# Deliverable 3.7
# Summary report on activities of training and mobility

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**Abstract**

The Knowledge Management (KM) Work Package (WP) is responsible for four tasks and activities that are all linked to the collection and transfer of knowledge. An important KM task was to implement a mobility programme, thus this report summarises results of the implementation of the PREDIS mobility programme.

61 mobilities were performed successfully, including two half-year mobilities for PREDIS Ukrainian partners. The grantees background was; 58% PhD students, 26% young professionals, 9% PostDocs and 9% experienced professionals. A majority of mobilities was about one weeklong and the typical expenditure was in the range of 1200-1800 EUR.

The evaluation of the feedback confirms the high quality of mobility actions (majority of scores were above 4.3 out of 5 points maximum). Respondents positively evaluate usefulness mobility for their contribution to the PREDIS project and for their own personal development. An overwhelming majority of grantees evaluated the mobility as meeting their expectations. The used lump sums for the mobility expenses were judged by the grantees to be sufficient.

The PREDIS mobility programme allowed PREDIS partners and especially the next generation of experts to acquire the appropriate level of knowledge needed to develop their work and professional careers in the field of pre-disposal management of radioactive waste.

**Notification**

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# TABLE OF CONTENTS

# 1 Introduction

This deliverable describes the development, implementation and stepwise improvement of the PREDIS Mobility Programme. All data are acquired from the EVALATO mobility platform[1], which was used together with the EURAD project [1] for submission and evaluation of mobility awards [3]. The data were analysed, and the outcome published in this deliverable. The improvements were used to steer the Mobility Programme implementation stages, reflecting also identified additional needs by the PREDIS community, but respecting the financial envelop and work resources. The mobility grant application period was open from July 2021 to May 2024.

# 2 PREDIS mobility programme

PREDIS had a special interest in setting up and implementing training and mobility programmes to allow newcomers and next generation experts to acquire the level of knowledge needed to develop their professional careers in the different subjects related to the pre-disposal of radioactive waste.

The Mobility Programme was developed and implemented according to the defined specific needs and requests raised within the PREDIS project. The Mobility Programme focuses on:

- Mapping of mobility needs, targeting pre-disposal activities within the waste generator's community and the research and development (RD&D) Work Packages (WP).
- Launching a priority list on mobility needs and opportunities, based on mapping within potential users and hosting institutions (Deliverable 3.6 [2]).
- Targeting young or newer professionals associated with pre-disposal waste management, especially those organisations participating in PREDIS.
- Implementation of Mobility Programme by means of:
    1. Providing access and assistance to short or long-term internships (suggested period of 1 to 6 weeks) at organisations specialised in pre-disposal waste management RD&D.
    2. Providing access to organisations with tools/codes that needed to advance the next generation experts work in the PREDIS project RD&D Work Packages.
    3. Providing funding for attending conferences and workshops in the field of pre-disposal waste management.
- Evaluation of mobility effectiveness, based on grantee and host organisation feedback.

Thus, the Mobility Programme also supported short stays in other institutions to develop specific research of interest for both the sending and hosting organisations, the one sending the grantee and the one receiving it, as well as attendance to training courses or conferences related to the aims of the PREDIS project as long as there was budget remaining in the allocated funds. The budget allocated for mobility was 40 % of the total budget planned for training, mobility and State-of-Knowledge document production, within Work Package 3 (Knowledge Management)" and was funded at 100% direct costs without co-funding.

# 3 Mobility Programme scheme

The main source of information about the Mobility Programme can be found in the PREDIS Mobility Manual [3] that was issued as an individual PREDIS document distributed to PREDIS partners. It included detailed guidance on how to apply, including the proposal and budget templates.

## 3.1 What types of mobility?

The following forms of mobility are included into the PREDIS Mobility Programme:

- Visit = a short stay during which the visitor observes the activities performed at a certain institute or company.

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[1] Evalato is a next-generation awards management software that helps you collect applications, empower evaluation and pick the worthiest winners for your programs.

