users to apply for funded access to products, services and facilities proposed in the TNA catalogue, the relevance of integrating services into pipelines (called TNA workflows), the access platform anchored to IS_MIRRI21’s website and finally, the access procedure from the reception of request until the delivery of access.

2.4.1. Tasks

2.4.1.1 Task 4.1 Management of the TNA programme

Task 4.1 implies the coordination of the access in the framework of IS_MIRRI21 TNA through a web-based application via a unique entry point: the IS_MIRRI21 portal (<https://ismirri21.mirri.org/project-platforms/tna/>). The TNA programme is managed by the access officer (website, social media and communication material’s content, production and illustration of the TNA catalogue, call launching, handle correspondence with applicants, process received proposals and do the eligibility check before submission to the liaison officers for the feasibility check and the User Selection Panel (USP) for the scientific evaluation, troubleshoot emergent issues during TNA, handle reporting and ensure timely implementation of rules and policies) using the ARIA (Instruct-ERIC) online application platform.

The access officer is the main contact person to discuss details about the TNA application. The targeted users for the IS_MIRRI21 TNA programme are worldwide scientists from research organisations and companies (in the fields of biotechnology, agro-food, pharmaceuticals, environment, etc.). The access officer will work closely with the WP6 for the development of the TNA portal in the CWE, mainly to make the link to ARIA, and with the WP2 for the creation and implementation of the TNA workflows that will be displayed in the TNA portal as an option for the users who want to refine and mature their research and innovation projects, the WP7 for the creation of an efficient communication strategy that allows to widen the scope of the TNA and the liaison officers for the proper implementation of the TNA procedures and welcoming of the external scientists into the facilities of IS_MIRRI21 access providers. The access officer is also working closely with the Instruct-ERIC IT team (sub-contractor of IS_MIRRI21) for the setting up of the TNA application platform in ARIA and to monitor the performance of the webpage throughout the two IS_MIRRI21 TNA calls.

2.4.1.2 Task 4.2 Delivery of access

Task 4.2 is developed closely with the liaison officers, who are the contact person for each partner participating in the TNA programme (UVEG-CECT, BELSPO-BCCM/MUCL, BCCM/IHEM, BCCM/ULC, NKUA-CCUoA, ULPGC-BEA, KNAW-CBS, IAFB-CCIM, UMinho-MUM, INRAE CIRM, IP-CRBIP, UL-MSCL, UNITO-MUT and IBPM-RAS/VKM). The liaison officers will estimate the technical feasibility of the projects submitted during the TNA call prior to the scientific evaluation made by the USP. Thus, the USP will evaluate the scientific quality of the proposals and select the awarded projects. The access will be provided free of charge to the end-user and will also include the shipment costs. A workshop called "TNA: guidelines and procedures" was carried out on the 21st and 22nd of September 2020. Forty-five people participated on the first day and 36 people on the second day. The workshop developed subjects such as the [IS_MIRRI21](#) TNA concept, management of TNA proposals, scientific workflows, User Access Contract, ARIA as the tool for project's online management, access costs and the first-hand experiences of other TNA programmes told by colleagues from the fellow research infrastructures CatRIS and EMBRC. This event was organised and broadcasted from the Institut Pasteur in Paris. The 1st TNA call was launched on 25th January 2021 and will be open for 3 months (deadline 16th April 2021).

2.4.1.3 Task 4.3 Assessment and review of transnational access

The aim of task 4.3 is to gather TNA users to present outcomes and share experiences of their access to liaison officers, members of the USP and the general coordination of the [IS_MIRRI21](#). The TNA experience feedback will be gathered from users, access providers and reviewers through questionnaires that they will be asked to answer at the end of each TNA access. This information will be valuable for the implementation of improvements of MIRRI's TNA program. Two symposia will be organized by BELSPO, after the completion of the 1st and 2nd TNA calls, respectively. Moreover, the Access officer has drafted feedback surveys for "users" and "access providers" in order to know in detail the experience of all parties during the 1st TNA call. These questionnaires were reviewed and approved by BELSPO, which also added a third questionnaire for the reviewers (USP members). Based on this information, it is expected to make the necessary modifications and improvements for the next calls to have an efficient TNA programme at the end of the 3-year project.

2.4.2. Partners' contribution to the tasks, deliverables and milestones

In addition to the above-mentioned tasks, WP4 had one deliverable D4.1 1st TNA call: Launch of the first call of the transnational access required for the first year (M12) and several milestones planned for the 1st year of the project.

2.4.2.1 IP (WPL)

In **Task 4.1. Management of the TNA programme**, the following tasks has been fulfilled during the first year of the **IS_MIRRI21** project and can be checked at <https://ismirri21.mirri.org/project-platforms/tna/>:

- Creation of guidelines for applicants, reviewers, liaison officers and CWE.
- Creation of additional documents related with the TNA such as the “User Access Contract”, Application forms, Feedback surveys, and Evaluation forms for reviewers.
- Provision of the specifications for the creation of the future TNA portal in the CWE.

In collaboration with the CECT, IP has contributed with the CWE requirements for the Gate 2 Module 3 “Gate to services” with 25 specifications needed for the creation of the online TNA services, which are included in the “ICT guidelines”. These specifications include the description of the TNA application portal and all the requirements to submit online and monitor the TNA proposals during the calls. Specificities regarding design, content, functioning to produce a friendly environment for all people involved in the TNA (applicants, reviewers, liaison officers and Access officer) were included in these guidelines delivered by the access officer on 10/07/2020.

- Organisation of the workshop “TNA: guidelines and procedures”.
- Development of 3 workflows for the 1st TNA call.
- Coordination of the production of the TNA catalogue.

The TNA catalogue is an illustrated document that describes the TNA offers (composed by Products, Services and Facilities), the workflows and each of the access providers participating in the call. It gives a wide and detailed description of the programme to potential applicants. This document was assembled and entirely illustrated by the access officer, then reviewed and approved by all liaison officers, the CCU and the executive director of MIRRI.

The TNA catalogue was published online in December 2020 on the **IS_MIRRI21** TNA webpage (<https://ismirri21.mirri.org/project-platforms/tna/>).

- Gathering the **IS_MIRRI21** partners’ information for the TNA portal in ARIA.

The liaison officers have answered questionnaires prepared by Instruct-ERIC (Manager of ARIA). The information describing the institutions and their TNA offers was used to build the TNA portal through ARIA. The access officer coordinated the delivery of the questionnaires to the liaison officers, the drafting of the guidelines to fill the forms and gathered the information and images provided by all access providers.

On the other hand, there was a close interaction with the IT team of Instruct-ERIC for the setting up of the TNA application platform, design of the webpage environment, testing of the functionalities of the portal and the review of the content. The IP was the liaison between the IT teams of Instruct-ERIC and MIRRI/**IS_MIRRI21** for the creation of the access to the TNA portal in ARIA from the **IS_MIRRI21** webpage.

- Provision of content and illustrations for (1) promotional material (flyer, [IS_MIRRI21](#) newsletter, press releases), (2) the TNA webpage (all information concerning the call and downloadable documents containing the TNA offer, guidelines and procedures of the programme) and (3) tweets and posts for events organised by the IP and the continuous advertisement of the TNA call in social media (Twitter and LinkedIn) and through internal scientific networks of [IS_MIRRI21](#) partners and external collaborators.
- The IP coordinated the appointment of the USP for the evaluation and selection of proposals of the 1st TNA call. The access officer collected names proposed by partners (UMinho-MUM, UNITO-MUT and INRAE-CIRM) and obtained a group of 12 outstanding scientists from academia and industry, top experts in their respective fields and highly qualified to participate in the evaluation of research proposals for the 1st TNA call 2021. The 12 scientists, members of the USP, signed a non-disclosure agreement in December 2020 in order to participate in the evaluation of the TNA proposals.

Concerning the **Task 4.2. Delivery of the access**, several tasks have been fulfilled during the first year of the [IS_MIRRI21](#) project. To begin with, the first call for access to the 14 [IS_MIRRI21](#) facilities was launched on January 25th 2021 and will be open for three months (deadline on 16th April 2021). During this time, the applicants will contact the access officer to obtain more details about the programme and then they will prepare their applications to be submitted online through the TNA application portal in ARIA (developed by Instruct-ERIC, a subcontractor of [IS_MIRRI21](#)). In this portal, the applicants will find a catalogue of the [IS_MIRRI21](#) TNA offer (and a brief description of each access provider) where they can select the product/service/facility of their preference and submit their research proposal. In addition, this platform allows the technical checking of applications by the liaison officers, the online evaluation of proposals by the USP members and the follow-up of the whole application process, the users' access and the feedback by the access officer. The TNA application platform went live on the 8th February 2021, two weeks after the launching of the first TNA call.

In order to assure the largest scope of the TNA call, the access officer and the WP7 have worked on the implementation of a communication strategy that started in September 2020 and will go on during the time the TNA call is open (deadline 16th April 2021). This strategy includes a continuous advertisement of the TNA call in social media (twitter and LinkedIn) and through internal scientific networks of [IS_MIRRI21](#) partners and external collaborators.

D4.1 1st TNA call: Launch of the first call of the transnational access.

The TNA call was launched on January 25th, 2021 and will be open until April 16th, 2021. Potential applicants can find detailed information about the call including an illustrated TNA catalogue with the 17 offers (among products, services and facilities) proposed by the TNA programme on the webpage of [IS_MIRRI21](#).



Figure 1 TNA Catalogue 1

Applicants should initially contact the access officer to obtain further information about the offers and partners' facilities before discussing the technical feasibility of their projects with the liaison officers based at each access provider of interest. Potential users can submit their research proposals online through the TNA application portal in ARIA accessible through the [IS_MIRRI21](#) webpage.



Figure 2 TNA Application

The evaluation and selection of the applications will be done online. Awarded proposals will be announced in May 2021 and the access is expected to take place between June and November 2021.

As for the **Milestones of WP4**, IS_MIRRI21 partners and IP as WPL worked together to achieve the ones due in the first year as follows:

- **MS11. Appointment of the Access Officer (M3)**, the Access officer for the IS_MIRRI21 TNA programme was appointed in June 2020 (M5) due to the national measures to contain COVID-19 outbreak in France at that time. Liliana Avila Ospina, PhD in Biology and with experience in project management and science policy, was recruited to work for

3 years as access officer for the **IS_MIRRI21** TNA programme at the Centre de Ressources Biologiques de l'Institut Pasteur - CRBIP in Paris.

- **MS12. Appointment of the User Selection Panel USP (M10)**, IP, UMinho-MUM, UNITO-MUT, INRA-CIRM, identified potential candidates to be User Selection Panel (USP) members. In November 2020 (M9), 12 outstanding scientists from academia and industry, top experts in their respective fields in microbiology (including taxonomy, biobanking, innovation, research policy, health, environmental, food, marine resources and education) were appointed to be part of the **IS_MIRRI21** USP (Table 3). This panel of experts will review and select the proposals that will be awarded with funded access to the 14 partner facilities.

Table 3 - **IS_MIRRI21** USP members appointed for the 1st TNA call 2021.

NAME	DOMAIN OF EXPERTISE	ASSOCIATION
1	cyanobacterial taxonomy	University of Porto (CIIMAR)
2	yeast taxonomy	Universidade NOVA de Lisboa
3	fungus taxonomy	Helmholtz centre for infection research (HZI)
4	microbiomes and regulatory affairs	Nutrition Health Care
5	microbiomes	AIT Austrian Institute of Technology ait
6	environmental microbiology	School of Engineering Science, LUT University, Finland
7	Food mycology	Università Cattolica del Sacro Cuore, Piacenza
8	mBRC quality management and legal framework	CABI, United Kingdom
9	Lactobacilli and fermentation processes	Università de Verona
10	food and environmental microbiologists	Catholic University of the Sacred Heart UNICATT
11	mycorrhizal fungi and plant microbiome	Università degli Studi di Torino UNITO
12	microalgae	National Institute of Oceanography and Applied Geophysics - OGS

- **MS13. TNA platform on MIRRI CWE available to launch the call (M12)**, IP provided the specifications for the creation of the future TNA portal in the CWE currently developed by the WP6. The access officer made a document called “the ICT guideline” illustrating the needs and requirements for the permanent online TNA portal in the CWE, what would

be needed for the management of the proposals and users' requests, and proposes which would be the best way to design and to organise the virtual space to offer these services. Despite its great advances, the CWE is still under construction and it will take more time to go live as an online application platform. Therefore, it was decided to use the TNA application platform in ARIA for the online management of research proposals and access to services for the IS_MIRRI21 TNA pilot (1st call in 2021 and 2nd call in 2022). This cloud service is provided by Instruct-ERIC to research infrastructures, facilities and user communities for the management of the submission/review of proposals and the management of physical and remote access to services/resources provided by research institutions. As coordinator of the TNA programme, the IP signed the Data Processing Agreement (DPA) and the Service Usage Agreement (SUA) with Instruct-ERIC to obtain the services of ARIA for two years, the time foreseen to develop the two calls of IS_MIRRI21 TNA. The TNA application platform went live on February 2021, almost simultaneously with the launch of the 1st TNA call.

2.4.2.2 UVEG-CECT (Co-WPL)

As UVEG-CECT co-leads the WP4 together with IP, UVEG-CECT contributed, during the 1st year of the project, to the development of the WP4 tasks as follows:

- The UVEG-CECT defined in a first stage (before the access officer was hired in IP) the TNA functional requirements to be included in the CWE portal.
- Two internal meetings with IP were appointed to discuss organizational issues about procedures of the TNA.
- David Ruiz Arahal was proposed as the Liaison Officer. He managed the information requested by the Access Officer in relation with the ARIA questionnaire. This role has been taken by Lidia Rodrigo since January 2021 following David Ruiz's departure from the position.
- The UVEG-CECT worked in the definition of workflows for the TNA offer and the proposal was presented to the rest of the partners in the workshop with the Liaison Officers in September.
- UVEG-CECT provided information and pictures from UVEG-CECT facilities, for the TNA application platform in ARIA; attended an internal meeting on 10th September 2020 with IP about organizational procedures (access planning and Gantt chart), guidelines (for applicants, for reviewers, for liaison officers), CV model and ARIA questionnaire; and participated in the workshop "Transnational Access Programme: guidelines and procedures" (organized by IP) with the presentation "Scientific Workflows", by Lidia Rodrigo (Project Manager at UVEG-CECT), that took place online on 21-22 September. With this presentation, UVEG-CECT showed a proposal of integrated services resulting from the combination among the ones currently offered by the TNA offer. Besides, a scheme for the design of workflows with MIRRI services was shown.

- David Ruiz Arahal, as Liaison Officer, reviewed the description of the UVEG-CECT culture collection, as access provider, and pictures were facilitated to IP to illustrate the TNA catalogue downloadable from the [IS_MIRRI21](#) website and participated in the dissemination of 1st TNA call through the institutional social media and websites (CECT and MicroBioSpain), LinkedIn and social networks.
- UVEG-CECT collaborated with IP in the definition of the access planning and reviewed the guidelines and documents created by IP for the TNA.
- Attended bilateral meetings.
- Filled the ARIA questionnaire with information about UVEG-CECT as access provider.
- Provided images for TNA documents and webpage.
- Worked on the definition of workflows from TNA offer and attended and participated in the workshop “Transnational access: guidelines and procedures” with the presentation “Scientific workflows”.
- Disseminated the 1st TNA call by posting in social media and institutional websites.

2.4.2.3 BELSPO, including Third-Parties BCCM/IHEM, BCCM/MUCL and BCCM/ULC

BCCM/IHEM

Pierre Becker was appointed as Liaison Officer of the BCCM/IHEM collection and participated in the two-day webinar on the TNA guidelines and procedures organized by the access officer. At BCCM/IHEM, the TNA will be organized as a workshop on *dermatophytes fungi*. The first task was to review, adapt and approve the TNA offer for the TNA online catalogue, and supply illustrating pictures. Moreover, detailed information associated with the TNA (description, hosting infrastructures, technologies accessed, etc.) were provided in order to prepare online application of the participants through the ARIA platform.

The workshop on *dermatophytes* will include theory as well as practical guidance that requires the use of living strains from the BCCM/IHEM collection. During the reported period, our technical staff carried out the selection and description of the strains. This selection represented an important work and took into account different parameters such as species diversity, typical morphology or culture media needs. The workshop program was also drafted, and the theoretical content/material was developed by the scientific staff. These activities included literature research and the realization of slides.

BCCM/IHEM actively participated in the on time opening of the TNA call by delivering the necessary information for the TNA catalogue and application platform. Members of BCCM/IHEM also advertised the launch of the call through their own networks. Accordingly, the launching of the TNA call was spread using social media (e.g., LinkedIn accounts of BCCM/IHEM scientists, BCCM Twitter account) and other channels (e.g., at host institute, ECCO website, BCCM website).

BCCM/ULC

Anne-Catherine Ahn has been appointed as Liaison Officer for the representation of the BCCM/ULC collection. BCCM/ULC reviewed the proposed TNA offer of the TNA catalogue and filled in the ARIA spreadsheet for the creation of the TNA online application in ARIA with all required information about our TNA offer. On September 21st and 22nd 2020, Annick Wilmotte and Anne-Catherine Ahn participated in the workshop: TNA guidelines and procedures. Furthermore, we participated in the review of the content and provided images to illustrate the TNA catalogue, which is downloadable from the [IS_MIRRI21](#) webpage. For the development of the TNA application platform in ARIA, we provided information about our facility, our TNA offer and images. Together with BEA, we developed a workflow (WF1. From Field Collection to Metabolites Extraction) offered in the 1st TNA call, and which was taken as an example to illustrate the workflow during the workshop in September. For this implementation, we had a meeting before the workshop to discuss our workflow with the liaison officers of BEA and IP. We promoted the TNA call in our internal scientific networks (our department, on the University's website, and mailing lists of potentially interested colleagues like AFEM, ALGAE-L).

BCCM/ULC team reviewed the proposed TNA offer of the TNA catalogue, as well as the general content of the catalogue and provided images. We updated our information about our facility in the ARIA spreadsheet for the creation of the TNA online application in ARIA with all required information about our TNA offer. Together with BEA, we developed a workflow (WF1. From Field Collection to Metabolites Extraction) offered in the 1st TNA call. We promoted the TNA call in our internal and international scientific networks.

BCCM/MUCL

Sylvie Cranenbrouck was appointed as Liaison Officer of the BCCM/MUCL collection and participated in the two-day webinar on the TNA guidelines and procedures organized by the access officer. At BCCM/MUCL, the TNA will be organized as a training on *arbuscular mycorrhizal fungi*. Furthermore, Sylvie contributes to the review of the content and provided images to illustrate the catalogue. For the development of the TNA application platform in ARIA, she provided information about BCCM/MUCL facility, TNA offer and images. The launch of the TNA call was spread using social media (Twitter) and BCCM web site and host institution Research administration for internal dissemination. BCCM/MUCL contributes in the revision of the TNA catalogue and provides necessary information and illustrations for the ARIA. We also contributed to the diffusion of the call with UCLouvain.

2.4.2.4 KNAW-WI

Gerard Verkleij was appointed as the Liaison Officer for KNAW-WI, and participated in the TNA Liaison officer Webinar. A description and images for illustration were provided for the TNA Catalogue and feedback provided on its draft, and information was provided as input for the ARIA platform. The launch of the first TNA Call was disseminated through the Westerdijk Institute website as a news item and was also fed into the institute's e-Newsletter and twitter. Besides, KNAW-WI delivered the necessary information and images for the TNA Catalogue. It also

provided feedback on its draft and disseminated the launch of the first call through the institution's website and social media.

2.4.2.5 INRAE

INRAE recruited two Liaison Officers: Marwa Zaarour and Giulia Cheloni. The TNA offer for the online application has been reviewed, and the ARIA spreadsheet has been filled and completed. During the first year, INRAE worked on several activities as listed below.

- INRAE participated in the workshop: TNA guidelines and procedures that took place on September 2020.
- INRAE participated in an internal meeting on September 14, 2020 to discuss the workflow (WF1) proposed by the ULC and BEA.
- The liaison officer Marwa Zaarour and Emmanuelle Helloin provided the required information on the TNA offer to fill in the ARIA spreadsheet. Photos of the facility were provided for the development of the TNA application platform (ARIA). We provided the necessary material for the TNA catalogue, and we reviewed its content. INRAE helped in the dissemination of TNA activities on LinkedIn by sharing posts and with internal scientific network
- INRAE provided names for the USP.
- INRAE helped in the dissemination of the TNA activities on LinkedIn by sharing posts and with internal scientific network.

