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DELIVERABLE REPORT

WP2 - MGT2 - Pilot scheme for the management of a distributed research infrastructure offering harmonised, interoperable and integrated services

D2.8

Second call for additional providers

Due date

M41



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WORK PACKAGE LEADER

Cristina Africh (CNR)

DELIVERABLE DETAILS

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DELIVERABLE TITLE

Second call for additional providers

DELIVERABLE DESCRIPTION

The report describes the analysis of the needs of the TA programme behind the launch of the second call for additional providers. This action is foreseen by the Grant Agreement to be carried out at M41

DUE DATE

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NATURE

- ☒ R - Report
☐ P - Prototype
☐ DEC - Websites, Patent filing, Press & media actions, Videos, etc
☐ O - Other

DISSEMINATION LEVEL

- ☒ P - Public
☐ PP - Restricted to other programme participants & EC: (Specify)
☐ RE - Restricted to a group (Specify)
☐ CO - Confidential, only for members of the consortium

REPORT DETAILS

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Introduction

According to the Grant Agreement, in the lifetime of NFFA-Europe Pilot the Transnational Access offer must enlarge to meet (i) the qualitative needs of users that could be better met with new specialized providers, or (ii) quantitative needs resulting in oversubscription of the current capacity. To this aim, two calls for additional access providers were foreseen at M24 and M40, respectively. This report describes the rationale that led to the text of the second call for additional access providers, i.e. from the evaluation of the needs – mainly based on the analysis provided in the deliverable D2.7 “Second balance of access provision” - to the search for alternative solutions to widen and strengthen the current offer.

Route towards the definition of the call for new access providers

The enlargement of the transnational access offer through the addition of new access providers is a specific action envisaged by the Grant Agreement.

A whole task (task 2.5) is totally devoted to analysing, suggesting and monitoring the technical and scientific evolution of the IDRIN (Interoperable Distributed Research Infrastructure for Nanoscience). As a result, the activity of task 2.5 includes the launch of two Call for new providers as stated in the GA:

"Task 2.5 will prepare the calls for new providers at month 24 and month 40, to be discussed and approved at ESC level. The call profile will be defined upon analysis of usage in collaboration with the TLNet (absorption of UoAs in different INSTALLATIONS and individual instruments) and identification of qualitative needs by users that could be better met with new specialized providers, or quantitative needs resulting in oversubscription of the current capacity. The call criteria will define new providers along the same possible profiles of beneficiaries, linked Third Parties of beneficiaries, TPAP or subcontractors. The selection of the responses to the call will be assessed by the ESC upon advice of the TLNet, of the UA-ACB and of the Experts of Landscape and LTS. A priority list will be established and submitted for approval by the GeAs who asks for an amendment to the Grant Agreement to include the new provider/s to the NEP."

As clearly stated in the description of the task, the call for new access providers must respond to two key needs: the compensation of a lack of capacity of specific techniques/tools and the addition of complementary techniques to better satisfy the users' needs.



The steps that brought to the draft and launch of the second call for new providers followed those already used for the first call, with some differences; indeed, strong of the previous experience, this time some steps that in the past had not given clear indications were skipped (i.e. survey among users and the analysis of industrial needs). Furthermore, being in a different situation, that is, the presence of only 2-3 calls for proposals to be carried out, instead of 7-8, it was preferred to concentrate the efforts and the budget on clear needs.

Hence, the steps followed are briefly listed here below and described in details in the next sections:

- *Evaluation of the use of the installations, the use of the overall infrastructure and the identification of the criticalities and priorities for the strengthening of the offer.* From the analysis of the access consumption for each distributed installation (D3.2, D4.2, D5.2, D6.2, D7.2, D8.2) and the overall assessment of access in the first ten calls for users' proposals (D2.7), it has been possible to identify the main criticalities, in particular in terms of oversaturation of specific techniques.

- *Discussion on the needs.* The discussion particularly focussed on the way to compensate the lack of capacity of different techniques, leading to the active search of solutions both internally and externally to the current consortium.

- *Final decisions, call writing and launch of the call.* After having considered all the abovementioned aspects, the ESC decided to launch the call to compensate the criticalities of the current offer. Details such as deadline and role of the additional access providers within the Consortium, have been agreed at IDRIN and ESC level.