- Internship = a period of time during when a student or a professional participates in the local activities at a certain institute or company to increase knowledge and/or skills. In case of reciprocal internships (person A from institute X visiting institute Y and person B from institute Y visiting institute X dealing with the same scientific/technical subject) we use the terminology "exchange programme".
- Course/Training = a set of classes or a plan of study on a particular subject, optionally with an assessment to measure the gained competences, leading to a qualification. Hands-on training is a training method where the participant learns his/her job by performing job duties under a supervisor's guidance.
- Conferences/Workshops = an attendance at scientific or technology events outside PREDIS; attendance costs would be provided to those who would not be otherwise able to cover the anticipated budget.

A special case was approved by the PREDIS Management team for granting long-term mobility to support Ukrainian partners in connection to the war in Ukraine. Two such awards were granted based on applications.

## 3.2  Who could apply?

The PREDIS Mobility Programme was intended for those who would like to improve their knowledge and skills in the field of pre-disposal treatment of radioactive waste streams, other than nuclear fuel and high-level radioactive waste.

Especially PhD students, postdocs and junior/senior professionals/researchers were eligible to receive financial support through PREDIS Mobility Programme. Applicants had to be affiliated to partners of the PREDIS project.

## 3.3  Applications

All applications were made through the EVALATO awards platform [3]. Colleagues in the European Joint Programme on Radioactive Waste Management (EURAD) programme [1] administered this system and PREDIS had a separate work area for its applications. The link for application of mobility was posted on the PREDIS mobility website where also link to templates for the applications as well as the Mobility manual describing the procedure were stored [3].

Besides filling out an application form, applicants were asked to submit additional supporting documents:
- Curriculum Vitae (max 1.5 pages, references including);
- Motivation letter (how will this action improve the candidate's knowledge, skills and competitiveness; max 1 page);
- Letter of support from the supervisor / WP leader; in case of internship, a letter was asked to be provided from the receiving institution and mentor, clearly expressing the value of the proposed mobility action; max. 1 page per letter;
- Detailed budget covering all expected costs (in an excel template);
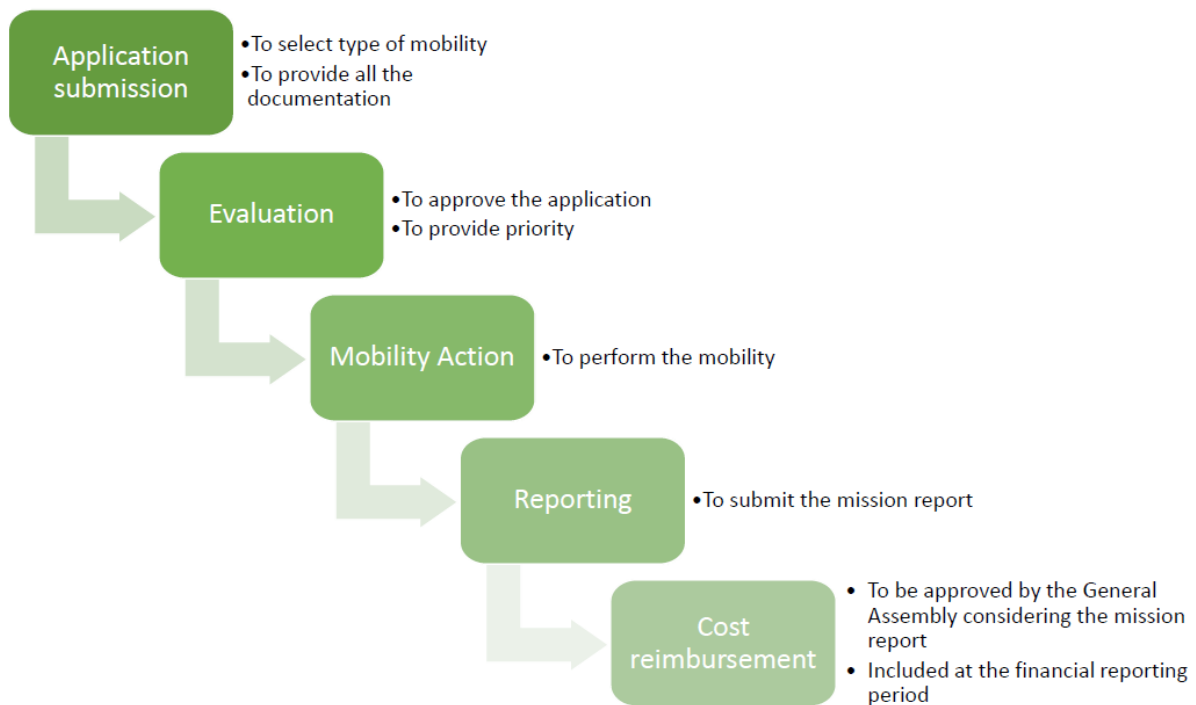- Description of the proposed activity (max 1.5 pages).