2.4.2.6 UMinho-MUM

Célia Soares was appointed as Liaison Officer of the MUM collection and participated in the two-day webinar on the TNA guidelines and procedures organized by the access officer. A description and images for illustration were provided for the TNA and information was provided as input for the ARIA platform. At MUM, the TNA will be organized as support and training for filamentous fungi identification and food mycology.

2.4.2.7 SPI

SPI began the development of the TNA programme dissemination materials together with IP in month of the project (M6). IP provided the content and description of how the materials should appear and SPI designed and disseminated the outputs. One bilateral virtual meeting between IP and SPI was held on 30/07/2020 (1 hour) to discuss the production of the materials. The development and finalisation of the dissemination materials began and went up to M12 of the project. The materials produced are:

Another bilateral meeting with IP was held on July 2nd, 2020 to discuss the topics for workshops to propose for the Science is Wonderful 2020 event application. This was a brief meeting held via skype and the results of the application were positive. Preparations for the online event (due on 22-24 September 2020) went well. Another meeting between SPI, IP, CECT and Instruct-ERIC regarding the ARIA-Platform of the TNA webpage was conducted on December 21st, 2020.

2.4.2.8 ULPGC, including the Third-Party FCPCT

ULPGC-BEA and its partner FCPCT participated in the following tasks:

- Appointed Antera Martel (BEA) as its Liaison Officer for TNA
- Participated in the workshop TNA guidelines and procedures
- Participated in the internal meeting to discuss the 1st workflow (WF1)
- Development of the WF1 in partnership with ULC offered in the 1st TNA call.
- Provided and reviewed content and photos of BEA facilities to illustrate the TNA catalogue and flyer downloadable from the [IS_MIRRI21](#) webpage.
- Provided information and photos of BEA facilities, and information of BEA TNA offer for the development of the TNA application platform in ARIA
- Disseminate the TNA call information using BEA and FCPCT web pages, LinkedIn, scientific mailing lists (SEF, EABA, ...) and social networks.

2.4.2.9 IAFB

On behalf of IAFB, Joanna Bucka-Kolendo has been appointed as Liaison Officer and she participated in the TNA workshop in September 2020. We reviewed the content of the TNA catalogue and provided images about IAFB for TNA offer and for the development of the TNA application platform in ARIA.

The IAFB provided the information for the TNA concerning the offer of Identification of *Alicyclobacillus* sp. by molecular biology techniques, and developed one of the workflows (WP8- Joanna Bucka-Kolendo) in partnership with Institute Pasteur which is offered in the 1st TNA call.

2.4.2.10 UL-MSCL

UL-MSCL was involved in following activities:

- Vizma Nikolajeva has been appointed as Liaison Officer from MSCL;
- We reviewed the content and provided images to illustrate the TNA catalogue;
- We participated in the TNA workshop on the TNA guidelines and procedures (September 21-22, 2020);
- We filled the ARIA spreadsheet for the creation of the TNA online application in ARIA.
- The Liaison Officer provided information for TNA catalogue and for the development of the TNA application platform in ARIA.

2.4.2.11 NKUA

For Task 4.1, NKUA reviewed the content and provided images to illustrate the TNA catalogue downloadable from the [IS_MIRRI21](#) webpage as well as images for the development of the TNA application platform in ARIA. In addition, NKUA developed a TNA offer (titled "Bacteria and archaea from extreme Greek environments") that includes information on its facilities, capabilities and culture collection. NKUA also developed a workflow (WF2, titled "Identification of taxonomically related *Streptomyces* strains from extreme Greek environments using mass spectrometry profiles") in partnership with IP, that is offered in the 1st TNA call. Staff also discussed the TNA call with other researchers in Greece to raise awareness on the program.

For Task 4.2 and deliverable D4.1, NKUA-CUoA appointed Paris Laskaris as its Liaison Officer, who then participated in the two-day workshop titled “Transnational Access Programme: guidelines and procedures” that was organized by IP in September 2020.

2.4.2.12 CCG

CCG has no involvement and contribution for WP4, but tried to follow the activities and discussions by the other partners, as they may have connection and relative impact on activities for which CCG has a strong contribution such as the WP6. In this particular WP, for example, the implementation of TNA portal as part of the collaborative working environment (CWE) functionalities will have impact on the WP6 work, thus the identification of requirements is crucial for the CWE implementation. Therefore, information about the TNA was included in the CWE Gate1.

2.4.2.13 UNITO, including Third-Parties USMI/IRCCS, UMCC/ UNIMORE, ITEM/CNR and DBVPG

UNITO has been mainly involved in three activities:

- Selection of the Liaison Officers in representation of the institutions.
- Review and approval of the TNA offer for the online catalogue.
- Filling the ARIA spreadsheet for the creation of the TNA online application in ARIA.

Moreover, UNITO and its third parties participated in the workshop: TNA guidelines and procedures that took place on September 2020 and we provided several photos and information for the TNA application platform (ARIA) and for the TNA catalogue.

UNITO contributed to the revision of the TNA catalogue and provided necessary information and illustrations for the ARIA platform, and contributed to the diffusion of the call via the European networks (COST ocean4biotech, ECCO), and via national networks (SIMTREA; SBI; JRU MIRRI-IT).

2.4.2.14 IBPM RAS

IBPM RAS has been involved in several important activities such as:

- Alexander Vasilenko has been appointed as Liaison Officer from VKM
- Provided images to illustrate the TNA catalogue
- Participated in the TNA workshop
- Filled the ARIA spreadsheet for the creation of the TNA online application in ARIA
- Delivered the necessary information and images for the TNA Catalogue

2.4.3. WP4: Delays/Problems and Corrective Actions

2.4.3.1 IP (WPL)

Due to technical difficulties, the proposal submission platform for the IS_MIRRI21’s first TNA call was temporarily unavailable during the first two weeks after the launch of the call on 25th January. This problem was solved and the application platform went live on 8th February 2021. In the meanwhile, we apologized to our users for any inconvenience by posting a message on the

IS_MIRRI21 TNA webpage and suggested our prospective applicants to proceed with the first steps of the application process and to contact the access officer for questions about the call.

2.5. WP5 Activities “Capacity building, Training and Education”

BELSPO leads Workpackage 5 Capacity Building, Training and Education, with 13 PM. NKUA and UMinho are in charge of 10 PM each, UNITO with 8 PM, UL-MSCL & UVEG-CECT with 4 PM each, and the other partners have efforts of 2 PM, each. The aim of WP5 is to develop and offer the IS_MIRRI21 training programme that corresponds to the needs of different user categories (e.g., scientists, industrial, international organizations) and contributes to the capacity building within the scientific community as well as industrial users. WP5 builds upon the results of the MIRRI preparatory phase project, where the topic was thoroughly examined, as well as on the outcome of the FP7 European EMbaRC project.

2.5.1. Partners’ contributions to the tasks, deliverables and milestones

2.5.1.1 NKUA

NKUA participated in the WP5 teleconferences and took part in the discussions and planning for the development of the European Specialization course on Microbial Resource Centres. NKUA examined and approved the "Course Design" document for Task 5.2.

NKUA contributed to the deliverable *D5.1 Report on modalities for the organisation of an advanced training course for users (selection criteria for trainings and trainees) (M12)*. Therefore, NKUA worked on the **design of the survey** that aims to collect information on the trainings (including among others on-site, webinars, summer schools...) provided by MIRRI members.

2.5.1.2 BELSPO - BCCM/MUCL (WPL)

BCCM/MUCL participated in the design of the survey of *D5.1 Report on modalities for the organisation of an advanced training course for users (selection criteria for trainings and trainees)* via meetings with NKUA. BCCM/MUCL contributed to the *D5.2. Curriculum and teaching methods for the Specialized EuroMiRC course (M12)* and *D5.3 Five to 10 video capsules related to microbes and their roles in society IS_MIRRI21 as follows:*

D5.2 Structure of the EuroMiRc course

From the previous projects, the course was first scheduled as a two-year European master (Figure 3), but two main points to make it feasible were identified in advance in the project proposal: fine-tuning the course for 1 year and turn it in a specialised course avoiding the third-party certification that the European HEI need to follow for an academic master course.

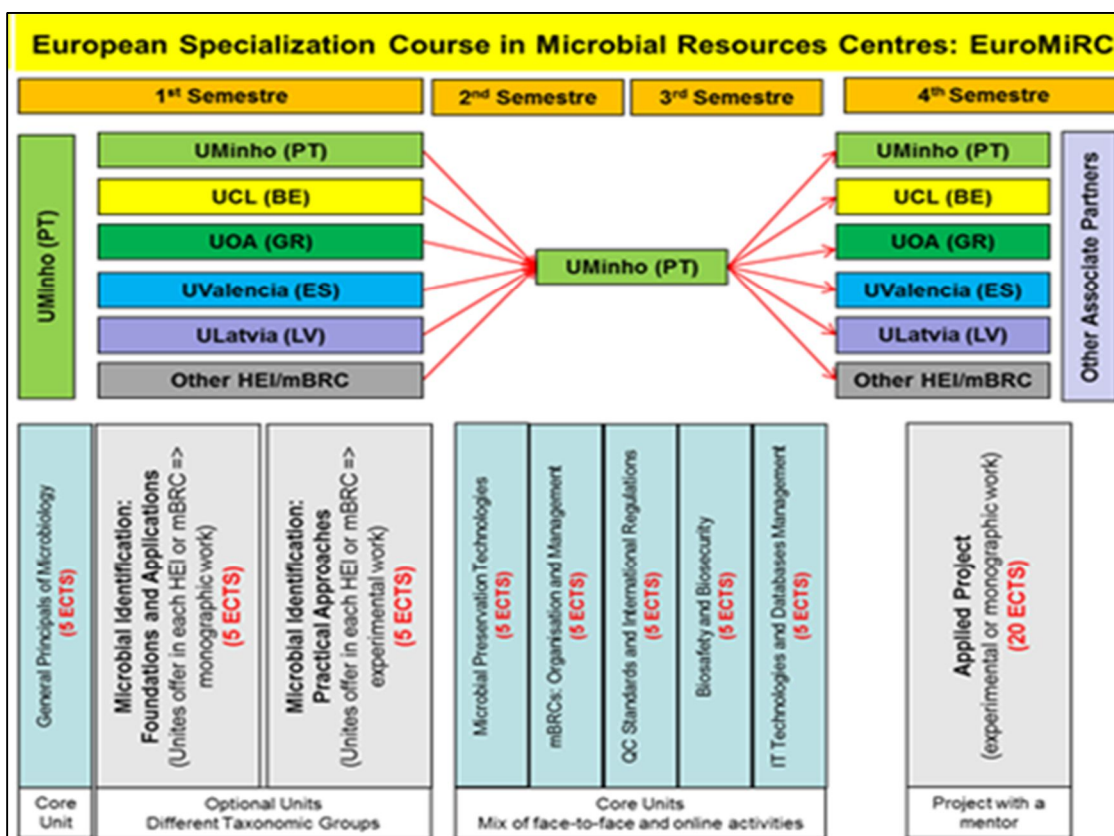


Figure 3 – Former proposal and start-point of the structure of the EuroMiRC programme in four semesters over two years.

Nevertheless, after several meetings with the partners involved in this WP, this course appeared to be particularly complex and unrealistic in the time frame of the project to set-up one-year single course. This is due to the different rules set in the Higher Education Institution (HEI). For instance, in some HEI, such in the 5.2 task-leader institution BELSPO/UCL it takes almost one year for a program to be accepted. Therefore, one single course with 2 semesters appeared too ambitious. Owing to the situation above, the partners agreed to break down the one-year course into two semesters as such:

1. The first one (30 credits) focusing strictly on mBRC management activities (preservation techniques, quality system, international regulations, biosafety and biosecurity, IT technologies, database management, general organization and management).
2. The second one (30 credits), focusing more on the local expertise of the participating institution (e.g., microbial identification of specific group(s) of microorganisms).

Proposed teaching units for the first semester:

3. General principles and foundations of mBRCs
4. Microbial preservation technologies
5. mBRCs: Organisation and management
6. QC standards and international regulations

7. Biosafety and biosecurity
8. IT technologies and database management

So far, six HEI (UMinho, Portugal; UCLouvain, Belgium; University of Torino, Italy; UValencia, Spain; National and Kapodistrian University of Athens, Greece; University of Latvia, Latvia) have expressed their interest. The project is also open to other partners and mBRCs that during the project would like to join. The first semester will include 6 teaching units/topics for a total of 140 h each (5 ECTS), strictly related to mBRC management activities. The second semester will be at the discretion of the participating institutions, allowing the candidate to follow the tailored training that is most interesting to him (her).

The teaching of first semester will be based on e-learning or b-learning and each teaching unit will be delivered, ideally, in a single week (total 30 to 35h; contact hours) or any other optimal arrangements. This will allow some professionals that would like to attend to take a leave from their jobs for a short period rather than a long period of time. The teaching of second semester will, ideally be on-site as it relates to an applied project.

The student will be enrolled in one institution (so no co-diplomation at this stage) but will be able/invited to follow teaching offered in other institutions since no single institution is able to provide the full program. At the end of the course, the trainee will receive a specialized course diploma from the institution of enrolment and reference to the other institutions will be mentioned. It is expected that the program would be launched in September 2021.

D5.3. Five to 10 video capsules related to microbes and their roles in society IS_MIRRI21 (M36): Five to 10 short video capsules of 2-3 min will be produced to be used in school to stimulate teenagers to debate on current topics related to microbes, under the supervision of the teacher. Agreement was made with the MIIL (Media Innovation & Intelligibility Lab - <https://uclouvain.be/fr/instituts-recherche/ilc/miil>) for creating the videos. A first script has been drafted on arbuscular mycorrhizal fungi and their application in the field of agriculture (reducing the use of pesticides, favouring the durability...) and shots are scheduled for the coming weeks. This first video will serve as a model for the next videos so has to have a similar structure. Partners of the project will have to propose thematics and it will be decided collegially which thematic will be considered so as to cover the entire expertise of the partners of the European project. Each video will be in the original language of the country with English subtitles.

2.5.1.3 UMinho-MUM

Nelson Lima, as Project Coordinator, attempted to respond to the abovementioned situation regarding the specialized EuroMiRC course and the University of Minho is able to approve in due time the specialised courses. As matter of consequence, the UMinho-MUM beneficiary took this task in its hands since BELSPO/UCL is not able to move forward the task in the timeframe of the

project. The human-effort is now on side of UMinho-MUM. In addition, UMinho-MUM has collaborated in the definition of requirements for the CWE platform regarding Training and Education and answered to the questionnaire related with the continuous professional development (advanced courses supplied by MUM).

2.5.1.4 UNITO AND ITS THIRD PARTIES

UNITO AND ITS THIRD PARTIES has participated in the WP5 online meetings and took part in the discussions on the possibilities on the structure and organisation of the European Specialized Course on Microbial Resource Centre. Moreover, we contributed with ideas to fulfil the objectives of WP5.

2.5.1.5 UVEG-CECT

The activities developed by UVEG-CECT within the WP5 were:

1) Work related to Training and Education regarding the development of the CWE (WP6)

- Collaboration in the definition of requirements for the CWE platform regarding Training and Education. The requirements are gathered in the excel `CWE_Gate4_requirements` in the folder `WP6>D6.1>CWE Requirements` in the Synology Drive Server (<https://cectsyn2.cect.org:5019/d/f/555305178981507237>).
- Elaboration of a brief report of the structure of the Gate to Training and Education. This report was a task demanded by CCG team (leader of the Task 6.1), in the small groups meetings that took place the second week of July, to clarify some aspects related to the definition of the CWE towards the redaction of D6.1. The file is named "Gate4_T&E_15072020" and is located in the folder mentioned above.

2) Participation in the **Task 5.2** Implementation of the "European Specialization course on Microbial Resource Centres: EuroMiRC" (agreed in TC WP5 26th June 2020)

David R. Arahall and Rosa Aznar held an on-line meeting with Pilar Serra (Academic Director of University Postgraduate Degrees at UVEG) on 9th July to discuss about administrative aspects of international courses. The information is gathered but the requirements do not fit with the project schedule.

UVEG-CECT participated in the 2nd WP5 meeting held in November 20th 2020 about the definition of the Specialized Course, and contributed to the "Course Design" document (<https://synology.mirri.org:5019/oo/r/588788962565339174>), shared after the meeting, providing ideas and suggestions regarding the names of the units, the topics to be covered in each unit and the general outline of the course.

3) Participation in the **Task 5.3** Development of **IS_MIRRI21** video materials

Some ideas to develop the short video capsules foreseen in this task were asked to participants by the lead beneficiary of this WP5 by e-mail (6th July 2020). To contribute to this, the UVEG-CECT has proposed these ideas, with some video examples:

- Short schematic video animation of why preserving in a culture collection and how is this task performed (in general terms)

- Bio-cleaning of monuments: The Church of Santos Juanes in Valencia (Spain) was restored with the type strain of *Pseudomonas stutzeri* (<https://doi.org/10.1016/j.ibiod.2012.09.009>)
- Probiotics. Showing some examples of specific strains with applications to human health or veterinary use <https://www.youtube.com/watch?v=1slSguPDhY>
- Biodegradation: Showing some examples of specific strains with applications in bioremediation (e.g. *Rhodobacteraceae*, other marine bacteria) https://www.youtube.com/watch?v=a_HWIFzgQiM

2.5.1.6 UL-MSCL

UL-MSCL participated in the WP5 November meeting. Communication with Study department University of Latvia (UL) regarding to the administrative aspects of the planned Specialized Course was started. In order to avoid long state accreditation, an online course ending with the Certificate, issued by University of Latvia was deemed as the most appropriate. For the “first round” a topic in relation to the biosafety issues of genetically modified microorganisms will be offered by a Professor from UL, the Vice chair of GMO panel of EFSA (European Food Safety Authority). Another topic on the taxonomy of viruses for the “second round” is being considered.

2.5.1.7 INRAE

INRAE has participated to WP5, for the elaboration of Gate 4 of the CWE (WP6). This included the definition of requirements for the CWE platform regarding Training and Education. The requirements are gathered in the excel `CWE_Gate4_requirements` in the folder `WP6>D6.1>CWE Requirements` in the Synology Drive Server.

INRAE participated to the WP5 meeting that took place in November and contributed with ideas to fulfil the objectives of WP5.

2.5.1.8 BEA-ULPGC and its third party FCPCT

BEA-ULPGC (Antera Martel and Juan Luis Gómez Pinchetti) participated in the WP5 online meetings and took part in the discussions on the possibilities on the structure and organisation of the European Specialized Course on Microbial Resource Centre. As BEA-ULPGC we support the different units of the course by teaching on the work/possibilities and laboratory procedures related to photoautotrophic microorganisms (microalgae and cyanobacteria) within the proposed course structure.

2.5.2. WP5: Delays/Problems and Corrective Actions

2.5.2.1 BCCM/MUCL (WPL)

Under the conditions of the Covid-19 pandemic, starting in M2 and still ongoing, management and teaching workload increased significantly, leading to delays in the necessary meetings and discussions at UCLouvain as the host institution of BCCM/MUCL and responsible HEI.

Consequences:

Delay with D5.3 (month12) 'Curriculum and teaching methods for the Specialized EuroMiRC course' and MS18 (month 13) 'Specialized EuroMiRC course launched'.

An adjusted timeline is presented as follows:

1. Development of detailed content of courses (end-March 2021).
 - Each teaching unit needs to be detailed in terms of (i) language of teaching, (ii) place of teaching (i.e. institution), (iii) mode of teaching (e-learning, b-learning), (iv) themes addressed, (v) detailed content, (vi) mode of evaluation.
2. The program is examined/approved by the participating institutions (April 2021).
 - The participant organizations are depending on approval by the respective institutions): UMINHO (Portugal), UCLouvain (Belgium), CECT (Spain), NKUA (Greece), UNITO (Italy), ULatvia (Latvia)
 - Teachers and institutions delivering the courses are firmly identified
 - A core number of institutions can start the program and be joined later (for the second course) by other institutions for which more time is needed due to administrative burden.
3. The rules/costs for accessing the course are defined and communicated and the course is advertised (May 2021)
 - A transparent system with clear rules for call and selection process of the participants will be established following the QC/QA procedures that the HEI have put in place.
 - Previous education and experience of the candidates will be considered on our evaluation and pre-assessment.
 - All information is advertised via the webpages of the respective participating institutions and via the collaborative working platform of [IS-MIRRI21](#).
 - A portfolio containing all information's (administrative and other) relative to the program will be prepared and distributed.
4. The first course will be launched in September 2021
 - The first course will be financially supported by the [IS-MIRRI21](#) project
 - An evaluation will be conducted at the end of the course with the participants in a process of continuous improvement
 - Internal discussion will be set up (already during the first semester of the first course) to seek for additional funding supporting next sessions of the course

2.6. WP6 Activities “CWE Platform”

WP6 aims at the development of the MIRRI CWE platform, which will be the core of the virtual research environment of MIRRI, where users can communicate and access to information and services in a time-efficient manner. UVEG-CECT is the lead beneficiary of WP6 and responsible of task 6.5 with 24 PM out of 126.5 total PM, while CCG is the leader of tasks 6.1, 6.2, 6.3 and

task 6.4 (with KNAW), and holds 60 PM. Besides, KNAW contributes with 15 PM, and the remaining partners' efforts range between 0.5 and 8 PM.