Evaluation of Transnational Access request and consumption

Six deliverables (one for each TA installation - D3.2, D4.2, D5.2, D6.2, D7.2, D8.2) on the "Transnational Access Provision second balance" have been submitted in March 2024. The deliverable "Second assessment of access provision" was drafted from the analyses contained in the aforementioned deliverables and from a more scientific outlook on the user activity; its main aim was to investigate the demand, the use of the IDRIN and its potential developments. The evaluation of the access provision during the first 10 calls allowed to classify the access provision as in line with Grant Agreement obligations, with access requested in all 6 installations. As already spotted out in D2.3, the demand continues to be unbalanced among the different installations: whereas characterization (both SM and ECM) is highly demanded, growth and synthesis is below the initial expectations.

From the analysis carried out in deliverable 2.7, no clear indication of a pressing need to include new techniques in the NEP catalogue has been spotted out. On the other hand, specific techniques experienced oversaturation in this period. These are:

- in the L&P installation, TWL and EUV-IL, followed by EBL and RIE.
- in the G&S installation are PLD, MBE, followed by MICS
- in the SM Characterization, SEM, TEM, XRD and AFM
- in the EMC Characterization, XPS (both Isf-based and lab-based), BLS, XAS and PL
- in the NtM installation, LSIVP, CCF, Standard etching and LCI



Discussion on the needs and perspectives

The discussion about consolidating and widening the current catalogue was carried on at different levels: it was started at UA-ACB level, during the preparation of the deliverables D2.7, D3.2, D4.2, D5.2, D6.2, D7.2, D8.2, and subsequently moved at IDRIN-ACB level with the collaboration of the TLNet; it was then finalised at ESC level.

An analysis was conducted on the reasons why the abovementioned techniques were oversaturated, and after an internal evaluation – and some exchanges with targeted potential providers - four different categories were identified:

- oversubscribed techniques with offer base large enough not to lead to criticalities
- oversubscribed techniques for which there is a single provider and no other potential providers inside or outside the consortium
- oversubscribed techniques for which there is currently a single provider but other providers inside the consortium can extend their offer including the desired techniques
- oversubscribed techniques for which there is currently a single provider but other providers outside the consortium might have the tools and the skills to provide for them

Obviously, a short-term solution is “straightforward” for the techniques falling under the first category, whereas it is impossible for those belonging to the second one.

For the third category, a form for the integration of a new instrument in the catalogue was created and was distributed to internal providers willing to offer the requested technique. This modality has been used to absorb part of access request to LCI (Live Cell Imaging) at FORTH, by opening access to an additional instrument at CIC-biomaGUNE.

Lastly, the Call for new providers was specifically addressed to the search of access providers capable of offering the technique included in the fourth category, i.e. LSIVP (Laser Surface and in-Volume Patterning).

The call for new access providers

After two IDRIN-ACB meetings in which the details of the call for additional access providers were thoroughly discussed, the members came to the following conclusions:

1. The call is to be addressed to both academic and industrial providers; although the most requested techniques belong mainly to the academic sector, offer of services from industrial environment is most welcome
2. The new providers will contribute to strengthen and expand the current offer available on the NFFA-Europe catalogue
3. Based on the needs, the most important technique to strengthen is Laser Surface and In Volume Patterning. Nevertheless, the possibility to offer innovative new methodologies, complementary to those present in the current catalogue is left open
4. The deadline for applications to this Call has been set on September 13th, 2024
5. The role of the new access providers within the Consortium will be third-party providing in-kind contribution against payment



6. In order to better disseminate the possibility of joining NFFA as access providers, different actions have been envisaged:

- the creation of a dedicated page on the website to illustrate the call and how to participate
- the update of the NFFA-Europe home page of the website to highlight the call
- the advertisement of the call to targeted potential providers via email

7. As reported in the GA, the selection of the responses to the call will be assessed by the ESC upon advice of the TLNet and of the UA-ACB. A priority list will be established and submitted for approval by the GeAs.

All these points were included in the text of the Call, firstly drafted by the Management team and then revised by the IDRIN-ACB, which is reported in the undelying paragraph together with the application form.

Text of the call for new access providers and application form

The call for providers can be found at the following link, but for an easier reading, it is reported here below, together with the application form:

<https://nffa.eu/call-for-new-access-providers>

Application for new access providers

Nanoscience Foundries and Fine Analysis - Europe | PILOT (GA n. 101007417 - NEP) looks for new access providers to complement and reinforce the current offer available in the "Tools catalogue" as third-party providing services against payment.