*Figure 1: PREDIS mobility application scheme*

## 3.4 Evaluation process

### 3.4.1 Form of evaluation

A Mobility Evaluation Committee based on a mandate, given by the PREDIS General Assembly, made decision of the mobility grant approval. A first check of completeness and clarity of submitted application was done by the WP3 (Knowledge Management) mobility task leader. When necessary, clarification was requested to the applicant by means of resubmission of the application. Then, partners from the evaluation committee were assigned and informed to evaluate the application. The corresponding WP leader and two WP3 partners evaluated internal PREDIS WP mobility applications. All other PREDIS mobility action applications were evaluated by members of the PREDIS Mobility Evaluation Committee and the PREDIS Management Team (MT) according to the pre-defined procedure, listed in Table 1.

In case of internship, a member from the hosting institution (hosting mentor) was invited to the evaluation process. A recommendation for funding was based on a simple majority (with a total evaluation score of >6.5 out of 10), with at least three evaluators participating in the evaluation.

*Table 1: Number of evaluation team representatives involved for each mobility type*

|  | WP3 representatives | WP lead/representative* | Host organisation | PREDIS Management team |
|---|---|---|---|---|
| **PREDIS Internal mobility: *Internal WP mobility*** | 2 | 1 |  |  |
| **PREDIS Internal mobility Internal WP: *Internship*** | 2 | 1 | 1 |  |
| **PREDIS Internal mobility: *Cross WP mobility*** | 2 | 2 |  |  |

| | | | | |
|---|---|---|---|---|
| **PREDIS Internal mobility** *Cross WP Internship* | 2 | 2 | 1 | |
| **External PREDIS WP mobility application** | 2 | 1 | | 1 |
| **External PREDIS WP mobility application:** *Internship* | 2 | 1 | 1 | 1 |

*Note: WP representative has to be from a different organisation than the applicant.*

Evaluation criteria for mobility application are given in Table 2.

*Table 2: Evaluation criteria for each mobility application*

| | Evaluation criteria for mobility application | | | |
|---|---|---|---|---|
| **Scientific background** | 1 (Poor) | 2 (Fair) | 3 (Good) | 4 (Excellent) |
| **Applicant Motivation** | 1 (Poor) | 2 (Fair) | 3 (Good) | 4 (Excellent) |
| **Level of recommendation (by the internal supervisor, by receiving mentor and by the host institute):** | 1 (Poor) | 2 (Fair) | 3 (Good) | 4 (Excellent) |
| **Effectiveness of mobility** | 1 (Poor) | 2 (Fair) | 3 (Good) | 4 (Excellent) |
| **Potential research outcomes** | 1 (Poor) | 2 (Fair) | 3 (Good) | 4 (Excellent) |
| **Personal development outcomes** | 1 (Poor) | 2 (Fair) | 3 (Good) | 4 (Excellent) |
| **Link to aims of the projects** | 1 (Vague) | 2 (Fair) | 3 (Well fitting) | 4 (Perfectly fitting) |
| **Has the applicant received another PREDIS grant? (Y/N)** | 1 (Yes) | 4 (No) | | |
| **Would the applicant be able to complete the mobility action if no funding is available? (Y/N)** | 1 (Yes) | 2 (No) | | |
| **Can the participant's organisation contribute to funding the mobility action?** | 1 (None contribution) | 2 (Yes, small contribution) | 3 (Yes, moderate contribution) | 4 (Yes, important contribution) |
| **In case of internships/exchange programmes/visit, the host institution can unilaterally decide to decline certain candidates.** | | | | |