2.6.1. Meetings

WP6 team members meet at least once a month and whenever required. During the first year, nine general WP6 meetings were held with participants ranging from 20 to 33; Three Taskforce meetings were held dedicated to Webpage design, Webpage writing team, MIRRI-IS; Weekly meetings are held between CCG and UVEG-CECT (by the IS_MIRRI21 IT Officer).

2.6.2. Tasks

2.6.2.1 Task 6.1 Requirements refinement, characterization of the problem and knowledge acquisition for the MIRRI-CWE architecture and platform (M01-M04, Led by CCG)

This task focused on the definition of the main components needed for the CWE (interoperability, metadata and ontologies, data integration, security and usability) and the specification of requirements. The partners were asked about their needs, general expectations and functionalities expected for internal and external users. To achieve this goal, two main activities were developed:

- Documents were shared to compile the requirements (<https://synology.mirri.org:5019/d/f/555305178981507237>)
- Bilateral meetings by TC were held between CCG team and each of the contributors to the shared documents, in order to clarify/understand and prioritize the requirements.

The results of the work undertaken concluded with the achievement of the deliverable: *D6.1 Report on the design and technical requirements, characterization and knowledge acquisition of MIRRI-CWE*, already submitted. This document is a project deliverable itself, but also a live document to serve as a guide for the implementation of CWE modules and the work to be performed in other tasks, particularly 6.2, 6.3 and 6.4.

2.6.2.2 Task 6.2 MIRRI-CWE architecture design and conception (M04-M08, Led by CCG)

The technical meetings, attended mainly by the WP6 participating partners, led to the conclusion that it is more beneficial for CWE's future management, maintenance and scalability to have a modular system, following the envisaged structure of gates and modules. Each module should be independent and, whenever possible, reusing existing and open-source solutions, preferably those resulting from previous EU projects and initiatives. For example, the Gate 1 is going to be deployed using WordPress and the strains catalogue (MIRRI-IS) will use BioloMICS software provided by BioAware (on behalf of KNAW). All modules should seamlessly appear in a tight integrated system. A unique login should be defined for all modules, instead of independent accounts on a per module basis.

2.6.2.3 Task 6.3 Implementation of the MIRRI-CWE architecture (M04-M34, Led by CCG)

This task was initiated by the MIRRI-IS Catalogue data fields design and scheduling the process for data compilation. Several internal (ICT-Task Force) and general (all partner Culture Collections - CCs) Teleconferences (TCs) were held leading to the preparation of the dataset specification and guidelines to guide the CCs. With the collaboration of partner CCs in several TCs, the ICT-Task Force has refined definition and requirements of the data fields. Three documents have been produced as guidelines for the submission of CC strain catalogues for inclusion in the MIRRI-IS:

- ICT-TaskForce_RecommendationsToCollections_v20200601.pdf: the document including the official dataset specification,
- MIRRI-IS_dataset_template_v20200601.xlsx: an MS Excel template for the preparation of Excel files by the CCs,
- ICT-TaskForce_HowToCompileTheSheets_v20200601.pdf: a short guide on how to insert data into the template.

The documents were sent to CCs using the mailing list ict-support@mirri.org, created to support CCs in the process. A shared folder in the MIRRI server was made available to allow the CCs to upload their Excel files.

An alpha version of the CWE has been built which shows Gate 1 (website with information) and the other blocks (Gate 2, with links to MIRRI-IS, and Services, TNA). This first version has been designed following the style of the IS_MIRRI21 project website.

2.6.2.4 Task 6.4 Developing the new modules of the MIRRI-CWE and MIRRI-IS platform (M08-M34, Led by CCG and KNAW)

A specific database has been created for MIRRI-IS based on BioloMICS software which provides web services for database interaction. In the first approach, data from more than 140,000 strains were prepared by collections by exporting data from their catalogues in Excel files according to the Guidelines and they were uploaded through a semi-automatic process from the submitted Excel files. In a second step, an “validation tool” has been developed to check consistency of Excel files submitted by collections with the specifications to avoid a “by eye validation”. The first version is a command-line tool; in the future, an on-line tool will be developed to allow more interactive validation to be done directly by culture collections prior to submission of Excel files.

2.6.3. Partners' contributions to the tasks, deliverables and milestones

2.6.3.1 UVEG-CECT (WPL)

As lead beneficiary, UVEG-CECT organized and moderated 9 general WP6 TC meetings and 3 Taskforce TC meetings as mentioned above.

In the first 6 months period, successive work was done to fulfil Task 6.1 and Task 6.2 towards the preparation of D6.1. Specific TCs were also held to discuss about the possibility of implementation of existing software with appropriate tools to manage certain services and data in the CWE: i)

software ARIA, that was proposed to support the Transnational Access (TNA) service, and ii) software BioloMICS, that will support integration of the Culture Collections (CC) catalogues for the implementation of MIRRI-IS.

As for tasks 6.3 and 6.4, the UVEG-CECT group started the design and deployment of the MIRRI ICT infrastructure during this first year. An internal server to allow WPs coordination through shared calendars, collaborative documents edition and file sharing was provided. Several MIRRI virtual machines for the hosting of CWE and internal management have been set up as part of the MIRRI ICT infrastructure. CWE Gate 1 has been built and tested within this MIRRI ICT infrastructure. MIRRI mailing lists were also set up for a better communication among the different WPs and groups involved in the project.

In the 2nd 6 months period, the IT Officer, member of the CCU Management BackOffice, was incorporated into the UVEG-CECT. During this time, he has developed a library to deal with the strains data in a standardized way. This library is being used as a core library of the validation tool. In the near future, it will be used also in the MIRRI-IS data upload tool and will help to gather data from non-BioloMICS based CCs in an easier way. He has also been involved in:

- a) The MIRRI-IS automatic data upload workflow design with the contribution of INRAE and the MIRRI ICT group.
- b) Leading the activities and internal meetings for specific issues within the WP6. The UVEG-CECT group has met the CCG team on a weekly basis. Both groups have been involved in the development of the validation tool.
- c) Monitoring the progress of data provided from CCs, contacting with those delayed to offer support.
- d) Preparing and providing data from the CECT strains catalogue to be integrated in MIRRI-IS.
- e) Collaboration with LifeWatch-ERIC common facility in Spain to contribute to the MIRRI-IS Data Fairness.

Furthermore, in the framework of milestones MS21 and MS22, UVEG-CECT provided the WordPress instances for the development of the CWE, contributed to the content of the different sections in CWE and coordinated the CWE writing team.

2.6.3.2 CCG

CCG led the preparation of information, edition and process of revision for Deliverable 6.1. Several meetings and interactions with partners were organised for the discussion and joint definition of requirements and all the information contained in the deliverable 6.1. In the first year of IS_MIRRI21, CCG has initiated the work for CWE architecture definition and implementation which is a contribution for the deliverables 6.2 and 6.3. The work performed by CCG in this period, is a direct contribution for Milestones MS21 and MS22.

2.6.3.3 KNAW-WI

During the first few months of the project, KNAW-WI team, headed by Vincent Robert, have participated in the development of data standards and guidelines within MIRRI ICT Task Force.

They provided the first website for the RI at www.mirri.org and two more updated versions supporting MIRRI until the webpage developed in the frame of this project was ready.

A very schematic representation of the MIRRI database can be viewed in Figure 4 and shows the relations between the central strains table and the satellite ones (Taxonomy, DNA, Bibliography, Media, Localities, Documents, etc).

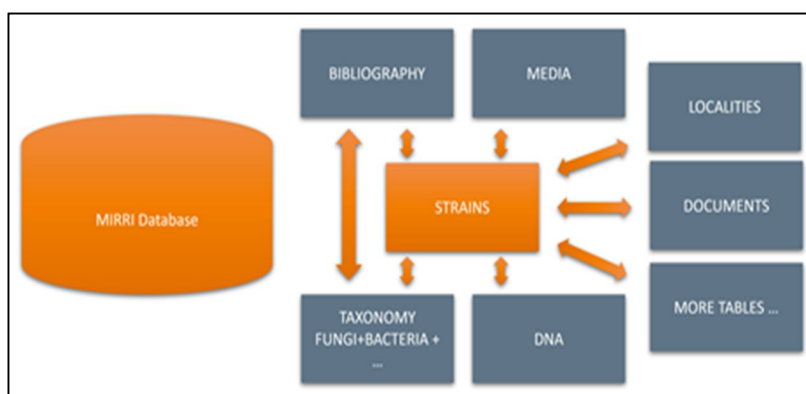


Figure 4 Schema of MIRRI database respecting the guidelines defined by the MIRRI ICT Task Force

To import the data from the MIRRI database, a few web services have been created as demonstrators as well as a web interface. The first version of the REST web API allowing to read data was released in July 2020, and the second version in December 2020, allows to Get, Post, Put and Delete data. The new version of the web services is available [here](#). The new version of the APIs is fully compliant with [Swagger](#) API specifications which is a broadly accepted standard. It also allows MIRRI curators to create web services (WS) dynamically and to expose them to a series of applications or users via a secured and controlled infrastructure.

We have also created a Github site where a few coding examples are available and should allow users to search, read, insert, update and delete records ([Github - a-haddaji/BioloMICS-services: Client api for BioloMICS Webservices.](#)).

The abovementioned WS will be used to import data in the MIRRI database from Excel files that were exported by the MIRRI partners' collections. The same WS system will also be used to expose MIRRI based data to third parties. This enables the connection with the Dataverse system/database and EOSC that we propose to generate DOI and expose metadata, an essential step for the FAIRification of all MIRRI data (Figure 5).

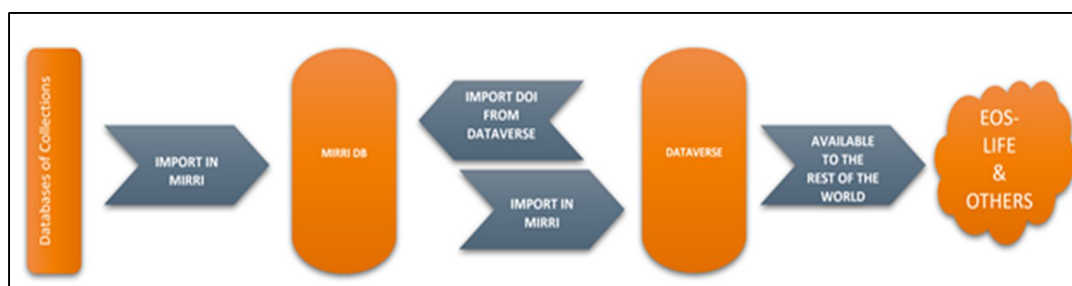


Figure 5 Schema of MIRRI data exposure to Dataverse and other third parties such as EOSC for the FAIRification of data that will be done via Dataverse.

The third version of the MIRRI website was created in November-December 2020 to accommodate the catalogue. On the 11th of December 2020, the database contained all public strains from 10 collections and their taxonomic and bibliographic information. This task is progressing and at present data from approximately 144,000 strains are included in MIRRI-IS. We have reviewed all the exports, corrected simple mistakes and reported to CCs the major problems related to their exported Excel files, so that they could correct them for future exports. Also, we have created a number of scripts to import data from BioloMICS based collections. These scripts have to be made in an ad hoc way since each collection has its own way of storing the data. In some cases, the scripts are quite complex because they have to cope with data that are not stored in a single place (spread over several fields) or need to be recorded. The advantage of the scripts is that future importation from collections databases to MIRRI-IS will be fully automated. One could even run them using triggers that would lead to a live publication from the collection directly to MIRRI-IS and further available through Dataverse and, therefore, available live to the rest of the scientific community. This part of the project absolutely needs to be successful for the long-term sustainability of the MIRRI system. This ad hoc scripting task will be continued during the next few months/years. In collaboration with CCG and INRAE, we will also work on the quality control of the data and the interlinking between strains (within and outside MIRRI) and other databases such as PubMed, INSDC (EBI, DDBJ, NCBI), as well as other relevant partners of the EOSC-Life project.

KNAW-WI staff participated in several WP6 meeting and discussions about the design of the fields for the MIRRI strain catalogue and the design of the CWE. They also contributed to the preparation of the export of strain data from the CBS and NCCB databases for use in the first version of this catalogue.

2.6.3.4 UNITO, including Third-Parties USMI, UNIMORE, CNR and UNIPG

The contribution of UNITO and its third parties in the activities of WP6 during the 12 months of the project mainly followed distinct tracks:

- active participation in the planned meetings of the workpackage
- collaboration in the definition of data to be included in the MIRRI information system
MIRRI-IS

- preparation of Guidelines for the upload of catalogues
- preparation of Excel based versions of the collections' catalogues and their upload for insertion in the MIRRI-IS.

UNITO and its third parties participated in all WP6 TCs held in 2020 and January 2021, and in bilateral meetings organized by CCG for the analysis of requirements of the CWE. They also attended three internal meetings aimed at discussing the requirements for the CWE and coordinating the Italian contribution to the MIRRI-IS.

USMI participated in the activities of the ICT Task Force and contributed to the definition of the MIRRI dataset. This work was mainly carried out by comparing existing standard datasets (CABRI, OECD, ISO), selecting the most relevant and shared data from these datasets, and defining the relative format and acceptable values for each information. The work, that was already started before the IS_MIRRI21 project, was completed in the spring of 2020.

Guidelines were mainly written by USMI, starting from an initial version agreed upon within the ICT Task Force. Guidelines were complemented by an Excel template for the insertion of data from collections and by a step-by-step How-To guide for the preparation of Excel files.

USMI and CNR have also contributed to the preparation of preliminary versions of Guidelines for information on plasmids, cyanobacteria and plant viruses, that will be further developed during next months.

UNITO and UNIPG have contributed to the insertion of data for the catalogues of respective collections TUCC and DBVPG. Information was extracted from the catalogues, validated, extended when needed, reorganized according to Guidelines and inserted into Excel files that were finally uploaded to the Synology server and then inserted into MIRRI-IS through a semi-automatic procedure. CNR followed the same approach and the export of the ITEM collection of CNR is planned to be done within February 2021.

A slightly different work was carried out by UNIMORE whose collection was already managed by using a purpose implementation of BioloMICS. In this case, UNIMORE had to revise the structure of its catalogue in order to comply with the MIRRI-IS dataset, but the export and insertion into the MIRRI-IS was carried out by using some purpose scripts written by KNAW/BioAware.

UNITO and its third parties participated in the definition of requirements for the CWE that were finalized in the deliverable D6.1. USMI was especially in charge of the revision of the document. Its revision led to some deep changes and improvements in the deliverable thus making it more precise and readable for non-ICT experts.

2.6.3.5 SPI

In **Task 6.1**, SPI participated in the meetings held by CECT regarding the CWE development and requirements for the D6.1. SPI proposed requirements for Gate 1 – Public website of the CWE platform. In total, SPI attended nine CECT organised WP6 virtual meetings between June 2020 and January 2021.

2.6.3.6 INRAE

Along this first year, INRAE has participated to the activities of WP6, focussing on the construction of MIRRI-IS database. This has been achieved through the participation in the MIRRI ICT Task Force meetings and tasks, and the participation in the discussion on the “Guidelines for catalogue uploading” document. In collaboration with KNAW-WI and VKM, INRAE has elaborated a strategy that could lead to the construction of the FAIRness of MIRRI-IS data. More specifically, in **Task 6.1**, INRAE has worked with leaders of WP5, in order to define a list of requirements for *IS_MIRRI21 CWE Gate 4 Training and Education*. Two meetings were organized. INRAE has participated in the meetings held by CECT for the organization of CWE platform.

INRAE has contributed to Deliverable D6.1 (for the definition of the requirement of Gate 4), and for the design of the database. In addition, INRAE has been working on the export of INRAE collection to MIRRI-IS through the reorganisation of its BioloMICS or other databases.

2.6.3.7 IP

The IP has contributed to the **Task 6.1** by answering the CWE requirements for the Gate 2 Module 3 “Gate to services” with 25 specifications needed for the creation of the online TNA services. After a meeting with members of the WP6 on 08/07/2020, it was agreed that the access officer would draft the guidelines (called ICT guidelines) specifying the desired design of the TNA portal in the CWE. These specifications concern the creation of the TNA application portal and all the requirements to submit and monitor the online TNA proposals during the calls. These requirements include aspects of design, content and functioning to produce a friendly environment for all people involved in the TNA management: applicants, reviewers, liaison officers and access officer.

The IP has contributed with the requirements for the IS_MIRRI21 virus catalogue at the beginning of July 2020 and it is currently part of the working group focused on the final version of this catalogue in MIRRI-IS, thus contributing to **Task 6.3**.

Moreover, the IP has been working in the export of the data set from the CRBIP collections to the MIRRI-IS thus contributing to D6.1.

2.6.3.8 ULPGC, including the Third-Party FCPCT

ULPGC-BEA and its third party FCPCT contributed to **Task 6.1** by extracting data from BEA microalgae and cyanobacteria catalogue, according to the Guidelines, and preparing the Excel files to export the data to MIRRI-IS.

ULPGC-BEA and FCPCT have participated in all the WP6 teleconferences held in 2020 till January 2021, contributed to discussions on several fields for MIRRI-IS, mainly regarding microalgae and cyanobacteria fields.

2.6.3.9 UMinho-MUM

UMinho has attended all WP6 working meetings represented by the Project Coordinator and Management Backoffice, who contributed to some tasks. UMinho staff have contributed to the revision, editing and finalization of D6.1, and helped in the collection and creation of contents for

the new MIRRI website. ED Luís Soares contributed to the analysis of websites from other RIs, conceptualization of the website and terms of reference (based on previous specifications), and writing and editing texts. The MUM set of strains were organised and exported in excel format to provide the data to the MIRRI-IS.

2.6.3.10 BELSPO, including Third-Parties BCCM/IHEM, BCCM/MUCL and BCCM/ULC

BELSPO and representatives of its third parties have attended the WP6 meeting organized in June 2020 to discuss the strain dataset, i.e., the fields for the MIRRI strain catalogue and made some comments on the fields that were taken into account.

BELSPO has created the necessary reports in function of the guidelines received for the BCCM collections, has checked and discussed these reports with the collections, corrected and adapted them. Finally, data were exported in excel/CSV format. The methodology was discussed with representatives of KNAW-WI Institute and INRAE.

BCCM/IHEM, BCCM/MUCL and BCCM/ULC prepared and provided the export of strain data from their databases for use in the first version of the catalogue.

2.6.3.11 UL-MSCL

UL-MSCL participated in the WP6 meetings and studied the Guidelines of the strain data selection. Staff of MSCL provided its first data for the MIRRI-IS. By involving additional specialist in this activity in the nearest future, we hope to accelerate that process.

2.6.3.12 NKUA

NKUA participated in the WP6 teleconferences that organized the development of the MIRRI-CWE architecture and platform. It also submitted an Excel spreadsheet containing information on its microbial collection in order for it to be included in the MIRRI-IS.

2.6.3.13 IBPM RAS

In the first year, IBPM offered the following contributions:

- Prepared specifications of MIRRI-IS information system
- Participated in preparation of MIRRI catalogue data standard
- Participated in preparation of FAIR specification for MIRRI
- Participated in WP6 meetings

2.6.4. WP6: Delays/Problems and Corrective Actions

2.6.4.1 UVEG-CECT (WPL)

Deviation on the planned schedule to hire the IT Specialist, as part of the Management Backoffice of the future MIRRI-ERIC Central Coordination Unit -CCU-, during the first 6-month period.

A first call was launched at the end of February, but we had no valid applicants (there was one application that could not be admitted because it lacked the requisite of degree qualification). Therefore, a new call was launched that closed on July 15. Following the UVEG rules, applications must be in paper and addressed to the UVEG main register. Therefore, the process to collect and

evaluate the applications was delayed until September due to summer vacations at UVEG. Finally, the IT Specialist joined MIRRI team in October 2020.

Another problem detected was related to the possible lack of notification of messages through mailing lists at the beginning of their usage. As a result, it is probable that some partners missed some of the former meetings. It was mainly due to problems with servers at the recipient institution(s). These incidents have been revised and solved with the corresponding partners. In addition, the mailing lists have been checked, updated and revised to avoid communication problems between all WP participants.