NFFA-EUROPE is an open access platform that allows researchers from the EU, associated and third Countries to access state of-the-art facilities to carry out comprehensive projects for multidisciplinary research at the nano- and micro-scale extending from theory and numerical simulation to synthesis and nano-characterization of materials, and micro and nanofabrication of test structures and devices.

NFFA-EUROPE is supported by NFFA - Europe PILOT, a 15 million euros research project funded by the EU in the framework of the H2020 program. Its aim is to expand and consolidate an Interoperable Distributed Research Infrastructure for Nanoscience and Nanotechnology during 2021-2026. It is coordinated by the Italian Materials Foundry Institute (IOM) of the National Research Council (CNR) and involves 24 international partners (<https://www.nffa.eu/news/project-updates/pilot-nep>).

What are we looking for?

RPO's (Research Performing Organizations) and private companies (both SMEs and large enterprises) coming from EU or associated countries interested in offering access to their state-of-the-art facilities to NFFA users.

The new providers will contribute to strengthen and expand the current offer available on the NFFA-Europe catalogue in the field of nanoscience and nanotechnology (<https://nffa.eu/offer/>), that is organized in the following 6 installations:



- 1 - Lithography and Nano-patterning
- 2 - Growth and Synthesis
- 3 - Structural and Morphological Nano-characterization
- 4 - Electronic, Chemical and Magnetic Nano-characterization
- 5 - Nano to Micro/Macro
- 6 - Theory and Simulation of nanostructures

In particular, we seek new providers strengthening:

- Installation 5 for *Laser Surface and In Volume Patterning*

As well as innovative *new methodologies*, complementary to those present in the current catalogue, across Installations 1-6. Offer of services from industrial environment is most welcome.

The new providers will have to:

- Readily contribute to the feasibility check on users' proposals, when prompted by TLNet*, after each of the 4 calls per year
- Guarantee quick scheduling of access to the new services whenever user projects are assigned to their facilities
- Support technically and logistically the users in preparation and during the access
- Contribute information and financial data to the UONet** concerning Travel and Subsistence of the users to their facilities for real-time monitoring
- Ensure adherence to all internal and EU-related rules for operation of the infrastructure (see <https://nffa.eu/apply>) and for reporting, and to cost accounting under one of the EU accepted methods (based on unit costs or actual costs***)

* <https://nffa.eu/apply/#TLN> ; ** <https://nffa.eu/apply/#UON>

Why coming on board on NFFA Europe?

Community building: Be part of a successful Interoperable Distributed Research Infrastructure, serving European and International peer-review selected users, that already hosted over 1100 users from 50 Countries since 2015.

Visibility: the contributed techniques and competences will integrate the Catalogue and become fully visible to the broadest community in nanoscience and will be available for the last 2 or 3 calls of NEP operation.

Comprehensive benefits: the NFFA users will be highly qualified testers of all the methods and instruments open to access and will provide feedback to the providers, potentially also offering opportunities of co-creation of more advanced solutions.

Budget

The available budget will be dedicated to access cost reimbursement for transnational access, according to the EC financial rules*** and considering the overall balance among the NFFA-Europe providers. The number of Units of Access attributed to the new provider, and the associated estimated budget, will be finalized as the outcome of the call will be established.



*** https://ec.europa.eu/research/participants/data/ref/h2020/other/legal/unit_costs/unit-costs_tna-infra_en.pdf

How to apply?

If you are interested in participating in this innovative, visionary, and integrative European research project, please complete the application form and send it to sebastian.ferrari@nffa.eu

[Download the application form](#)

Application for new access providers

APPLICATION FORM

Candidate Information

Institution or Company Name:

Postal Address (Address, City, Zip Code, Country):

Telephone Number:

- ☐ National Institution
- ☐ International Institution
- ☐ SME
- ☐ Large Company
- ☐ Other

Field of Activity:

Institutional Mission and Description of the Institution/Company:

Previous access provision activities (institutional, corporate, external funding programme), if any:



List of Previous Collaborative Projects (if any):

Contact Information

Contact person (First Name and Family Name):

Position:

Email address:

Offer Description

Describe the proposed technical offer and why this is complementary/synergic to the NFFA catalogue (Max. 1.000 characters):

Estimated total maximum number of Units of Access offered**:

Estimated Access Cost per Unit of Access (8-hour units) calculated according to Commission Decision C (2013) 8199 of 10.12.2013*:

* https://ec.europa.eu/research/participants/data/ref/h2020/other/legal/unit_costs/unit-costs_tna-infra_en.pdf

** The remaining overall number of Calls till the end of the Project is 2-3.