# 4  Outcome of mobility programme implementation

67 mobility applications were positively evaluated during the PREDIS project. 61 mobilities were completed, 6 did not take place or were not finished. One application was refused (applicant was not working as PREDIS partner). No application was rejected because it was outside the scope of the PREDIS project.

## 4.1  Mobility statistics

The following presentations illustrates the use of mobility grants as a function of:

- Annual number of mobility
- Use of resources for different types of mobility
- Gender balance

- Mobility per WP
- Applicants organisational origin
- Type of mobility (internal/external/cross-WP) divided per WP
- Mobility per country

In Figure 2, the low number of mobility's in the first year of PREDIS can be explained by the fact that the mobility programme started in July 2021 (the PREDIS project started in September 2020) and due to travel/hosting restrictions due to Covid-19 pandemic. During the fourth year, students were encouraged to participate to the PREDIS final consortium meeting and the maximum number of mobility grants per person restrictions were removed.
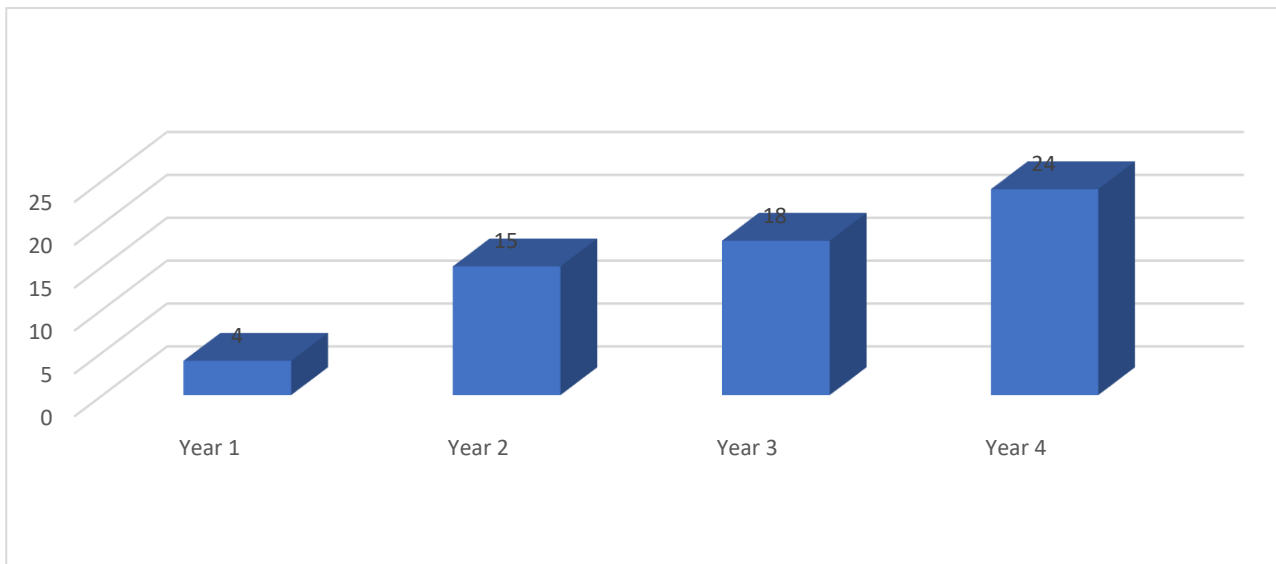