2.6.4.2 INRAE

Despite the difficulties encountered (organizational change and COVID19), INRAE has contributed to the activities of WP6 as expected.

2.6.4.3 NKUA

The hiring of personnel was delayed by COVID-19, however NKUA was able to participate in WP6.

2.6.4.4 CCG

The pandemic situation caused by COVID-19, certainly caused constraints and limitations to the normal development of [IS_MIRRI21](#) project tasks in general and particularly for those of WP6. Indeed, for example, some technical discussions would have benefited from the partners meeting in person, discussing the topics around the table, but that was not possible. This certainly caused for the partners the need to make extra effort to overcome the non-expected difficulties, in order to avoid delays and keep the project plan as much as possible. Nevertheless, the CCG's team is teleworking since March 2020 due to the pandemic situation, which has had some impact on the progress of tasks that are meant to be performed in teamwork.

2.6.4.5 UNITO, including Third-Parties USMI, UMCC/UNIMORE, ITEM/CNR, PLAVIT/CNR and DBVPG/UNIPG

UNITO and its third parties participated in the activities of the project without any leading role. For this reason, they contributed to the project according to the slightly delayed times due to the pandemic as defined by WP leaders, but they did not experience any further delay or problem.

2.6.4.6 IBPM RAS

Despite the difficulties encountered (COVID19), IBPM RAS has contributed to the activities of WP6 as expected.

2.7. WP7 Activities “Outreach and Dissemination”

SPI is the leader of WP7: Outreach and Dissemination. The role of this WP is related to development of materials for the promotion and dissemination of the project's progress, results and outcomes. The report of the activities performed from M1 to M12 is written as per the four tasks of WP7:

- Task 7.1: Outreach and Dissemination strategy development and update

- Task 7.2: Development of communication tools and channels
- Task 7.3: Stakeholder engagement
- Task 7.4: Public engagement

2.7.1. Task 7.1 Outreach and Dissemination strategy development and update

The task 7.1 overlooks the development of the Deliverable 7.1: Outreach and Dissemination Strategy (D7.1). The objective of the Deliverable was to serve as a living document for the planning and execution of the dissemination and outreach activities implemented under Task 7.2, Task 7.3 and Task 7.4 from M1 to M36 of the project. The topics addressed in the D7.1 are:

- a. Objectives of the deliverable;
- b. Target audiences of WP7;
- c. Types of communication and dissemination tools and channels to be developed;
- d. Timeline for the development of communication and dissemination materials;
- e. Launch of internal events and participation in external events;
- f. Action plan for the project dissemination and outreach activities and involvement of other partners.

In compliance with the Task 7.1. the partner IP has printed the **IS_MIRRI21** brochure and made pens with the MIRRI logo to distribute among the Institute Pasteur community and external visitors.

The partner CCG has contributed by preparing and adding a particular section about **IS_MIRRI21** in its website, addressing, in this way, the universe of its web portal visitors and increasing **IS_MIRRI21** visibility. The project is presented, as well as the main objectives, the consortium and main outcomes, as well as the mandatory references to the funding program.

2.7.2. Task 7.2: Development of communication tools and channels

This task includes launching of events and workshops, participation in external events to represent **IS_MIRRI21** and its activities, development of dissemination and outreach materials such as the project website, brochures, flyers, roll-ups, press releases, newsletters, and social media posts.

The first project brochure and roll-up were developed in English. The six-pager project brochure informs on the project's aim, services, key outcomes, duration, consortium members, contact information and relations to MIRRI as a RI.

Similarly, the one-pager roll-up shows the project name, aim, partners and contact. Both promotional materials were translated to Polish, to Spanish and to Portuguese with the support of the partners, IAFB, CECT-UVEG and UMinho, respectively for the translations. During the development of this report, both materials are being translated to Italian by UNITO, French by INRAE and Russian by IBPM-RAS.

The brochures are publicly disseminated through the project website and social media pages and together with the roll-up. The roll-up was physically displayed on the WP8 workshop and at the [IS_MIRRI21](#) Management Backoffice/MIRRI Central Coordinating Unit (CCU) housed at the University of Minho in Portugal.

In addition to press releases two newsletters were developed. The newsletters were designed showcase the project's science-based foundations and the specialities it addresses (i.e., microbial life and microbiology). Both newsletters were designed, developed and disseminated by SPI but the partners contributed with contents pertaining to the WP's outcomes e.g., TNA programme and first call, Research and Strategy Innovation Agenda 2021-2030 for MIRRI and WP8 Membership enlargement workshops and the representation of [IS_MIRRI21](#) in other events, among others. A database of authentic photos of scientific materials, microscopic images of microorganisms such as bacteria, bacteriophage, viruses, microalgae, fungus, yeast, etc. was supplied by the majority of the partners.

The partner SPI worked on dissemination and promotional materials for the TNA programme developed by the WP4 leader, IP. The material produced by SPI was based on the content developed by IP (text, images and illustrations) and included:

- Online registration page and diffusion of the workshop/internal event TNA: guidelines and procedures for Liaison Officers;
- TNA webpage containing a detailed description about the TNA programme. This webpage contains also downloadable documents with additional information about the TNA guidelines for applicants, and TNA catalogue on the [IS_MIRRI21](#) website.
- The TNA catalogue template, provided by SPI was used to produce the TNA catalogue into a visually attractive format. The access officer gathered the content (text and images) provided by the liaison officers from fourteen [IS_MIRRI21](#) partners and then edited and illustrated the TNA catalogue for the 1st TNA call 2021;
- TNA first call flyer;
- Tweets to disseminate the TNA and publications advertising the WP4 activities in the [IS_MIRRI21](#) newsletter. The access officer drafted texts to be used in twitter and LinkedIn to disseminate the activities coordinated by the WP4, the TNA call and the offers found in the TNA catalogue.

The partner SPI developed different channels of communication using online platforms which were: The **IS_MIRRI21** website - <http://ismirri21.mirri.org/>. The website is maintained by SPI and all materials, are provided by other partners such as press releases and scientific articles.

The social media pages created for the **IS_MIRRI21** project were: The Twitter and Facebook accounts of the previous MIRRI project (FP7 2010-2016), which were adapted with the **IS_MIRRI21** logo and narrative and new accounts for LinkedIn, ResearchGate and YouTube.

In addition to SPI's involvement in the **IS_MIRRI21** project, SPI supported the provision of technical information for the MIRRI official website – <https://www.mirri.org> - the website is currently being revamped by UVEG-CECT in the WP6 as part of Gate 1 of the Collaborative Work Environment. The partner SPI also launched the new company LinkedIn page, maintained by the partner UMinho: <https://www.linkedin.com/company/microbial-resource-research-infrastructure>

2.7.3. Task 7.3: Stakeholder engagement

This task aims to support the building of a steady foundation of key stakeholders for **IS_MIRRI21** and consequently, MIRRI. These target stakeholders are users of **IS_MIRRI21**'s services, providers of microbial strains, potential members of MIRRI, among others.

The partner IP built bridges with other BMS RIs through the WP4 by establishing collaborations with Instruct-ERIC, EMBRC-ERIC, EU-OPENSREEN-ERIC, EVA-Global, INFRAVEC2 and CaTRIS.

The partner UVEG-CECT showed the goals of MIRRI Research Infrastructure and the **IS_MIRRI21** project to Researchers and professionals from academia and industry at the workshop "MicroBioSpain: la colección de microorganismos españoles accessible on-line".

There were other events such as: "II Simposio Chileno de Valoración y Conservación de los Recursos Microbianos" in collaboration with the Chilean Culture collection, the "The Importance of Research Infrastructures", a Biotech Atelier Satellite Event with the presentation entitled "MIRRI: the gateway to innovative microbial solutions" and the workshop "Implementation and Sustainability of Microbial Resource Research Infrastructure for the 21st Century", organized by WP8 leader.

The partner IAFB worked together with SPI in the preparation of the first workshop under WP8 for the consolidation and enlargement of MIRRI membership. A series of materials were developed for the workshop and SPI disseminated the activities in the social media.

The partner UL-MSCL presented **IS_MIRRI21** at the "New Technologies and Innovation Day-2020", which took place at the Academic Centre University of Latvia. Permanent consultations on MIRRI services were provided for academia, Master students, post doctors and industry representatives.

2.7.4. Task 7.4: Public Engagement

This task has the specific aim of implementing actions to engage with members of the public through the use of IS_MIRRI21's outputs and results. The challenge of this task is to capture the attention of lay audiences and raise awareness about microorganisms among citizens. The public engagement tentative action plan was to launch or participate live events jointly with the coordinator of the project to reach out to lay audiences and boost knowledge about microorganisms and the social, environmental and health aspects they are associated with using educational materials such as games, infographics, videos, press releases and newsletters.

The partner UMinho represented the IS_MIRRI21 and the MIRRI on a national television show in Portugal by the coordinator. And talked about the solutions and advantages that the pan-European RI such as MIRRI present to the current fragmentation of microbial resources across European Culture Collections.

The IS_MIRRI21 was represented by UMinho in the 24hour run live streaming event of the International Microorganism Day organised by Federation of European Microbiological Societies (FEMS). A live presentation of the project as well as the educational video entitled 'Superbugs and amazing microbes' were used to engage publics and raise awareness about microorganisms and their effects in the environment for display on a virtual booth. The partners that contributed to this activity were IP, UNITO, INRAE, SPI and UVEG-CECT. The different partners used the social media and made posts in the institutional websites to promote this event.

The partners IP, UNITO and INRAE participated as MicrobiomeSupport for the "World Microbiome Day" event through provision of three profiles/bios of their member scientists/biologists. The three IS_MIRRI21 partners contributed with experts in microbiology acting as #MicrobiomeAmbassadors for the online campaigns in view of engaging and connecting with lay audiences and promote the scientific study, recognition and security of microbial life and scientists' contribution to the field. During the online meeting event CIRM discussed the role that MIRRI and IS_MIRRI21 could play in facilitating research on the microbiota, and in particular on the conservation and distribution aspects that will shape the 21st century microbiology and its applications in all fields from human health to agronomy.

The partner CIRM presented MIRRI and IS-MIRRI21 objectives, activities, and partners in a general assembly of a French Research Infrastructure (RaRe) that aims to maintain and distribute biological resources of animals, microorganisms, forests, plants and environmental sources.

The ULPGC, through the Spanish Bank of Algae (BEA) of the Canarian Science and Technology Park Foundation, during the first year has disseminated the project mainly on the BEA's website (www.marinebiotechnology.org) and in regional workshops and through master class e. g. Promotion of MIRRI and the IS_MIRRI21 project in the virtual visit ENTRA, INNOVA: visitas para empresas a instalaciones de investigación. Banco Español de Algas, ULPGC; the Workshop

Online: Estrategia de Impulso de la Biotecnología Azul en la Macaronesia: Hoja de ruta 2020-2030; the conference 2º Jornadas de Proyecto ALGARED “Nuevas Aplicaciones de Microalgas”; with a master class in the Master’s degree in Applied Blue Biotechnology at Catholic University of Valencia and the Master in Oceanography and Marine Environment Management at the University of Barcelona by Prof. Juan Luis Gómez Pinchetti.

In the same way, the project was promoted at the REBECA-CCT taking the MIRRI data management platform, as a good practice example, as well through the national initiative BIOASIS, “Programa experimental e integral de actividades de I+D+i ligadas a la explotación de recursos marinos insulares (MINECO – Convenio 2017 y 2018)”.

2.7.4.1 Key Performance indicators (M1-M12)

Impact evaluation is carried out throughout the lifespan of the project and KPIs are important quantitative indicators used to gauge the outreach capacity of the project and its partners. Table 4 below presents the main quantitative targets defined for the project lifetime.

Table 4 - The quantitative indicators and results of IS_MIRRI21 dissemination activities (M12).

Measures	Indicators	Target Met	
IS_MIRRI21 website	Number of visitors	10000	4233
	Number of news articles (Press release)	-	10
	Visits to multimedia (Games)	-	78
IS_MIRRI21 YouTube Channel	Number of views	-	113
LinkedIn, Facebook, Twitter, ResearchGate and YouTube	Number of followers	2000	1285
Scientific publications	Number of publications and articles	30	13
Email dissemination (Newsletters)	Number of subscribers	500	103
Brochures / flyers	Number of brochures / flyers distributed	2000	226
Participants in MIRRI events (online/offline)	Number of participants in all dissemination events organised	1000	100
External events, conferences and workshops	Number of external events attended	50	24

2.7.5. WP7: Delays/Problems and Corrective Actions

SPI (WPL) and the other partners didn’t experience any delays in the development or delivery of deliverables and meeting milestones in the first year of the IS_MIRRI21 project. Nevertheless,

activities such as physical attendance and participation in external events was hindered by the outbreak of COVID-19 and in some cases, moved online.

2.8. WP8 Activities “Consolidation and Enlargement of Membership”

IBPRS/IAFB is the leader of WP8. The aim of this WP is to consolidate the Members that have already signed the MoU, to strengthen and support existing Member’s collections and to stimulate new engagements at all levels (members, partners and other stakeholders). The work and results presented by this WP are a collective product of the different partners’ contributions and the WP8 group.

In the first year of the project (Feb 2020 to Jan 2021), different tasks were established to fulfil the deliverables and milestones set for this period as follows: T8.1. Consolidation of membership and T8.2. Enlargement of membership.

2.8.1. Tasks

2.8.1.1 Task 8.1. Development of D8.1 Report of the CCs current status and presence of National Nodes in European Countries

In order to consolidate the present membership of the MIRRI research infrastructure and to take the necessary steps towards the establishment of MIRRI-ERIC an Assembly of prospective Members (ApM) was established. One of the **BELSPO** representatives is the Chair of the MIRRI ApM. The governance body is involved in completing the questionnaires for the ESFRI monitoring, the redaction and update of the statutes and Technical & Scientific Description (TSD) in function of the feedback received from the European Commission (EC) on the first step submission for MIRRI-ERIC. Statutes and TSD have been approved and the ApM members have initiated their national procedures to commit to the establishment of the MIRRI-ERIC (step 2 submission). Early January 2021, the first country (Latvia) has signed the formal request to set up MIRRI-ERIC. **BELSPO** has also held bilateral meetings with some of the countries that have signed the MoU to discuss particular aspects regarding their participation in MIRRI. Another important element in its consolidation is MIRRI’s participation in the ESFRI monitoring exercise. **BELSPO** has coordinated MIRRI partners contributions to the questionnaires and has fed them into the ESFRI MoS.

On the IS_MIRRI21 project level, **IBPRS/IAFB** established a WP8-Working Group (WG) with the representatives from the MIRRI Partners. The main mission of this WP8-WG is to collaborate and share information about potential members with the WP8 Leader. For better communications within the WP8, a mailing list including all participants of the WP8-WG was created by the IT at UVEG-CECT wp8.ismirri21@mirri.org.

IBPRS/IAFB organized WP8 meeting which was attended by project partners engaged in WP8 and partner representatives were nominated to work together on the membership enlargement

process. The representative contact person(s) will be directly involved in the process of membership enlargement and workshops will be organized within the WP8, to enhance international cooperation and strengthen the national partnership between collections.

Within the scope of **Task 8.1**, contributions were made, namely by **UVEG-CECT** who worked on the elaboration of a mailing list with the different representatives of the National Nodes (NN) of the countries that signed the Memorandum of Understanding (MoU) – nf@mirri.org. Information about the National Nodes (NN) and their CCs was compiled by contacting the coordinators as well as the directors of CCs integrating the NNs. **UVEG-CECT** with the participation of **ULPGC-BEA** worked on the consolidation of the Spanish NN, funded by the Network of Excellence (national project) “MicroBioSpain, integración de la red española de microorganismos «REDESMI» en la Infraestructura Europea de Investigación Microbial Resource Research Infrastructure, MIRRI” (Ref. CGL2016-81969-REDT). In this regard, the **UVEG-CECT** sent a draft of an agreement of participation in the National Node in November, to the eight institutions participating in MicroBioSpain.

UNITO and its third parties, represented by Professor Giovanna Cristina Varese, actively contributed to consolidate the present membership of the MIRRI research infrastructure and to take the necessary steps towards the establishment of MIRRI-ERIC stressing the Italian Ministry of Education (MUR) to support the Infrastructure. Through the activity of the JRU-MIRRI-IT, they are trying to engage new potential members or stakeholders mainly at national level.

2.8.1.2 Task 8.2 – D8.5 First report on the new prospect members in MIRRI

The workshop “Implementation and Sustainability of Microbial Resources Research Infrastructure for the 21st Century” was developed and hosted in Warsaw, Poland (23rd of October 2020) by IBPRS with the participation of various partners. The main goal was to present the history and structure of MIRRI, as well as the mission and activities of MIRRI-ERIC as European Research Infrastructure (RI). The presentation was conducted by **BELSPO** (Marleen Bosschaerts). **UVEG-CECT** also participated through the speaker (Rosa Aznar) as leader of the WP6, talking about the Collaborative Working Environment platform. **UMinho** participated with several representatives headed by the Project Coordinator (Nelson Lima).

Rosa Aznar, as Chair of the Interim National Coordinators Forum organized informative meetings with CCs interested in MIRRI and signed an invitation letter addressed to MIRRI stakeholders introducing the RI and inviting them to join the community.

SPI developed the event webpage and related materials such as registration and survey forms and supported the first international workshop of WP8 through social media posts before, during and after the event. SPI also developed Certificates of Participation for the attendees of the workshop and shared them with WP8 leader (IAFB). Other partners, such as IP, INRAE, ULPG-

BEA and third party FCPCT, CECT-UVEG, UMinho and NKUA participated and disseminated the workshop on social media.

Besides, the **IS_MIRRI21** partners also participated in the Cooperation Workshop on FOOD SECURITY hosted by the EU-Latin America and the Caribbean Working Group on Research Infrastructures. The feedback received from the workshops revealed interest from different Culture Collections in **IS_MIRRI21** project. As result, the WP8 team contacted Dr Gottfried Dasen from the Culture Collection of Switzerland (CCOS), the representatives of a Polish CC, and Dr Lucien Hoffman from Luxembourg Microbial Culture Collection (LuxMCC). The Statutes and Technical and Scientific Description were shared with Dr Hoffman by **BELSPO**, who was responsible for following up and setting up a meeting to discuss the Luxembourg interest to join MIRRI.

Using an invitation letter, WP8 team contacted other European Collections and received a positive reply from the Bulgarian ACUS Collection, Norway NORCCA Collection, and Estonian TFC Collection expressing their interest to join MIRRI. WP8 team also received feedback from the Hungarian NCAIM Collection stating that they don't have the necessary support from their national policy-makers to be involved in MIRRI.

Other tasks of WP8 include a product of the meeting held between **INRAE** representatives (Marwa Zaarour, Giulia Cheloni, Michel Mistou, Jean-Luc Legras), **IPBRS** and the Project Coordinator Nelson Lima. The group decided to prepare a list of industrial stakeholders that have private CC's and might be interested in the **IS_MIRRI21** project. To accomplish this task, the INRAE representatives and WP2 members prepared a strategic agenda to approach the private sector.

2.8.2. WP8: Delays/Problems and Corrective Actions

From M1 to M12, there were no major problems while developing the WP8 activities. However, a delay of the planned work schedule is associated with Deliverable D8.2 which the PSC asked for a more elaborated items before approving it. A series of meetings were conducted to overcome the situation and improve the deliverable.

2.9. WP9 Activities “Business Plan and Research Infrastructure Sustainability”

WP9 deals with the mechanisms that MIRRI will implement to develop the business aiming to a long-term sustainability of the RI. WP9 holds 50 PM of efforts. **WP9 is led by IP** (14 PM), in collaboration with **BELSPO** and **UVEG-CECT** (8 PM, each), **UMinho** (6 PM) and **SPI** (2 PM), and the participation of other partner organisations with 1.5 PM, each.

During Spring 2020, a MIRRI task force group was created to respond to the ESFRI monitoring questionnaire, which included questions about the Business and Financial Plans of the RI. To

work out this part of the questionnaire, a team composed by Aurora Zuzuarregui (CECT-UVEG), Rosa Aznar (CECT-UVEG), Mery Piña (IP), Marleen Bosschaerts (BELSPO) and Bassem Kheireddine (MB/UMinho-MUM) was created to work on these sections. The creation of this group constituted the achievement of MS28 in due time (M3).