*Figure 2: Number of finalised mobilities per PREDIS running year*

Figure 3 show that the dominating part of the financial mobility resources (55%) were used for mobility within the technical work packages, followed by mobility to workshops/conferences and external to PREDIS partners (38%) while the mobility between two work packages was small (7%).
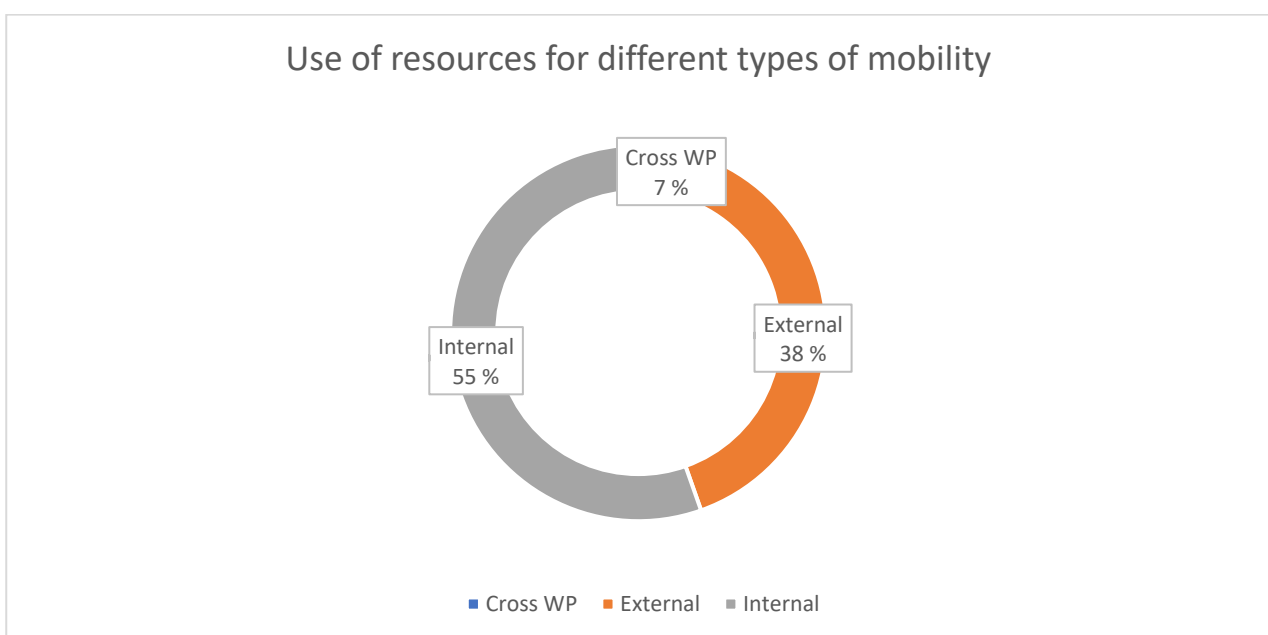