The group was intensively working on the questions and had several meetings to progress on the task. To develop the financial part, we contacted and received advise from Andrea Santelli from CERIC-ERIC. As a result, a draft version of the document (Business Plan draft_v6, June2020) was delivered for the ESFRI monitoring exercise. Afterwards, some modifications were introduced in the document, considering the recommendations from the ApM, as some countries requested this document in order to start their national procedures towards the MIRRI-ERIC. The latest version considered by the ApM at the time of this report is MIRRI-ERIC_Business Plan_v2_2020_11_24.

2.9.1. Tasks

2.9.1.1 Task 9.1 Establish a business model to prepare a long-term sustainable funding for the consortium (M01-M12)

On 20 January 2021 a WP9 meeting was held to discuss the preparation of D9.1 Business Model. A task force group composed by CECT, SPI, Bassem Kheireddine and Luís Soares was created to decide on the skeleton and make a first draft, using the information from the MIRRI-ERIC_Business Plan_v2_2020_11_24. Afterwards, Marwa Zaarour from INRAE also joined the group. A meeting with 16 participants was held to discuss on the contents of the BM for MIRRI-ERIC (and improvements for BP) to develop D9.1 (submitted on 23rd April 2021).

One meeting to work on this task took place.

The organization of the work performed in this task is described below in the section of “Partner’s contribution to the tasks”. The business model will be produced later in a one-page format and with a more appealing design.

2.9.1.2 Task 9.2 Business plan (M01-M36)

The business strategy for short, medium and long-term for the MIRRI-ERIC will be described in detail in the Business Plan (BP). As stated in the description of this work package, the Business Plan is under development with the help and guidance from the ApM. To continue working on the document, the information from the D9.1 Business Model, the MIRRI-ERIC_Business Plan_v2_2020_11_24 and the Strategic Agenda will be used.

2.9.1.3 Task 9.3 Financial plan (M01-M36)

The MIRRI-ERIC expenses and sources of income are briefly mentioned in the statutes and are discussed continuously with the ApM. More precisely, a financial plan (FP) was included in the MIRRI-ERIC_Business Plan_v2_2020_11_24.

2.9.2. Partners' contributions to the tasks, deliverables and milestones

2.9.2.1 IP (WPL)

Following the ESFRI monitoring questionnaire exercise, IP contributed to the development of the financial plan and development of the access policy. The financial plan was built on previous exercises in close communication with the ApM and the host countries. The IP contributed to the review of a new version of the business plan (simpler, more dynamic and aligned with the recent research strategic agenda) that will better adjust the ESFRI requirements.

2.9.2.2 BELSPO and linked third parties

BELSPO participated in the working group that was established (MS28) and had several meetings with the other members of this working group. BELSPO contributed to the writing of the business model, the financial plan and the business plan, paying in particular attention to the coherence between these documents and the statutes and “Technical and Scientific Description” that were finalised with the MIRRI ApM.

BELSPO's representative used her contacts with other research infrastructures and the ERIC forum to get in touch with specialists in the financial domain and get their advice and input. The draft business plan was also discussed with the members of the MIRRI ApM and their input was included in the document.

2.9.2.3 UVEG-CECT

During spring 2020, the CECT led the team working on the MIRRI Business and financial Plan (tasks 9.2 and 9.3) prepared to respond to the ESFRI monitoring questionnaire. Afterwards, some modifications were introduced in the document, considering the recommendations from the ApM, as some countries requested this document in order to start their national procedures towards the MIRRI-ERIC.

On 20 January 2021, a first meeting took place in order to prepare Deliverable 9.1 “Business Model for MIRRI-ERIC” (task 9.1). A task force group composed by CECT, SPI, and UMinho-MIRRI CCU was created to prepare a first draft of the deliverable. Until the end of January, the group prepared the architecture of the document and started working in the content. UVEG-CECT is leading the preparation of D9.1 Business model.

As for milestone MS28 - Constitution of the working group, it includes representatives from the CCU (UMinho-MUM and UVEG-CECT) and two partners, BELSPO and IP, that will hold frequent discussions to produce the different deliverables. It was achieved in M3 as planned.

2.9.2.4 UMinho-MUM

UMinho has worked closely with WP9 task forces to respond to ESFRI questionnaire and simultaneously contributed to the development of the Business Plan (M36), Financial Plan and the Business Model (M12) for [IS_MIRRI21](#) through the efforts of its CCU-Project and Financial Manager (PFM) Bassem Kheireddine who has contributed to the BP, FP and BM, and MIRRI Executive Director (ED) Luís Soares who has subsequently revised the strategic aspects of the

BP and worked on the development of BM. Therefore, under the guidance of Project Coordinator (PC) Nelson Lima, UMinho team attended meetings of the Working Group (thus fulfilling Milestone MS28), offered templates and key business and financial information for the tasks and deliverables, contributed to strategy and market analysis (in line with the MIRRI-SRIA Strategic Agenda, developed by ED and WP2), and mapping of the outreach, future opportunities and environment PESTLE analysis (by PFM Bassem Kheireddine).

2.9.2.5 SPI

As one of the contributing partners, SPI participated in the first official meeting for WP9 in M12 to discuss and help in the development and upcoming internal quality revision of D9.1: Business Model for MIRRI-ERIC by SPI.

2.9.2.6 CCG

During this period, CCG tried to accompany the discussions and interactions among partners towards the business model and sustainability plan for MIRRI. Even though CCG is assuming the role of technical partner for IS_MIRRI21 project, its experience of interaction with partners and particularly in past EU projects may contribute for the envisaged definition of Business model for MIRRI. Furthermore, the BM definition is directly linked to the CWE implementation, as the tools that will be made available through the CWE must support, at least in part, the Business model as a guide for the MIRRI's Business Plan. In this context, CCG has participated in the meetings with partners and contributed to discussions and preparation, prior to the upcoming internal quality revision of Deliverable 9.1 - Business Model for MIRRI by CCG.

2.9.2.7 INRAE

INRAE participated in the meeting of WP9 to discuss the business model and business plan. INRAE contributed to the writing of the business model.

2.9.2.8 NKUA

NKUA participated in the teleconference to discuss the MIRRI business model and business plan.

2.9.2.9 ULPGC-BEA and its third party FCPCT

ULPGC-BEA participated in the meeting of WP9 to discuss the MIRRI business and financial plan.

2.9.2.10 UL-MSCL

UL-MSCL participated in the WP9 meeting and tried to participate in all ApM meetings regarding the discussions on MIRRI business model/plan development and MIRRI Statutes among others.

2.9.2.11 UNITO AND ITS THIRD PARTIES

UNITO and its linked third parties participated in several activities of the WP9, mainly helping in MIRRI's response to the ESFRI monitoring questionnaire that was done together with the update of the financial plan and development of the access policy of MIRRI.

2.9.3. WP9: Delays/Problems and Corrective Actions

2.9.3.1 UVEG-CECT

Deliverable 9.1 was submitted with some delay despite the task force made intense efforts to finally submit it 23rd of April 2021.

2.10. WP10 Activities “Ethics requirements”

Led by UMinho, WP10 is an administrative workpackage and not an operational one. Its sole function is the development of Deliverable D10.1 Processing of Personal Data POPD – REQUIREMENT No. 1 which was under the leadership of UMinho and the participation of partners. It was eventually finalized in collaboration between the Project Coordinator and Co-coordinator with POPD Office at the University of Minho with intense iteration with BELSPO and submitted in September 2020.



3. Resource Consumption & Needs: Efforts and Budget

3. Resource Consumption & Needs: Efforts and Budget

3.1. WP1 Consumption & Needs

3.1.1. WP1: Estimation of efforts, in person months (PM), during Year 1, for each partner:

Beneficiary No	Beneficiary Name	PM	PM	%
		Consumed	Foreseen	Consumed
1	University of Minho – MUM	6,11	28	22%
2	Sociedade Portuguesa de Inovação	0,44	1,5	29%
3	Universitat de València-Estudi General	1,28	6	21%
4	Institut National de la Recherche Agronomique	0,46	1,5	31%
5	Institut Pasteur	0,27	1,5	18%
6	Universidad de Las Palmas de Gran Canaria	0,49	1,5	33%
7	Koninklijke Nederlandse Akademie van Wetenschappen	0,06	1,5	4%
8	Service Public Federal de Programmation Politique	0,5	1,5	33%
9	Institute of Agriculture and Food Biotechnology	0,035	1,5	2%
10	University of Latvia	0,58	1,5	39%
11	National and Kapodistrian University of Athens	0,14	1,5	9%
12	Associação CCG/zgdv – Centro de Computação Gráfica	0,59	1,5	39%
13	Universita Degli Studi Di Torino	0,36	1,5	24%
14	All-Russian Collection of Microorganisms	0,5	1,5	33%
TOTAL=		11,815	52	23%

3.1.2. WP1: Estimation of Budget Consumed

Estimation of budget consumption, in Euros, during Year 1 period from February 01, 2020 to January 31, 2021 for each partner:

Note: *Overheads* are not included.

Beneficiary No	Beneficiary Name	Direct Costs/Personnel Costs	Other Direct Costs (travel, consumables, equip.)
1	University of Minho – MUM	20 086,72	5 145,13
2	Sociedade Portuguesa de Inovação	3 861,03	965,26
3	Universitat de València-Estudi General	6 977,17	343,02
4	Institut National de la Recherche Agronomique	3 591,00	0,00
5	Institut Pasteur	630,00	0,00
6	Universidad de Las Palmas de Gran Canaria	2 276,60	0,00
7	Koninklijke Nederlandse Akademie van Wetenschappen	626,09	0,00
8	Service Public Federal de Programmation Politique	3 500,00	0,00
9	Institute of Agriculture and Food Biotechnology	81,71	0,00
10	University of Latvia	1 740,00	0,00
11	National and Kapodistrian University of Athens	917,00	0,00
12	Associação CCG/zgdv – Centro de Computação Gráfica	1 908,56	0,00
13	Universita Degli Studi Di Torino	2 763,69	0,00
14	All-Russian Collection of Microorganisms	1 750,00	0,00
TOTAL=		50 709,57	6 453,41

3.1.3. WP1: Estimation of Budget Needs

WP1: this is an estimation of partners' budget needs for the next 6-month period per WP from M13 to M18 (February 01, 2021 to July 31, 2021)

Note: Overheads are **not** included.

Beneficiary No	Beneficiary Name	Direct Costs/Personnel Costs	Other Direct Costs (travel, consumables, equip.)
1	University of Minho – MUM	11 562,99	13 530,00
2	Sociedade Portuguesa de Inovação	750	187,5
3	Universitat de València-Estudi General	5 054,40	0
4	Institut National de la Recherche Agronomique	1 968	0
5	Institut Pasteur		
6	Universidad de Las Palmas de Gran Canaria	300	0
7	Koninklijke Nederlandse Akademie van Wetenschappen	1 105,78	0
8	Service Public Federal de Programmation Politique	3 756	0
9	Institute of Agriculture and Food Biotechnology	1 750	0
10	University of Latvia	500	600
11	National and Kapodistrian University of Athens	690	0
12	Associação CCG/zgdv – Centro de Computação Gráfica	2 589	0
13	Universita Degli Studi Di Torino	1 000,12	0
14	All-Russian Collection of Microorganisms	2 285,70	0
TOTAL=		31 026,29	14 317,50

Total Budget needs (personnel + other): 45 343,79€

3.2. WP2 Consumption & Needs

3.2.1. WP2: Estimation of efforts, in person months (PM), during Year 1, for each partner:

Beneficiary No	Beneficiary Name	PM	PM	%
		Consumed	Foreseen	Consumed
1	University of Minho – MUM	1,39	5	28%
2	Sociedade Portuguesa de Inovação	0	0	0
3	Universitat de València-Estudi General	2,82	8	35%
4	Institut National de la Recherche Agronomique	5,72	29	20%
5	Institut Pasteur	0,86	9	10%
6	Universidad de Las Palmas de Gran Canaria	0	0	0
7	Koninklijke Nederlandse Akademie van Wetenschappen	0,57	16	4%
8	Service Public Federal de Programmation Politique	0,125	0	0
9	Institute of Agriculture and Food Biotechnology	0	0	0
10	University of Latvia	0,49	2	25%
11	National and Kapodistrian University of Athens	0,86	9	10%
12	Associação CCG/zgdv – Centro de Computação Gráfica	0,78	2	39%
13	Universita Degli Studi Di Torino	0,91	2	46%
14	All-Russian Collection of Microorganisms	0	0	0
TOTAL=		14,525	82	18%

3.2.2. WP2: Estimation of Budget Consumption

Estimation of budget consumption, in Euros, during Year 1 period from February 01, 2020 to January 31, 2021 for each partner:

Note: *Overheads* are not included.

Beneficiary No	Beneficiary Name	Direct Costs/Personnel Costs	Other Direct Costs (travel, consumables, equip.)
1	University of Minho – MUM	5 818,49	0,00
2	Sociedade Portuguesa de Inovação	0,00	0,00
3	Universitat de València-Estudi General	12 327,13	0,00
4	Institut National de la Recherche Agronomique	32 678,00	0,00
5	Institut Pasteur	2 640,00	0,00
6	Universidad de Las Palmas de Gran Canaria	0,00	0,00
7	Koninklijke Nederlandse Akademie van Wetenschappen	5 553,78	0,00
8	Service Public Federal de Programmation Politique	1 360,00	0,00
9	Institute of Agriculture and Food Biotechnology	0,00	0,00
10	University of Latvia	1 470,00	0,00
11	National and Kapodistrian University of Athens	5 502,00	0,00
12	Associação CCG/zgdv – Centro de Computação Gráfica	3 673,28	0,00
13	Universita Degli Studi Di Torino	5 146,45	0,00
14	All-Russian Collection of Microorganisms	0,00	0,00
TOTAL=		76 169,13	0,00

3.2.3. WP2: Estimation of Budget Needs

WP2: this is an estimation of partners' budget needs for the next 6-month period per WP from M13 to M18 (February 01, 2021 to July 31, 2021)

Note: Overheads are not included.

Beneficiary No	Beneficiary Name	Direct Costs/Personnel Costs	Other Direct Costs (travel, consumables, equip.)
1	University of Minho – MUM	4 432,87	1 715,85
2	Sociedade Portuguesa de Inovação	0	0
3	Universitat de València-Estudi General	4 637,10	0
4	Institut National de la Recherche Agronomique	27 081	0
5	Institut Pasteur	1 980	0
6	Universidad de Las Palmas de Gran Canaria	0	0
7	Koninklijke Nederlandse Akademie van Wetenschappen	37 926	0
8	Service Public Federal de Programmation Politique	800	0
9	Institute of Agriculture and Food Biotechnology	0	0
10	University of Latvia	1 133	0
11	National and Kapodistrian University of Athens	15 532	0
12	Associação CCG/zgdv – Centro de Computação Gráfica	1 835,68	0
13	Universita Degli Studi Di Torino	2 959,60	0
14	All-Russian Collection of Microorganisms	0	0
TOTAL=		95 357,65	1 715,85

Total Budget needs (personnel + other): 97 073,50€

3.3. WP3 Consumption & Needs

3.3.1. WP3: Estimation of efforts, in person months (PM), during Year 1, for each partner:

Beneficiary No	Beneficiary Name	PM Consumed	PM Foreseen	% Consumed
1	University of Minho – MUM	4,26	24	18%
2	Sociedade Portuguesa de Inovação	0	0,5	0%
3	Universitat de València-Estudi General	2,08	10	21%
4	Institut National de la Recherche Agronomique	1,11*	0,5	222%
5	Institut Pasteur	0,26	4	7%
6	Universidad de Las Palmas de Gran Canaria	0,27	0,5	54%
7	Koninklijke Nederlandse Akademie van Wetenschappen	1,13	10	11%
8	Service Public Federal de Programmation Politique	1	10	10%
9	Institute of Agriculture and Food Biotechnology	0	0,5	0%
10	University of Latvia	0,02	0,5	4%
11	National and Kapodistrian University of Athens	0,38	4	10%
12	Associação CCG/zgdv – Centro de Computação Gráfica	2,46	7	35%
13	Universita Degli Studi Di Torino	0,8	4	20%
14	All-Russian Collection of Microorganisms	0,5	1	50%
	TOTAL=	14,27	76,5	19%

*An amendment to GA is expected to accommodate the extra PM for INRAE

General comment and justification for any deviation and mitigation approach that each beneficiary presents in relation with what was foreseen in the GA.

3.3.1.1 BELSPO:

Main activities relate to task 3.2.1. - to perform the internal audits in an efficient and meaningful way, the internal auditors must be able /allowed to do on site visits. The workshop on ISO 20387 will also be more productive if it can be organised in presential mode. In case there are no perspectives to travel due to continuing sanitary crisis, then both activities will be organised virtually. The deliverable D3.4, now foreseen in M24, could be slightly delayed.

3.3.2. WP3: Estimation of Budget Consumed

Estimation of budget consumption, in Euros, during Year 1 period from February 01, 2020 to January 31, 2021 for each partner:

Note: *Overheads* are not included.

Beneficiary No	Beneficiary Name	Direct Costs/Personnel Costs	Other Direct Costs (travel, consumables, equip.)
1	University of Minho – MUM	13 446,36	1 666,65
2	Sociedade Portuguesa de Inovação	750,00	187,50
3	Universitat de València-Estudi General	10 695,22	0,00
4	Institut National de la Recherche Agronomique	5 800,00	0,00
5	Institut Pasteur	840,00	0,00
6	Universidad de Las Palmas de Gran Canaria	1 235,87	
7	Koninklijke Nederlandse Akademie van Wetenschappen	9 400,00	0,00
8	Service Public Federal de Programmation Politique	7 000,00	0,00
9	Institute of Agriculture and Food Biotechnology	0,00	0,00
10	University of Latvia	60,00	0,00
11	National and Kapodistrian University of Athens	2 445,00	0,00
12	Associação CCG/zgdv – Centro de Computação Gráfica	7 754,00	0,00
13	Universita Degli Studi Di Torino	6 177,66	0,00
14	All-Russian Collection of Microorganisms	1 750,00	0,00
	TOTAL=	67 354,11	1 854,15

3.3.3. WP3: Estimation of Budget Needs

WP3: this is an estimation of partners' budget needs for the next 6-month period per WP from M13 to M18 (February 01, 2021 to July 31, 2021)

Note: Overheads are **not** included.

Beneficiary No	Beneficiary Name	Direct Costs/Personnel Costs	Other Direct Costs (travel, consumables, equip.)
1	University of Minho – MUM	12 037,86	1 567,84
2	Sociedade Portuguesa de Inovação	0	0
3	Universitat de València-Estudi General	6 969,70	0
4	Institut National de la Recherche Agronomique	3 266	0
5	Institut Pasteur	630	0
6	Universidad de Las Palmas de Gran Canaria	130,09	0
7	Koninklijke Nederlandse Akademie van Wetenschappen	18 446	0
8	Service Public Federal de Programmation Politique	21 000	0
9	Institute of Agriculture and Food Biotechnology	300	0
10	University of Latvia	360	0
11	National and Kapodistrian University of Athens	6 903	0
12	Associação CCG/zgdv – Centro de Computação Gráfica	4 140	0
13	Universita Degli Studi Di Torino	5 377,30	0
14	All-Russian Collection of Microorganisms	0	0
	TOTAL=	79 559,95	1 567,84

Total Budget needs (personnel + other): 81 127,79€

3.4. WP4 Consumption & Needs

3.4.1. WP4: Estimation of efforts, in person months (PM), during Year 1, for each partner:

Beneficiary No	Beneficiary Name	PM	PM	%
		Consumed	Foreseen	Consumed
1	University of Minho – MUM	0,47	1	47%
2	Sociedade Portuguesa de Inovação	0,17	0,5	34%
3	Universitat de València-Estudi General	4,14	18	23%
4	Institut National de la Recherche Agronomique	0,65	1	65%
5	Institut Pasteur	5,96	22	27%
6	Universidad de Las Palmas de Gran Canaria	0,17	1	17%
7	Koninklijke Nederlandse Akademie van Wetenschappen	0,03	1	3%
8	Service Public Federal de Programmation Politique (Belspo) with IHEM, MUCL, ULC	2,34	6,5	36%
9	Institute of Agriculture and Food Biotechnology	0,1	1	10%
10	University of Latvia	0,37	1	37%
11	National and Kapodistrian University of Athens	0,1	1	10%
12	Associação CCG/zgdv – Centro de Computação Gráfica	0	0	0
13	Universita Degli Studi Di Torino	0,32	1	32%
14	All-Russian Collection of Microorganisms	0,1	1	10%
TOTAL=		14,92	56	27%

3.4.2. WP4: Estimation of Budget Consumed

Estimation of budget consumption, in Euros, during Year 1 period from February 01, 2020 to January 31, 2021 for each partner:

Note: *Overheads* are not included.