*Figure 3: Use of resources for different types of mobility*

Figure 4 shows the use of the 61 mobility grants in specific mobility actions, such as the participation to conferences/workshops, training events, visiting facilities for hands-on-training, students meetings and support to PREDIS Ukrainian partners. The majority of mobility's (52%) were used for participation in PREDIS meetings or dedicated students' meetings. Second most frequent mobility's target was to support next generation experts participating to PREDIS training events (21%). The frequent use of mobility's for students' meetings was driven by the relatively active students' group and its active participation to PREDIS meetings (giving presentations and networking with experts).
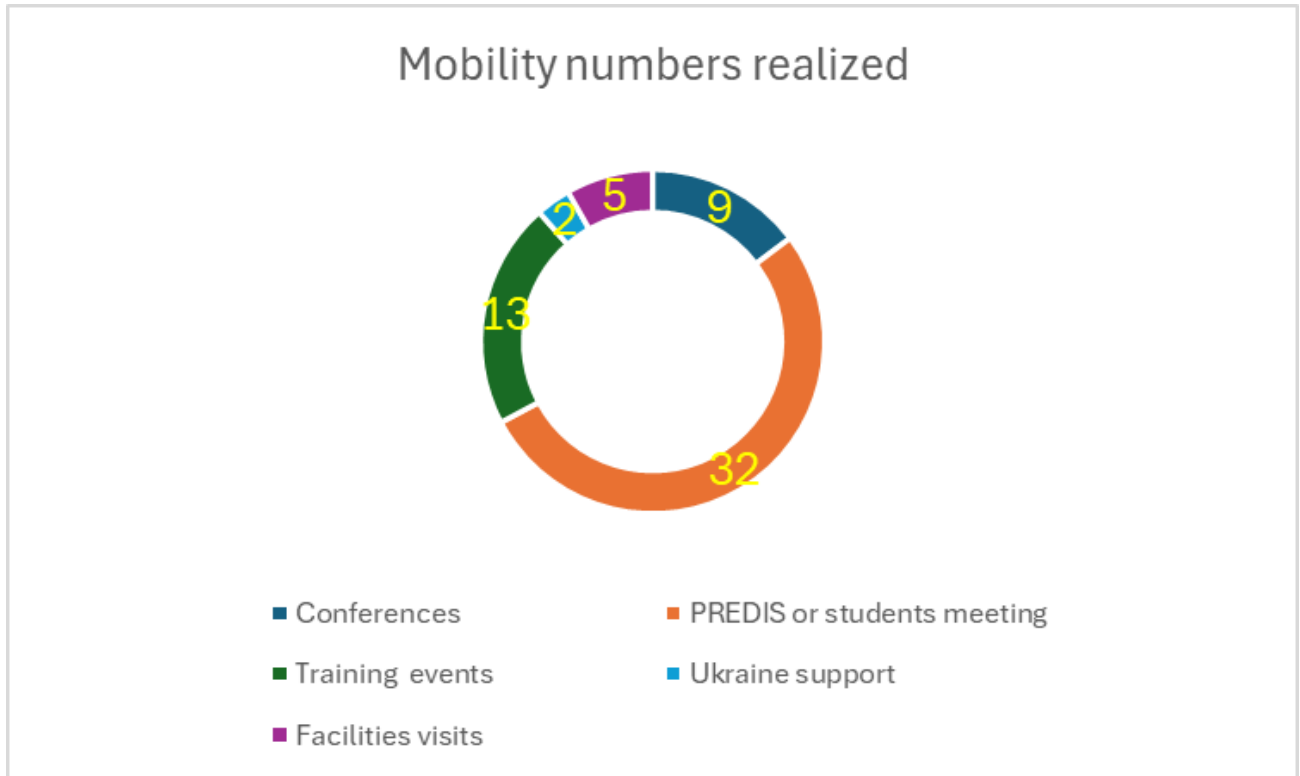