Beneficiary No	Beneficiary Name	Direct Costs/Personnel Costs	Other Direct Costs (travel, consumables, equip.)
1	University of Minho – MUM	1 396,81	0,00
2	Sociedade Portuguesa de Inovação	207,62	51,91
3	Universitat de València-Estudi General	16 931,20	0
4	Institut National de la Recherche Agronomique	2 598,00	0
5	Institut Pasteur	18 240,00	0
6	Universidad de Las Palmas de Gran Canaria	780,55	0
7	Koninklijke Nederlandse Akademie van Wetenschappen	347,83	0
8	Service Public Federal de Programmation Politique (Belspo) with IHEM, MUCL, ULC	15 000,00	0
9	Institute of Agriculture and Food Biotechnology	96,19	0
10	University of Latvia	1 100,00	0
11	National and Kapodistrian University of Athens	611,00	0
12	Associação CCG/zgdv – Centro de Computação Gráfica	0,00	0
13	Universita Degli Studi Di Torino	2 492,72	0
14	All-Russian Collection of Microorganisms	350,00	0
TOTAL=		60 151,92	51,91

3.4.3. WP4: Estimation of Budget Needs

WP4: this is an estimation of partners' budget needs for the next 6-month period per WP from M13 to M18 (February 01, 2021 to July 31, 2021)

Note: Overheads are **not** included.

Beneficiary No	Beneficiary Name	Direct Costs/Personnel Costs	Other Direct Costs (travel, consumables, equip.)
1	University of Minho – MUM	523,28	0
2	Sociedade Portuguesa de Inovação	1 500	375
3	Universitat de València-Estudi General	11 351,20	0
4	Institut National de la Recherche Agronomique	7 861,25	0
5	Institut Pasteur	13 680	0
6	Universidad de Las Palmas de Gran Canaria	1 008,21	0
7	Koninklijke Nederlandse Akademie van Wetenschappen	2 800	0
8	Service Public Federal de Programmation Politiqu (Belspo) with IHEM, MULC, ULC	15 000	0
9	Institute of Agriculture and Food Biotechnology	1 750	7 428
10	University of Latvia	473	0
11	National and Kapodistrian University of Athens	1 726	0
12	Associação CCG/zgdv – Centro de Computação Gráfica	0	0
13	Universita Degli Studi Di Torino	1 479,80	0
14	All-Russian Collection of Microorganisms	0	0
TOTAL=		51 291,49	7 803,00

Total Budget needs (personnel + other): 59 094,49€

3.5. WP5 Consumption & Needs

3.5.1. WP5: Estimation of efforts, in person months (PM), during Year 1, for each partner:

Beneficiary No	Beneficiary Name	PM Consumed	PM Foreseen	% Consumed
1	University of Minho – MUM	1,8	10	18%
2	Sociedade Portuguesa de Inovação	0	0	0
3	Universitat de València-Estudi General	0,97	4	24%
4	Institut National de la Recherche Agronomique	0,43	2	22%
5	Institut Pasteur	0	2	0%
6	Universidad de Las Palmas de Gran Canaria	0,42	2	21%
7	Koninklijke Nederlandse Akademie van Wetenschappen	0,03	2	2%
8	Service Public Federal de Programmation Politique	3,25	13	25%
9	Institute of Agriculture and Food Biotechnology	0	2	0%
10	University of Latvia	0,52	4	13%
11	National and Kapodistrian University of Athens	0,95	10	10%
12	Associação CCG/zgdv – Centro de Computação Gráfica	0	0	0
13	Universita Degli Studi Di Torino	0,47	8	6%
14	All-Russian Collection of Microorganisms	0	0	0
TOTAL=		8,84	59	15%

3.5.2. WP5: Estimation of Budget Consumed

Estimation of budget consumption, in Euros, during Year 1 period from February 01, 2020 to January 31, 2021 for each partner:

Note: *Overheads* are not included.

Beneficiary No	Beneficiary Name	Direct Costs/Personnel Costs	Other Direct Costs (travel, consumables, equip.)
1	University of Minho – MUM	5 908,95	0,00
2	Sociedade Portuguesa de Inovação	0,00	0
3	Universitat de València-Estudi General	3 727,44	0
4	Institut National de la Recherche Agronomique	1 672,00	0
5	Institut Pasteur	0,00	0
6	Universidad de Las Palmas de Gran Canaria	1 951,37	0
7	Koninklijke Nederlandse Akademie van Wetenschappen	347,83	0
8	Service Public Federal de Programmation Politique	38 540,92	0
9	Institute of Agriculture and Food Biotechnology	0,00	0
10	University of Latvia	1 560,00	0
11	National and Kapodistrian University of Athens	6 113,00	0
12	Associação CCG/zgdv – Centro de Computação Gráfica	0,00	0
13	Universita Degli Studi Di Torino	3 229,92	0
14	All-Russian Collection of Microorganisms	0,00	0
TOTAL=		63 051,43	0,00

3.5.3. WP5: Estimation of Budget Needs

WP5: this is an estimation of partners' budget needs for the next 6-month period per WP from M13 to M18 (February 01, 2021 to July 31, 2021)

Note: Overheads are **not** included.

Beneficiary No	Beneficiary Name	Direct Costs/Personnel Costs	Other Direct Costs (travel, consumables, equip.)
1	University of Minho – MUM	3 182,34	0
2	Sociedade Portuguesa de Inovação	0	0
3	Universitat de València-Estudi General	3 369,7	0
4	Institut National de la Recherche Agronomique	4 446	0
5	Institut Pasteur	0	0
6	Universidad de Las Palmas de Gran Canaria	1 528,57	0
7	Koninklijke Nederlandse Akademie van Wetenschappen	5 710	0
8	Service Public Federal de Programmation Politique	20 620	0
9	Institute of Agriculture and Food Biotechnology	300	0
10	University of Latvia	2 610	0
11	National and Kapodistrian University of Athens	17 258	0
12	Associação CCG/zgdv – Centro de Computação Gráfica	0	0
13	Universita Degli Studi Di Torino	12 277,8	0
14	All-Russian Collection of Microorganisms	0	0
TOTAL=		54 126,34	0,00

Total Budget needs (personnel + other): 54 126,34€

3.6. WP6 Consumption & Needs

3.6.1. WP6: Estimation of efforts, in person months (PM), during Year 1, for each partner:

Beneficiary No	Beneficiary Name	PM	PM	%
		Consumed	Foreseen	Consumed
1	University of Minho – MUM	0,34	1,00	34%
2	Sociedade Portuguesa de Inovação	0,00	0,50	0%
3	Universitat de València-Estudi General	5,46	24,00	23%
4	Institut National de la Recherche Agronomique	0,62	8,00	8%
5	Institut Pasteur	0,52	1,00	52%
6	Universidad de Las Palmas de Gran Canaria	0,12	1,00	12%
7	Koninklijke Nederlandse Akademie van Wetenschappen	11,85	15,00	79%
8	Service Public Federal de Programmation Politique	0,90	1,00	90%
9	Institute of Agriculture and Food Biotechnology	0,00	1,00	0%
10	University of Latvia	0,49	1,00	49%
11	National and Kapodistrian University of Athens	0,10	1,00	10%
12	Associação CCG/zgdv – Centro de Computação Gráfica	16,40	60,00	27%
13	Università degli Studi di Torino	2,67	8,00	33%
14	All-Russian Collection of Microorganisms	3,00	4,00	75%
TOTAL=		42,47	126,50	34%

3.6.2. WP6: Estimation of Budget Consumed

Estimation of budget consumption, in Euros, during Year 1 period from February 01, 2020 to January 31, 2021 for each partner:

Note: *Overheads* are not included.

Beneficiary No	Beneficiary Name	Direct Costs/Personnel Costs	Other Direct Costs (travel, consumables, equip.)
1	University of Minho – MUM	1433,05	0,00
2	Sociedade Portuguesa de Inovação	0,00	0,00
3	Universitat de València-Estudi General	28743,97	1479,37
4	Institut National de la Recherche Agronomique	4350,00	0,00
5	Institut Pasteur	1200,00	0,00
6	Universidad de Las Palmas de Gran Canaria	552,89	0,00
7	Koninklijke Nederlandse Akademie van Wetenschappen	114759,42	0,00
8	Service Public Federal de Programmation Politique	6300,00	0,00
9	Institute of Agriculture and Food Biotechnology	0,00	0,00
10	University of Latvia	1470,00	0,00
11	National and Kapodistrian University of Athens	611,00	0,00
12	Associação CCG/zgdv – Centro de Computação Gráfica	35229,84	1501,06
13	Università degli Studi di Torino	13205,82	0,00
14	All-Russian Collection of Microorganisms	10500,00	0,00
TOTAL=		218 355,99	2 980,43

3.6.3. WP6: Estimation of Budget Needs

WP6: this is an estimation of partners' budget needs for the next 6-month period per WP from M13 to M18 (February 01, 2021 to July 31, 2021)

Note: Overheads are **not** included.

Beneficiary No	Beneficiary Name	Direct Costs/Personnel Costs	Other Direct Costs (travel, consumables, equip.)
1	University of Minho – MUM	167,00	0,00
2	Sociedade Portuguesa de Inovação	0,00	0,00
3	Universitat de València-Estudi General	19572,30	819,23
4	Institut National de la Recherche Agronomique	13387,00	0,00
5	Institut Pasteur	900,00	0,00
6	Universidad de Las Palmas de Gran Canaria	1 105,78	0,00
7	Koninklijke Nederlandse Akademie van Wetenschappen	7626,00	0,00
8	Service Public Federal de Programmation Politique	7000,00	0,00
9	Institute of Agriculture and Food Biotechnology	500,00	0,00
10	University of Latvia	382,50	0,00
11	National and Kapodistrian University of Athens	1726,00	0,00
12	Associação CCG/zgdv – Centro de Computação Gráfica	36 040,84	0,00
13	Università degli Studi di Torino	10107,60	0,00
14	All-Russian Collection of Microorganisms	0,00	0,00
TOTAL=		61 368,40	819,23

Total Budget needs (personnel + other): 62 187,63€

3.7. WP7 Consumption & Needs

3.7.1. WP7: Estimation of efforts, in person months (PM), during Year 1, for each partner:

Beneficiary No	Beneficiary Name	PM Consumed	PM Foreseen	% Consumed
1	University of Minho – MUM	1,71	8,00	21%
2	Sociedade Portuguesa de Inovação	5,71	12,00	48%
3	Universitat de València-Estudi General	1,03	4,00	26%
4	Institut National de la Recherche Agronomique	0,82	2,50	33%
5	Institut Pasteur	0,92	3,00	31%
6	Universidad de Las Palmas de Gran Canaria	0,86	2,50	34%
7	Koninklijke Nederlandse Akademie van Wetenschappen	0,00	2,50	0%
8	Service Public Federal de Programmation Politique	0,10	3,00	3%
9	Institute of Agriculture and Food Biotechnology	0,19	3,00	6%
10	University of Latvia	0,67	2,50	27%
11	National and Kapodistrian University of Athens	0,24	2,50	10%
12	Associação CCG/zgdv – Centro de Computação Gráfica	0,33	3,50	9%
13	Universita Degli Studi Di Torino	0,62	2,00	31%
14	All-Russian Collection of Microorganisms	0,20	0,50	40%
	TOTAL=	13,40	51,50	26%

3.7.2. WP7: Estimation of Budget Consumed

Estimation of budget consumption, in Euros, during Year 1 period from February 01, 2020 to January 31, 2021 for each partner:

Note: *Overheads* are not included.

Beneficiary No	Beneficiary Name	Direct Costs/Personnel Costs	Other Direct Costs (travel, consumables, equip.)
1	University of Minho – MUM	4 962,91	0,00
2	Sociedade Portuguesa de Inovação	12 875,78	3 257,77
3	Universitat de València-Estudi General	3 958,50	0,00
4	Institut National de la Recherche Agronomique	3 164,55	0,00
5	Institut Pasteur	2 400,00	0,00
6	Universidad de Las Palmas de Gran Canaria	4 000,31	0,00
7	Koninklijke Nederlandse Akademie van Wetenschappen	0,00	0,00
8	Service Public Federal de Programmation Politique	700,00	0,00
9	Institute of Agriculture and Food Biotechnology	198,63	0,00
10	University of Latvia	2 010,00	0,00
11	National and Kapodistrian University of Athens	1 528,00	0,00
12	Associação CCG/zgdv – Centro de Computação Gráfica	1 090,60	0,00
13	Universita Degli Studi Di Torino	2 233,02	0,00
14	All-Russian Collection of Microorganisms	700,00	0,00
	TOTAL=	39 822,30	3 257,77

3.7.3. WP7: Estimation of Budget Needs

WP7: this is an estimation of partners' budget needs for the next 6-month period per WP from M13 to M18 (February 01, 2021 to July 31, 2021)

Note: Overheads are **not** included.

Beneficiary No	Beneficiary Name	Direct Costs/Personnel Costs	Other Direct Costs (travel, consumables, equip.)
1	University of Minho – MUM	4477,46	0,00
2	Sociedade Portuguesa de Inovação	15000,00	7179,76
3	Universitat de València-Estudi General	1983,00	0,00
4	Institut National de la Recherche Agronomique	4446,00	0,00
5	Institut Pasteur	1800,00	0,00
6	Universidad de Las Palmas de Gran Canaria	2 536,78	0,00
7	Koninklijke Nederlandse Akademie van Wetenschappen	0,00	0,00
8	Service Public Federal de Programmation Politique	3500,00	0,00
9	Institute of Agriculture and Food Biotechnology	1000,00	500,00
10	University of Latvia	1 372,50	0,00
11	National and Kapodistrian University of Athens	4315,00	0,00
12	Associação CCG/zgdv – Centro de Computação Gráfica	546,00	0,00
13	Universita Degli Studi Di Torino	4 887,30	0,00
14	All-Russian Collection of Microorganisms	0,00	0,00
	TOTAL=	37 067,46	7 679,76

Total Budget needs (personnel + other): 44 747,22€

3.8. WP8 Consumption & Needs

3.8.1. WP8: Estimation of efforts, in person months (PM), during Year 1, for each partner:

Beneficiary No	Beneficiary Name	PM Consumed	PM Foreseen	% Consumed
1	University of Minho – MUM	1,00	3,20	31%
2	Sociedade Portuguesa de Inovação	0,03	0,50	6%
3	Universitat de València-Estudi General	0,63	2,50	25%
4	Institut National de la Recherche Agronomique	1,24	4,20	30%
5	Institut Pasteur	0,84	3,00	28%
6	Universidad de Las Palmas de Gran Canaria	0,63	2,50	25%
7	Koninklijke Nederlandse Akademie van Wetenschappen	0,00	1,75	0%
8	Service Public Federal de Programmation Politique	1,80	3,75	48%
9	Institute of Agriculture and Food Biotechnology	9,92	10,00	99%
10	University of Latvia	0,094	0,50	19%
11	National and Kapodistrian University of Athens	0,05	0,50	10%
12	Associação CCG/zgdv – Centro de Computação Gráfica	0,00	0,00	0
13	Universita Degli Studi Di Torino	0,17	0,50	34%
14	All-Russian Collection of Microorganisms	0,00	0,00	0
	TOTAL=	16,40	32,90	50%

3.8.2. WP8: Estimation of Budget Consumed

Estimation of budget consumption, in Euros, during Year 1 period from February 01, 2020 to January 31, 2021 for each partner:

Note: *Overheads* are not included.

Beneficiary No	Beneficiary Name	Direct Costs/Personnel Costs	Other Direct Costs (travel, consumables, equip.)
1	University of Minho – MUM	3 746,36	0,00
2	Sociedade Portuguesa de Inovação	34,60	13,84
3	Universitat de València-Estudi General	3,235,66	0,00
4	Institut National de la Recherche Agronomique	5 869,00	0,00
5	Institut Pasteur	3 360,00	0,00
6	Universidad de Las Palmas de Gran Canaria	2 927,06	0,00
7	Koninklijke Nederlandse Akademie van Wetenschappen	0,00	0,00
8	Service Public Federal de Programmation Politique	12 600,00	0,00
9	Institute of Agriculture and Food Biotechnology	9 835,68	0,00
10	University of Latvia	300,00	0,00
11	National and Kapodistrian University of Athens	306,00	0,00
12	Associação CCG/zgdv – Centro de Computação Gráfica	0,00	0,00
13	Universita Degli Studi Di Torino	919,95	0,00
14	All-Russian Collection of Microorganisms	0,00	0,00
	TOTAL=	39 898,65	13,84

3.8.3. WP8: Estimation of Budget Needs

WP8: this is an estimation of partners' budget needs for the next 6-month period per WP from M13 to M18 (February 01, 2021 to July 31, 2021)

Note: Overheads are **not** included.

Beneficiary No	Beneficiary Name	Direct Costs/Personnel Costs	Other Direct Costs (travel, consumables, equip.)
1	University of Minho – MUM	3017,50	0,00
2	Sociedade Portuguesa de Inovação	750,00	187,50
3	Universitat de València-Estudi General	1983,10	0,00
4	Institut National de la Recherche Agronomique	6341,18	0,00
5	Institut Pasteur	1680,00	0,00
6	Universidad de Las Palmas de Gran Canaria	2 097,72	0,00
7	Koninklijke Nederlandse Akademie van Wetenschappen	0,00	0,00
8	Service Public Federal de Programmation Politique	7000,00	0,00
9	Institute of Agriculture and Food Biotechnology	8000,00	3000,00
10	University of Latvia	300,00	0,00
11	National and Kapodistrian University of Athens	863,00	0,00
12	Associação CCG/zgdv – Centro de Computação Gráfica	0,00	0,00
13	Universita Degli Studi Di Torino	944,85	0,00
14	All-Russian Collection of Microorganisms	0,00	0,00
	TOTAL=	30 879,63	3 187,50

Total Budget needs (personnel + other): 34 067,13€

3.9. WP9 Consumption & Needs

3.9.1. WP9: Estimation of efforts, in person months (PM), during Year 1, for each partner:

Beneficiary No	Beneficiary Name	PM Consumed	PM Foreseen	% Consumed
1	University of Minho – MUM	1,04	6,00	17%
2	Sociedade Portuguesa de Inovação	0,01	2,00	1%
3	Universitat de València-Estudi General	3,19	8,00	40%
4	Institut National de la Recherche Agronomique	0,29	1,50	19%
5	Institut Pasteur	0,44	14,00	3%
6	Universidad de Las Palmas de Gran Canaria	0,56	1,50	37%
7	Koninklijke Nederlandse Akademie van Wetenschappen	0,01	1,50	1%
8	Service Public Federal de Programmation Politique	0,30	8,00	4%
9	Institute of Agriculture and Food Biotechnology	0,00	1,50	0%
10	University of Latvia	0,47	1,50	31%
11	National and Kapodistrian University of Athens	0,14	1,50	9%
12	Associação CCG/zgdv – Centro de Computação Gráfica	0,64	1,50	43%
13	Universita Degli Studi Di Torino	0,02	1,50	1%
14	All-Russian Collection of Microorganisms	0,00	0,00	0
	TOTAL=	7,11	50,00	14%

3.9.2. WP9: Estimation of Budget Consumed

Estimation of budget consumption, in Euros, during Year 1 period from February 01, 2020 to January 31, 2021 for each partner:

Note: *Overheads* are not included.