*Figure 4: Mobility numbers realised*

The gender balance of 50% was not quite reached for the mobility actions (Figure 5), but this depends on the distribution of male and females over time in the PREDIS project. For comparison, the percentage of females during the 4th year of PREDIS was at 38%, while the percentage of females using the mobilities over the four years was 44%. This indicates that proportionally more females used the mobility actions than there were females present in the whole project.
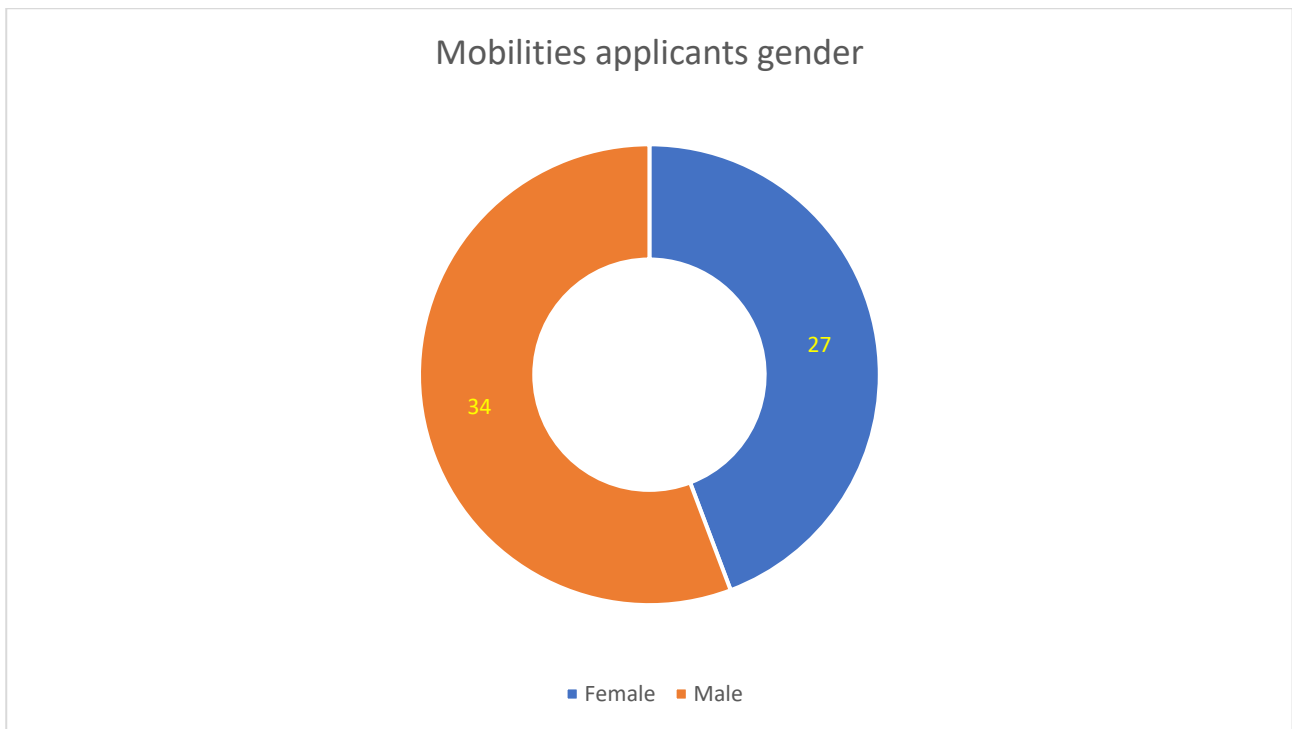
Figure 5: Gender balance for 61 mobilities

Table 3 shows the breakdown of the type of mobilities and the origin of grantees organisation. The total number of mobilities awarded for universities (29) was almost double the number of mobilities asked by research entities (17) or technical support organisations (14). Only one mobility was requested from a waste generator (ORANO, France).