Beneficiary No	Beneficiary Name	Direct Costs/Personnel Costs	Other Direct Costs (travel, consumables, equip.)
1	University of Minho – MUM	2 680,24	0,00
2	Sociedade Portuguesa de Inovação	13,84	3,46
3	Universitat de València-Estudi General	15 338,97	0,00
4	Institut National de la Recherche Agronomique	1 636,00	0,00
5	Institut Pasteur	1 560,00	0,00
6	Universidad de Las Palmas de Gran Canaria	2 601,83	0,00
7	Koninklijke Nederlandse Akademie van Wetenschappen	69,57	0,00
8	Service Public Federal de Programmation Politique	2 100,00	0,00
9	Institute of Agriculture and Food Biotechnology	0,00	0,00
10	University of Latvia	1 380,00	0,00
11	National and Kapodistrian University of Athens	917,00	0,00
12	Associação CCG/zgdv – Centro de Computação Gráfica	1 594,16	0,00
13	Universita Degli Studi Di Torino	162,57	0,00
14	All-Russian Collection of Microorganisms	0,00	0,00
	TOTAL=	30 054,18	3,46

3.9.3. WP9: Estimation of Budget Needs

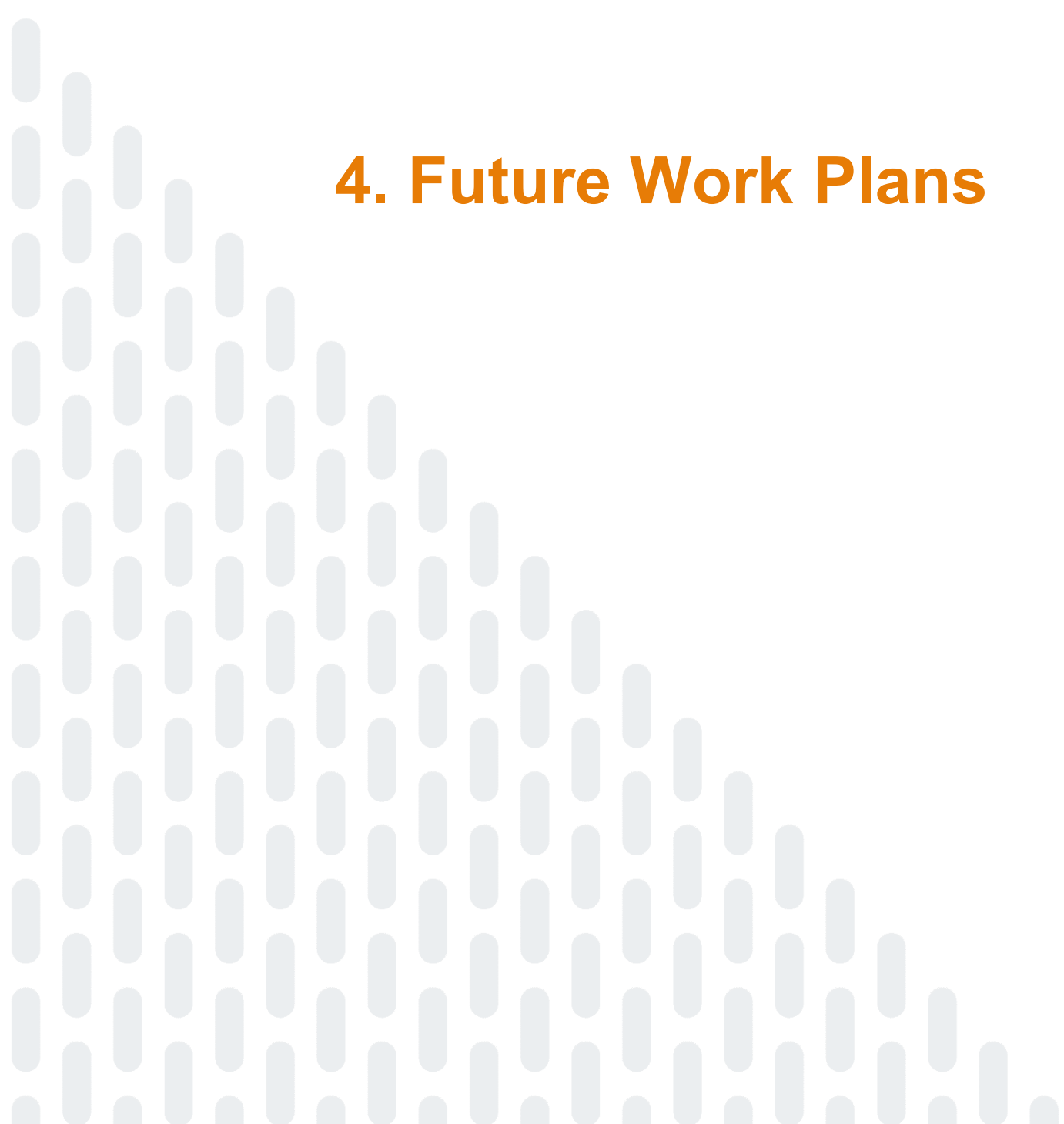
WP9: this is an estimation of partners' budget needs for the next 6-month period per WP from M13 to M18 (February 01, 2021 to July 31, 2021)

Note: Overheads are **not** included.

Beneficiary No	Beneficiary Name	Direct Costs/Personnel Costs	Other Direct Costs (travel, consumables, equip.)
1	University of Minho – MUM	1781,94	0,00
2	Sociedade Portuguesa de Inovação	3000,00	750,00
3	Universitat de València-Estudi General	4645,50	0,00
4	Institut National de la Recherche Agronomique	6341,00	0,00
5	Institut Pasteur	1170,00	0,00
6	Universidad de Las Palmas de Gran Canaria	520,37	0,00
7	Koninklijke Nederlandse Akademie van Wetenschappen	2591,00	0,00
8	Service Public Federal de Programmation Politique	7000,00	0,00
9	Institute of Agriculture and Food Biotechnology	600,00	0,00
10	University of Latvia	780,00	0,00
11	National and Kapodistrian University of Athens	2589,00	0,00
12	Associação CCG/zgdv – Centro de Computação Gráfica	735,00	0,00
13	Universita Degli Studi Di Torino	2753,40	0,00
14	All-Russian Collection of Microorganisms	0,00	0,00
	TOTAL=	34507,21	750,00

Total Budget needs (personnel + other): 35257,21€

4. Future Work Plans



4. Planned work for next 6 months period

4.1. WP1: Work foreseen for the next 6 months (M13-M18)

4.1.1. UMinho-MUM (WPL)

UMinho will work on the amendments to the General Agreement that were found necessary to adjust and improve the progress of [IS_MIRRI21](#) project. As WPL, UMinho will continue working on the tasks 1.1, 1.2, 1.3. In addition, UMinho will support other partners and WPs especially WP5 to move the training and education forward as this is an important outcome for the project and for the Gate 4 on the CWE Platform.

4.1.2. SPI

For the following six months, SPI will continue its contribution to the activities of WP1 as planned and requested.

4.1.3. IAFB

For the next period, IAFB will continue its contribution to the project activities, as planned and expected.

4.1.4. CCG

For next period, CCG will continue contributing for all the tasks related to project management and its deliverables, in particular, transversely to tasks 1.1, 1.2 and 1.3, through participating for the consortium meetings, contributing for the elaboration of documents and its revision, supporting the project leader in its duties interacting with the EC, preparing and providing financial and administrative information for regular reports, and contributing for the overall project communication activities (Task 1.4).

4.1.5. UVEG-CECT

UVEG-CECT will contribute supporting WP1 activities and PSC meetings, working on the review/approval of next deliverables of the project, and will continue working on Task 1.5 by settling up communication ways, internal by managing the Synology server and the mailing lists, and external through the CWE under development.

4.1.6. IP

The IP will keep contributing to the initiatives developed by the WP1 and to support through the access officer and other IP members, the activities carried out by the PSC and the MB.

The access officer is going to be in constant dialogue with the liaison officers in order to keep updated the list of resources and services offered by all MIRRI partners in compliance with the objectives of the MIRRI strategic agenda 2021-2030.

4.1.7. INRAE

INRAE will contribute to the activities of WP1, and in particular to those associated to PSC meetings.

4.1.8. NKUA

NKUA will continue to participate in project steering committee meetings and will contribute to fulfilling the objectives of WP1.

4.1.9. UL-MSCL

UL-MSCL will continue its activities in the WP1 as expected.

4.1.10. ULPGC-BEA and its third party FCPCT

ULPGC_BEA will continue participating in the PSC meetings and contributing to the development of WP1 activities.

4.1.11. UNITO AND ITS THIRD PARTIES:

For next period, UNITO will continue contributing for all the tasks related to project management and its deliverables.

4.1.12. BELSPO

BELSPO, and its third parties, will continue to participate in the PSC and other project meetings.

4.2. WP2: Work foreseen for the next 6 months (M13-M18)

In the third semester of IS-MIRRI21 project the WP2 activity will be oriented to the development of tasks 2.1, 2.2 and 2.3. The specific activities planned for the next 6-month period are:

Task 2.1:

- Complete the list of procedures and standards for resources characterization (**Milestone 2.2**)
- Collect and write the **first set of common protocols and standards** for resources characterization (Task 2.1).
- Planning and organization of **WP2 workshop** that will enable the implementation of MIRRI strategic agenda together with scientific exchanges on MIRRI research strategy and innovative methods for resources characterization.

Task 2.2:

In the framework of Task 2.2 Interactions with other BMS-RIs, MIRRI plans to implement the following activities in the next 6 months:

- Participation in the LS RI Strategy Group.
- On the scope of the LS RI Strategy Group, collaboration with several other RIs on preparing proposals/applications for different Horizon Europe calls (includes the development of common service workflows).
- Presentation of MIRRI's Strategic Research and Innovation Agenda 2021-2030 to (selected) RIs, in order to explore (further) potential opportunities for collaboration.
- Participation in EOSC-Life

Task 2.3:

Development of workflows during the first year of the project mainly focused on: i) the services offered for the TNA program required for WP4; ii) some design possibilities of MIRRI workflows that were shown in the presentation "Scientific Workflows", in September 2020 during the workshop "Transnational Access Programme: guidelines and procedures"; iii) definition of specific services that could integrate pipelines in different Research Strategic Areas, in line with the development of the MIRRI Strategic Research Agenda (SRIA).

In the coming months, further work is foreseen towards the definition of MIRRI services and workflows:

- Discuss among partners about the design: closed or tailored offer, periods for applications, periods for accession, types of services (remote, on-site, virtual –bioinformatic-).
- Contact the partners for a better definition of a portfolio of MIRRI integrated services (e. g. by a survey).
- Possibilities to define workflows that integrate services from other RIs, paying attention to the outputs of task 2.2
- Pricing policies for the access to services and workflows of MIRRI.

As for Milestones and Deliverables, WP2 partners are keen on the collective work required to complete **milestone M2.2**. The tasks planned in the next months will contribute to the development of **Deliverable 2.2** (MIRRI common procedures and standards for strain characterization) and **Deliverable 2.3** (MIRRI workflows) both scheduled for the end of the IS-MIRRI21 project.

4.2.1. INRAE (WPL):

For **Task 2.1** INRAE will coordinate the development of the planned activities. WP2 leader will chair the scheduled monthly meetings and will ensure the project progression by prioritizing the accomplishment of the specific subtasks. INRAE will coordinate the work required to complete the list of procedures and standards for strain characterization (Milestone 2.2), will coordinate the

collection of protocols and the identification of common standards for strain characterization. INRAE will promote the exchanges and discussion on new technologies and high throughput methods as they have high potential to be implemented for the characterization of MIRRI resources as well as part of the cutting edge MIRRI services offer. INRAE will be actively involved in the organization of WP2 workshop scheduled for September 2021. INRAE will also participate to the activities of **task 2.2 and 2.3** according to the needs of these tasks.

4.2.2. UMinho-MUM:

For **Task 2.2**, UMinho-MUM will continue the contacts and interactions with other ESFRI RIs, with special reference to the Health and Food domain. After the mapping done with the MIRRI SRIA, the synergies and complementarities that MIRRI has within the ESFRI landscape are now clear. The active participation on the ESFRI activities, for example on the Open Science Meetings, and the continuous search of project partnerships will continue.

4.2.3. UVEG-CECT:

Task 2.1. The CECT team will continue collaborating in the improvement and standardization of protocols, as requested by the WP leader. Images for the design and production of the standard protocols will be shared.

Task 2.3 Development of workflows. CECT team plans to start contacting the partners for a better definition of a portfolio of MIRRI integrated services and will use the input from **Task 2.2** for the development of workflows involving related RIs.

4.2.4. IP:

IP will keep its contribution to the development of the tasks proposed by the WP2 including the implementation of harmonized procedures for strain characterization (**D2.2**), a list of the different services offered by MIRRI partners (in line with the ESFRI roadmap 2021) that will allow the development of the workflows (**D2.3**) integrating services among MIRRI partners and other RIs.

4.2.5. KNAW-WI Institute:

KNAW-WI will continue to provide input concerning its expertise on taxonomy of fungi and yeast for the improvement of standardizations and protocols, and to work related to the MIRRI catalogue and associated scientific data (**task 2.1**). It will work with partners to further shape the implementation of the MIRRI SRIA.

4.2.6. NKUA:

NKUA will continue to participate in the WP2 teleconferences. In addition, it will contribute to the fulfilment of the WP2 **tasks 2.1 and 2.3** in order to have the deliverables ready on schedule.

4.2.7. CCG:

For next period, CCG will continue its participation for the meetings and discussions, aiming at contributing for WP2 deliverables, and achieving the necessary information for the performance of technical tasks for CWE implementation, regarding the Workflows (**task 2.3**).

4.2.8. UNITO, including Third-Parties USMI/IRCCS, UMCC/UNIMORE, ITEM/CNR & DBVPG:

In the next months, UNITO and its Third Parties will continue to contribute to **task 2.1 and task 2.2**. As MIRRI-IT node, UNITO and its Third Parties will draw a document to submit to the attention of the Italian Authority to adopt the EU directive 2019/1833 in order to update the risk level of biological agents (BSL) in Italy.

4.2.9. UL-MSCL:

UL-MSCL will participate in the meetings, continue to contribute to **Task 2.1**.

4.2.10. BELSPO, including Third-Parties BCCM/IHEM, BCCM/MUCL & BCCM/ULC:

BELSPO will continue to participate to the monthly meetings and contribute to the work of WP2, especially when taxonomic expertise is needed for fungi (including *arbuscular mycorrhizal fungi*) and cyanobacteria. This includes the list of procedures and standards for resources characterization (Milestone 2.2) in **Task 2.1**. BELSPO (BCCM/ULC) is also involved in one of the workflows proposed among the TNA and will contribute to **Task 2.3**.

4.3. WP3: Work foreseen for the next 6 months (M13-M18)

4.3.1. UMinho-MUM (WPL)

UMinho-MUM will continue to guide WP3 and participate in the planned activities under the Tasks 3.2 and 3.3 and their associated subtasks.

4.3.2. IP

The access and communication officer will continue contributing to the management and operational procedures carried out by the CCU (Task 3.1). IP will continue assisting to the WP3 meetings and contributing to the development of the Task 3.2 and Sub-task 3.2.2.

4.3.3. KNAW-WI

The completed forms of the Stakeholder interviews on ABS will be analysed with the help of selected partners. The results of this will serve as input for a discussion during the planned ABS Workshop on how to improve provision of ABS-related information and other MIRRI services. During this Workshop partner mBRCs will share experiences with implementation of ABS in the mBRCs (roughly since 2014), with the MIRRI best practice for ABS, and other available guidelines and tools. Also, partners will discuss possible common solutions to deal appropriately with demanding national ABS legislation in provider countries.

4.3.4. INRAE

INRAE will continue to participate to the meetings of WP3 and will participate in the planned workshop in March. INRAE will contribute to all the required work to accomplish the task 3.2 and the subtask 3.2.2 to complete the analysis of the interviews.

4.3.5. IAFB

For the next period, IAFB will continue its contribution to the project activities, as planned and expected.

4.3.6. NKUA

NKUA will participate in future WP3 meetings and participate in the preparation of deliverables.

4.3.7. UVEG-CECT

UVEG-CECT is set to do the following for the upcoming period:

- Participation in the meetings/ workshops proposed for the WP.
- Task 3.2 Contribute to the analysis of the interviews performed for task 3.2.2.
- Task 3.3 Coordinate the definition of the rules of procedure for the legal cluster, including criteria to accept experts and preparation of a call for external experts.

4.3.8. CCG

For the next six months, CCG will continue contributing for the WP3 activities, meetings, Workshop, etc. Particularly, CCG aims at contributing for WP3 activities related to Task 3.3, in its relation to the implementation of Clusters Modules of tools (CWE) as part of WP6.

4.3.9. UL-MSCL

For the next period UL-MSCL will continue its activities as it is expected.

4.3.10. BELSPO and its third parties

BELSPO and its third parties will continue the work that was started: the workshop on the new biobanks' standard (ISO 20387) will be preceded by a short webinar introducing the topic and asking the public what their most important concerns with this standard are. These topics will be dealt with primarily during the workshop.

The checklist for the internal audits will be further developed.

4.3.11. UNITO AND ITS THIRD PARTIES

UNITO AND ITS THIRD PARTIES: will continue to participate to the meetings of WP3 and will participate in the planned workshop in March. UNITO will collaborate in the analysis of the forms of the Stakeholder interviews on ABS that will be useful for a discussion during the planned ABS Workshop on how to improve provision of ABS-related information and other MIRRI services.

4.3.12. ULPGC/BEA-FCPCT

The participation of the ULPGC-FCPCT-BEA in this work package will continue to be essentially in accompaniment and participation in the tasks planned for it. The actions where there will be a larger involvement are:

Subtask 3.2.1.2.: since the BEA collection has been postulated as a collection to be audited internally according to ISO 20387: 2018.

Subtask 3.2.2.: by involving the BEA staff in charge of the ABS regime.

Task 3.3. MIRRI Cluster on Legal Framework: with the participation of the BEA curator, as an expert within the topic "Nagoya Protocol / ABS". Moreover, the BEA collection will be involved in the operational definition of the expert services.

During the next 6 months of execution, the BEA collection will continue to participate in meetings, in the planned workshops and in the progress of the tasks previously outlined.

4.3.13. SPI

In the following six months, SPI will support WP3 in the dissemination of four events (one webinar for ISO 20387:2018 and three workshops addressing ABS, Biosecurity and ISO 20387:2018). SPI is waiting for more information in regard to the planning and implementation of these events.

4.4. WP4: Work foreseen for the next 6 months (M13-M18)

4.4.1. IP (WPL)

The access officer will continue working in the promotion, dissemination, and management of the 1st TNA call, support the applicants and reviewers, monitor and evaluate continuously the process and publish the results of the awarded projects.

Finally, the IP will continue contributing to the development of the TNA platform on MIRRI CWE as part of the milestone MS13. *TNA platform on MIRRI CWE available to launch the call.* Based on the experience obtained from the 1st TNA call using ARIA as online application platform, it is possible to have a wider understanding of what could be developed for the MIRRI CWE, which functionalities can be used and which ones must be created to have a friendly and efficient environment for the management of access in the CWE.

4.4.2. IAFB

IAFB will interact with potential applicants to the 1st TNA call to discuss their projects and answer questions about the access to our institute, check the technical feasibility of the TNA proposal applying for access to our institute, and assist applicants with the research proposal and the administrative procedures and logistics for the access users during the second half of 2021. The TNA call is promoted on IAFB website, and in social media, as well in our internal scientific networks.

4.4.3. UVEG-CECT

UVEG-CECT is engaged to promote the TNA during the call, to assist potential users with their applications, projects and any administrative help needed.

As leaders of Task 2.3 Development of workflows, we will work in collaboration with IP (WP4 leader) and INRAE (WP2 leader) and partners to identify application-specific services and to the design of MIRRI integrated services and workflows (also in collaboration with other Research Infrastructures).

No deliverables and milestones are scheduled for the next 6 months in the WP4.

4.4.4. INRAE

INRAE will assist in promoting the TNA call and will interact with applicants to discuss their projects and its feasibility with the TNA offer proposed by INRAE.

4.4.5. ULPGC, including the Third-Party FCPCT:

ULPGC-BEA and its third party FCPCT main activities will be: interaction with potential applicants to the 1st call of the TNA to discuss their projects and answer questions about the access to BEA

facilities; verification of the technical feasibility of the TNA proposals; support the applicants with the research proposals, the administrative procedures and the organization for the access of users during the second half of 2021.

4.4.6. BELSPO, including Third-Parties BCCM/IHEM, BCCM/MUCL and BCCM/ULC:

BCCM/IHEM, BCCM/MUCL and BCCM/ULC plan to do the following:

- Interact with potential applicants to the 1st call of the TNA to discuss their projects and answer questions about the access to your facilities.
- Check the technical feasibility of the TNA proposals applying for access to our facility.
- Assist applicants with the research proposal, the administrative procedures and logistics for the access of users during the second half of 2021.

BCCM/CC will collect the questionnaires that are completed by the users and reviewers and organise the first symposium to get the feedback from the TNA users.

4.4.7. UNITO AND ITS THIRD PARTIES

We will assist in promoting the TNA call and will interact with applicants to discuss their projects and its feasibility with the TNA offer proposed by UNITO.

4.4.8. NKUA

NKUA will discuss potential projects and answer questions about what it can provide to potential applicants to the 1st TNA call TNA. NKUA will check the technical feasibility of the TNA proposals it will receive and it will assist applicants with the research proposal and the administrative procedures and logistics of their TNA proposal during the second half of 2021. NKUA staff will promote the TNA call among researchers.

4.4.9. SPI

In the following six months, SPI will support WP4 in the dissemination of the first TNA call and its conclusion in April 2021. SPI is responsible for the upkeep of the TNA portal, uploading of documents for the TNA call and announcements. SPI will support dissemination activities for WP4 up on request.

4.4.10. UMinho-MUM

UMinho-MUM will continue to support WP4 tasks and TNA activities.

4.5. WP5: Work foreseen for the next 6 months (M13-M18)

4.5.1. UMinho-MUM

UMinho will support the establishment of EuroMiRC course, moving forward the WP5 deliverables, and plan the service concept and offering of the Training and Education courses for the future sustainability.

4.5.2. UVEG-CECT

UVEG-CECT will continue participating in the meetings and contributing to the normal development of the three tasks within the WP5 as requested.

- **D5.2 Open-access IS_MIRRI21 CWE with advanced T&E courses offered (M18)**

UVEG-CECT as leader of WP6 CWE platform, will work in close collaboration with WP5 to implement Gate 4 in CWE reflecting the structure and contents of the MIRRI offer in Training and Education. WP5 leaders have been included in the WP6 mailing list for further developments.

- **MS18 Specialized EuroMiRC course launched (M13)**
- **MS16 Inventory of current training offer of the partners available on the CWE - gate to Education and Training (M18):** UVEG-CECT will provide this information to the WP5 leader when requested.

4.5.3. INRAE

INRAE will continue to participate to the meetings and will contribute to the work required to accomplish the different tasks.

4.5.4. IAFB

For the next period, IAFB will continue its contribution to the project activities, as planned and expected.

4.5.5. NKUA

NKUA will continue to participate to meetings and to assist in producing the deliverables of WP5. More specifically for deliverable 5.1, NKUA will distribute questionnaires among MIRRI partners in order to discover what training courses they provide, the course structure, how they select trainees and what are the course fees.

4.5.6. BCCM/MUCL

BCCM/MUCL will continue to act as coordinator of WP5 and move forward with the other interested parties the setting-up of the EuroMiRC course. BCCM/MUCL will also terminate the

video on arbuscular mycorrhizal fungi and organize, with the partners that have been selected for a video, the scenario and shots with the MIIL (Media Innovation & Intelligibility Lab., UCLouvain).

4.5.7. BEA-ULPGC and its third party FCPCT

BEA-ULPGC will participate in the meetings and contribute to the tasks to further develop the WP5 activities.

4.5.8. UNITO AND ITS THIRD PARTIES

UNITO and its third parties will continue participating in the meetings and contributing to the WP5 three tasks, as required.

4.5.9. IP

IP will contribute to future activities of this WP.

4.6. WP6: Work foreseen for the next 6 months (M13-M18)

4.6.1. UVEG-CECT (WPL)

UVEG-CECT will keep activities on-going to accomplish D6.2 and MS22 (up and running the MIRRI-CWE Platform) – Preliminary version (Beta version) to be available to the consortium for trials by month 18 (July 2021). In addition, the work will continue on the MIRRI-IS by:

- i) offering support on data export to CCs that have not sent their strains data due to technical problems;
- ii) MIRRI-IS data FAIR requirements will be worked out for implementation in collaboration with INRAECCG in coordination with UVEG-CECT

CCG team with UVEG-CECT plan to perform the following activities:

- New CWE modules evaluation and implementation (i.e., training and education, clusters of expertise...).
- Interoperability with other platforms (including those from other RI) must be assessed.
- Data-fields for viruses and plasmids databases will be established.
- The single authentication and authorization system developed under the EOSC-Life EU project (LS AAI) will be evaluated for implementation in the CWE in collaboration with USMI, INRAE, KNAW.

4.6.2. INRAE

INRAE will continue to participate to WP6, especially for aspects connected to its database (i.e., through the development of a solution for giving microbial resources a DOI, related to FAIR requirements), as well as for potential workflows. INRAE will keep on its efforts for making the data of CIRM collections available in MIRRI database.

4.6.3. SPI

In the following six months, SPI will continue to participate in the regular WP6 meetings and contribute as is requested or needed. In addition, SPI will support the integration of the preliminary version of the CWE when it is ready. In terms of dissemination, WP7 and WP6 will collaborate to develop the explanatory video about the CWE after April 2021.

4.6.4. IP

The IP will continue contributing to the development of the TNA platform in the MIRRI-CWE. Based on the experience we will obtain from the 1st TNA call using ARIA (a cloud service provided by Instruct-ERIC) as TNA online application platform, it will be possible to have a better understanding of what could be developed for the MIRRI CWE, which functionalities can be used and which must be created to have a friendly and efficient application for the management of access on the CWE. The IP will be part of the working group for the virus and plasmids dataset, will assist to the monthly meetings, and will continue working on the IP data that will be exported to MIRRI-IS.

4.6.5. ULPGC, including the Third-Party FCPCT

ULPGC-BEA will continue working on strain data exports to solve any mistakes or missing data and contributing with any requirements to operate the CWE.

4.6.6. KNAW-WI Institute

We will continue to import data from the Excel sheets provided by the collections and will also write many scripts to import data directly from BioloMICS based collections. The latter task is extremely important for the future success of the MIRRI project and infrastructure. Without automated updates of the MIRRI-IS, the project will likely collapse after a few years which is not what we are aiming for.

4.6.7. BELSPO, including Third-Parties BCCM/IHEM, BCCM/MUCL and BCCM/ULC

For the next period, **BELSPO**, as well as its third parties will provide and/or adapt any data or information for the further development of the CWE. **All BCCM partners** involved will also attend meetings and contribute to the requirements when requested. Seen that about 90% of the PM foreseen for this WP6 has already been consumed, some transfers in PM from another WP to WP6 might be necessary.

4.6.8. IAFB

For the next period, IAFB will continue its contribution to the project activities, as planned and expected.

4.6.9. NKUA

NKUA will continue to participate in the WP6 and attend its teleconferences, as well as provide any data or information required in order to set up and operate the Collaborative Work Environment.

4.6.10. UNITO, including Third-Parties USMI, UMCC/UNIMORE, ITEM/CNR, PLAVIT/CNR and DBVPG/UNIPG

UNITO and its third party will continue to participate in WP6 activities and attend its teleconferences.

CNR plans to upload the **ITEM** collection to the MIRRI-IS. **UNITO and UNIPG** plan to submit updated versions of their catalogues, while **UNIMORE** should have information of its catalogue regularly exported by KNAW/BioAware.

USMI plan to extend its Galaxy server by implementing tools for updating data in MIRRI-IS by exploiting scripts developed by CCG, INRAE and UVEG. More tools will also be added to the Galaxy server in order to support collections in the validation and extension of the data in their catalogues.

A special effort will be devoted by **USMI** and by **CNR** to the definition of the MIRRI-IS dataset for plant viruses and of related guidelines for catalogue uploads.

4.6.11. IBPM RAS

IBPM RAS will continue to participate to WP6, especially for aspects connected to its metabase as well as for potential workflows in database integration.

4.6.12. UMinho-MUM

UMinho-MUM will contribute to the identification of contents for and the launching of the website mirri.org. The MIRRI CCU will support the future operational and liaison activities with different stakeholders on the CWE.

4.7. WP7: Work foreseen for the next 6 months (M13-M18)

4.7.1. SPI (WPL)

4.7.1.1 IS_MIRRI21

Dissemination materials

- **Brochure and roll-up:** The project brochure and roll-up are currently being translated to other European languages.
- **Introductory video:** The development of the IS_MIRRI21 introductory video is underway through collaboration with UMinho and an external video production company called Filmesdamente (www.filmesdamente.com). Up until M15, SPI and the subcontracting

company will work together to develop, refine and approve the script of the videos, produce the storyboard and select the most suited graphics as well as the narration of the script.

- **Third project newsletter:** The third IS_MIRRI21 newsletter is due in M18 of the project.
- **Event webpages for WP3 and WP8 workshops and webinar:** These constitute of a new webpage as an extension of the IS_MIRRI21 website under [Events](#) to avail relevant information about the internal events such as short introduction, name of organiser, agenda, duration and venue, etc.

Dissemination activities

- **Regular updates to the project website and social media pages:** SPI are responsible for the upkeep of the project website and social media accounts. Thus, these channels of communication will be regularly updated and new materials will be posted. Posts of announcements and activities from all the partners of IS_MIRRI21 will be managed by SPI.
- **WP7 Conference calls:** WP7 regular conference calls will continue for the next six months in M14, M16 and M18.
- **Promotion of TNA first call:** The promotion of the TNA first call will continue with regular posts on the project social media pages to promote the call.
- **Public engagement events/Participation in events:** IS_MIRRI21 will be represented by partners in at least three events in the coming months: These events are:
 - Online Seminar: 08 February 2021 - ['Re-Horti'- strategy per la riqualificazione di suoli urbani destinati all'orticoltura](#)
 - Online Seminar: 18 February 2021 - [EU-CELAC cooperation on research infrastructures](#)
 - Online workshop: 09 March 2021 – [La Federación Latinoamericana de Colecciones de Cultivos \(FELACC\) 2021 workshop](#) (Module 1)
 - Online workshop: 20 April 2021 – [La Federación Latinoamericana de Colecciones de Cultivos \(FELACC\) 2021 workshop](#) (Module 2)
- **Launching events by the project partners:** SPI supports internal events through promotion, i.e., development of targeted promotional materials and channels, and general operation. Two WPs will be launching events in the coming six months:
 - *WP3 webinar and workshops:*
 - Webinar on ISO 20387:2018: 29 March 2021
 - Workshop 1 (ABS workshop): 3 June 2021
 - Workshop 2 (Biosecurity workshop): 10 June 2021
 - Workshop 3 (ISO 20387:2018): 17 June 2021
 - *WP8 workshop:* IS_MIRRI21 partner and leader of WP8, IAFB (Prof. Wacław Dabrowski Institute of Agricultural and Food Biotechnology) will launch the

second international workshop for all interested Culture Collections, microbial Biological Resource Centres and key project stakeholders from countries that have not yet been involved in the IS_MIRRI21 project.

Collaboration with other WPs

Revision of deliverables

SPI is responsible for contributing to and revision of D9.1.

Deliverables and milestones

SPI is responsible for the development and delivery of the third and final deliverable for WP7, D7.3: Updated Outreach and Dissemination Strategy due in M19 as part of Task 7.1. The development of this deliverable will begin in M18 with the revision of the first edition (D7.1) and the activity reports (D7.2, project interim progress reports and ideas from partners). The remaining two milestones for WP7, *MS25: Updated Dissemination materials developed* and *MS26: Final IS_MIRRI21 meeting implemented* will be realised in M20 and M36 of the project, respectively.

4.7.1.2 MIRRI

Dissemination materials

Press kit: A press kit for the introduction and dissemination of MIRRI and two banners for the IS_MIRRI21 project and the first TNA call to be used on the MIRRI website are under development. The two banners developed by SPI are to be used on the revamped MIRRI website to promote the IS_MIRRI21 project and TNA first call by redirecting the visitors to the IS_MIRRI21 website. Both these materials are foreseen in M13. The press kit consists of three articles, i) MIRRI standard PowerPoint Presentation, ii) one-page infographics about MIRRI with key facts and figures, and iii) one page profile description of MIRRI. The purpose of the press kit is to present MIRRI in one package to potential members and journalists with interest in creating synergies or supporting MIRRI as an RI. The press kit is foreseen in M14.

Dissemination channels

MIRRI website: SPI will continue to support the development and re-launch of the MIRRI website when requested by the leader of WP6 (UVEG-CECT). The exact tasks or responsibility of SPI is not defined yet but will depend on the needs and requirements of the WP6 leader and partners. The complete website of MIRRI is foreseen to be ready in the first half of 2021. Social media: SPI as the leader of WP7 and manager of the IS_MIRRI21 social media channels will contribute to the visibility of MIRRI by publishing the descriptions of the partners of MIRRI through the dissemination channels, e.g., Facebook in M13 and beyond.

4.7.2. IP

The IP will periodically release publications in social media, tweets and other posts to disseminate the activities organised by the WP4 and the 1st TNA call. The tweets to promote the TNA programme will be published until the deadline of the call on 16th April 2021. The IP will use MIRRI/IS_MIRRI21 communication channels to disseminate the recruitment of a project manager

for IS_MIRRI21 at the CRBIP and to promote courses such as the MOOC of biobanks organised by CRBIP members.

The Access officer will be constantly working with SPI to update the content of the TNA page in the IS_MIRRI21 website and to advertise the activities organised by the WP4 or the IP in social media and internal research networks.

4.7.3. IAFB

For the next period, IAFB will continue its contribution to the project activities, as planned and expected. Especially in the field of announcements via the project website and social media pages concerning the information's about the WP8 national workshop, and international workshop planned for 2021.

4.7.4. CCG

CCG will continue the contribution and collaboration for WP7 activities, particularly for tasks 7.2 and 7.3.

4.7.5. UL-MSCL

UL-MSCL will represent IS_MIRRI21 at the 79th Int. Scientific Conference of the University of Latvia (February,19). Press release afterwards will be prepared. TNA flyer will be disseminated, translation of the project brochure in Latvian also is being considered.

4.7.6. INRAE

- INRAE will contribute by scientific and non-scientific publications on the website of MIRRI.
- INRAE will continue to participate in events and present MIRRI to the scientific community.
- INRAE will continue outreach activities on social media by posting, sharing, and liking posts concerning MIRRI's activities.

4.7.7. NKUA

NKUA will contribute to project activities and to raising awareness of MIRRI. NKUA will prepare a Greek translation of the MIRRI brochure and distribute it among Greek microbiological organizations and have it uploaded on Greek websites. NKUA will also organize presentations on the MIRRI program within Greece.

4.7.8. UNITO and its Third Parties

UNITO and its third parties will contribute to project activities and to raising awareness of MIRRI. We will also organize presentations on the MIRRI program within Italy mainly through the activities of the JRU MIRRI-IT and within the COST Ocean4biotech.

4.7.9. BELSPO and linked Third Parties

- BELSPO will contribute to the development of the website of MIRRI.
- BELSPO continue to participate in events and present MIRRI to the scientific community.
- BELSPO will continue outreach activities on social media by posting, sharing, and liking posts concerning MIRRI's activities.

4.7.10. UVEG-CECT

UVEG-CECT will continue contributing to the tasks of this WP7 and dissemination activities:

- engaging stakeholders by describing IS_MIRRI21 and MIRRI in the scientific events where it would participate
- promoting internal activities in social media, websites and by press releases.
- contributing with scientific and non-scientific publications to feed IS_MIRRI21 and MIRRI websites.
- disseminating the flyer of MIRRI and TNA.
- attending the meetings.

4.7.11. ULPGC/BEA-FCPCT

The plan for the next 6 months by the BEA is to promote the dissemination of the project through its social networks and the Bank's website, mainly, with specific publications on the page of the Canarian Science and Technology Park Foundation of the ULPGC. Specifically, the following actions will be carried out:

- 2 press releases (articles) on the BEA web page.
- 1 press release on the FCPCT web page and in its weekly newsletter (aimed at companies).
- 1 training seminar for undergraduate students, according to the research co-production model.
- 3 publications in the BEA's social networks (Facebook, LinkedIn and Twitter).

Although it is probable that more dissemination actions of the project will be carried out by the BEA, they are not indicated in this list, since there is some uncertainty in the planning of this type of actions, due to the affection that Covid-19 could have in next semester.

4.8. WP8: Work foreseen for the next 6 months (M13-M18)

4.8.1. IAFB (WPL)

In WP8, we are planning to continue the work on the enlargement of the MIRRI. After we will receive the feedback from collections that are interested in MIRRI, we will propose a meeting, or (in case of a larger number of CCs) we will organize a tailored workshop to exchange the information concerning MIRRI objectives and its current status to become an ERIC and to

organize activities aiming to integrate local/national collections, to establish a contact point for each country.

4.8.2. UMinho-MUM

UMinho will continuously work on the MIRRI application to attain the ERIC legal status, work on the recruitment of new member countries and the retainment of the prospective members.

4.8.3. BELSPO

BELSPO will continue working with the members of the ApM in order to monitor the status of the national procedures and the step-2 submission to establish the MIRRI-ERIC. BELSPO will work with the WP leader to develop other activities to enlarge the MIRRI membership.

4.8.4. UVEG-CECT

UVEG-CECT will continue collaborating with WP8 in its commitment: will participate in WP8 meetings and workshops for the enlargement of the MIRRI consortium; will keep updated information about National Nodes (NN) and their CCs; and will work on the consolidation of the Spanish National Node.

4.8.5. INRAE

INRAE will continue to participate to the meetings of WP8, and will continue the work required to fulfil task 3 regarding the private sector potential partnership with MIRRI.

4.8.6. UNITO AND ITS THIRD PARTIES

For the following six months, we will continue to support all the activities under WP8 as requested.

4.8.7. NKUA:

NKUA will participate in future meetings and inform other organizations in Greece that may be interested in joining MIRRI about it.

4.8.8. SPI

For the following period, SPI will continue its support of the activities under WP8 as requested.

4.9. WP9: Work foreseen for the next 6 months (M13-M18)

4.9.1. Tasks

4.9.1.1 Task 9.1 Establish a business model to prepare a long-term sustainable funding for the consortium. M01-M12

After the completion of the task 9.1 and the D9.1, an infographic version of the Business Model will be developed.

4.9.1.2 Task 9.2 Business plan. M01-M36

Taking as a reference the documents containing information and analysis about MIRRI's organisation, governance, scientific agenda and services (MIRRI-ERIC_Business Plan_v2_2020_11_24, D9.1 and the strategic agenda of IS_MIRRI21) the development of the business plan can start. This document will set priorities at different timescales and set plans and strategies involving different scopes and stakeholders. The financial plan will be added to this business plan in order to give a more realistic context about the expected profits for MIRRI.

4.9.1.3 Task 9.3 Financial plan. M01-M36

Having already a draft for the BP (and a FP within), this document will be revised and updated following closely the principles of the SRIA and the achievements of the WPs of the IS_MIRRI21 project. In this regard, the implementation of the CWE, services, clusters of expertise, education and training programme and membership enlargement will play key roles in the overall gearing of MIRRI's operation.

There are no deliverables or milestones foreseen for the next 6 months of the WP9. Next goals are the MS29 Revenues estimation from MIRRI services (M24-January 2022) and deliverables D9.2 2–5 years financial plan and D9.3 Business Plan for MIRRI-ERIC (M36-January 2023).

4.9.2. CECT-UVEG

CECT-UVEG, based on Deliverable 9.1, will prepare an attractive document/presentation, taking the main messages from the Business Model, to disseminate and engage stakeholders.

4.9.3. IP

IP will help in the development of the foreseen KPI analysis that will serve as a dashboard to measure the return of investment of the Infrastructure. Moreover, IP will participate actively in the meetings of the WP9 working group. The recruitment of a new project manager for the WP9 is foreseen for the first half of 2021. This person will work on the construction of the financial plan starting by the estimation of the revenues from MIRRI services by M24 (January 2022) in compliance with the milestone MS29.

4.9.4. IAFB

For the next period, IAFB will continue its contribution to the project activities, as planned and expected.

4.9.5. CCG

For the next period, as planned, CCG will continue its contribution for task 9.2 and Deliverable 9.2.

4.9.6. UL-MSCL

UL-MSCL will continue to participate in the meetings and contribute to the planned tasks of WP9.

4.9.7. INRAE

INRAE will keep participating in the meetings and contributing to the tasks and planned activities in WP9.

4.9.8. ULPGC-BEA and its third party FCPCT

ULPGC-BEA will continue participating in the meetings and contributing to the tasks described for the WP9. Besides, ULPGC-BEA will contribute to the deliverables as described in the MIRRI proposal.

4.9.9. NKUA

NKUA will continue to participate in meetings and will contribute to the deliverables as outlined in the MIRRI proposal.

4.9.10. SPI

SPI will continue its contribution to the activities of WP9. As one of the contributing partners, SPI is responsible for support in the development of content for D9.1: Business Model for MIRRI-ERIC.

5. Conclusion and Final Remarks

As a general conclusion, this report demonstrates the intense work performed to launch and develop the [IS_MIRRI21](#) workplan defined in the Grant Agreement. The project started at a time when the COVID-19 pandemic situation has changed completely the daily routine and the ways that define how we work together. The adaptation and the teleconferences were the new challenges that were never envisaged in our risk and mitigation plans. Nevertheless, all partners understand that some work is developed in suboptimal conditions, due to the lack of face-to-face meetings and on-site visits. The weak points and deviations were explained in the report. Some

delays were controlled, and currently the work is continued with the delivery of strong points. Most importantly, the partners are highly engaged with the project and the project is under control. The money that is not yet spent due the current limitations, with the current pandemic situation that has changed the travel rules, will be used to accelerate the work to be done.



MIRRI IS21

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SUSTAINABILITY FOR
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