Table 3: Origin of applicants for different mobility type

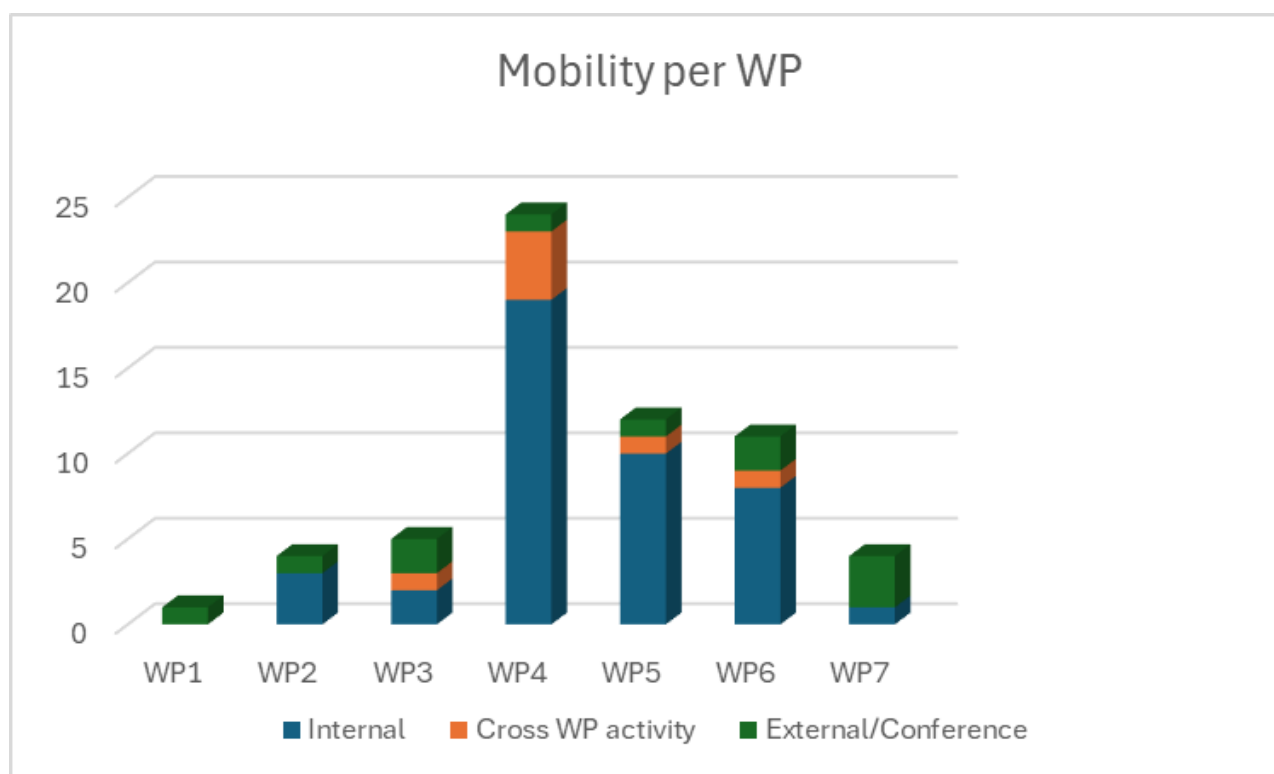| Mobility type | Research entity | | Technical support organisations | | Universities | | Waste generator | |
|---|---|---|---|---|---|---|---|---|
| Internal | 12 | 20% | 12 | 20% | 19 | 31% | | |
| Cross WP | 3 | 5% | 1 | 2% | 3 | 5% | | |
| External | 2 | 3% | 1 | 2% | 7 | 11% | 1 | 2% |

Figure 6: Mobility per work package

Table 4 shows breakdown of mobilities into internal (technical visits within a WP), cross-WP and external (conferences/workshops) actions. It can be noticed that an overwhelming number of mobilities were made within a WP, thus underlining the importance of technical exchange in the nearest field of research and beneficial use of expertise in the WP. The usage of cross-WP exchange was relatively small (7/61) as it targeted widening of grantees knowledge into other pre-disposal activities and it can be noticed that students preferred internal mobility over cross-WP as there were limited number of mobilities per applicant.

Table 4: Mobility type per work package

| | Internal (visits/WP workshops/ PREDIS annual meetings | Cross-WP activity | External (Conference/visit to external PREDIS partners) |
|---|---|---|---|
| WP1 – Project management | | | 1 |
| WP2 – Strategic Implementation | 3 | | 1 |
| WP3 – Knowledge management | 2 | 1 | 2 |
| WP4 – Metallic wastes | 19 | 4 | 1 |
| WP5 – Liquid organic wastes | 10 | 1 | 1 |
| WP6 – Solid organic wastes | 8 | 1 | 2 |
| WP7 – Cemented waste packages | 1 | | 3 |
| **Total number of mobilities** | **43** | **7** | **11** |
| **% of all mobilities** | **70.5** | **11.5** | **18.0** |

Figure 7 shows that grantees from UK, France and Italy were frequent users of the mobility actions and, as written above, is likely correlated with the origin of the grantees working organisation.
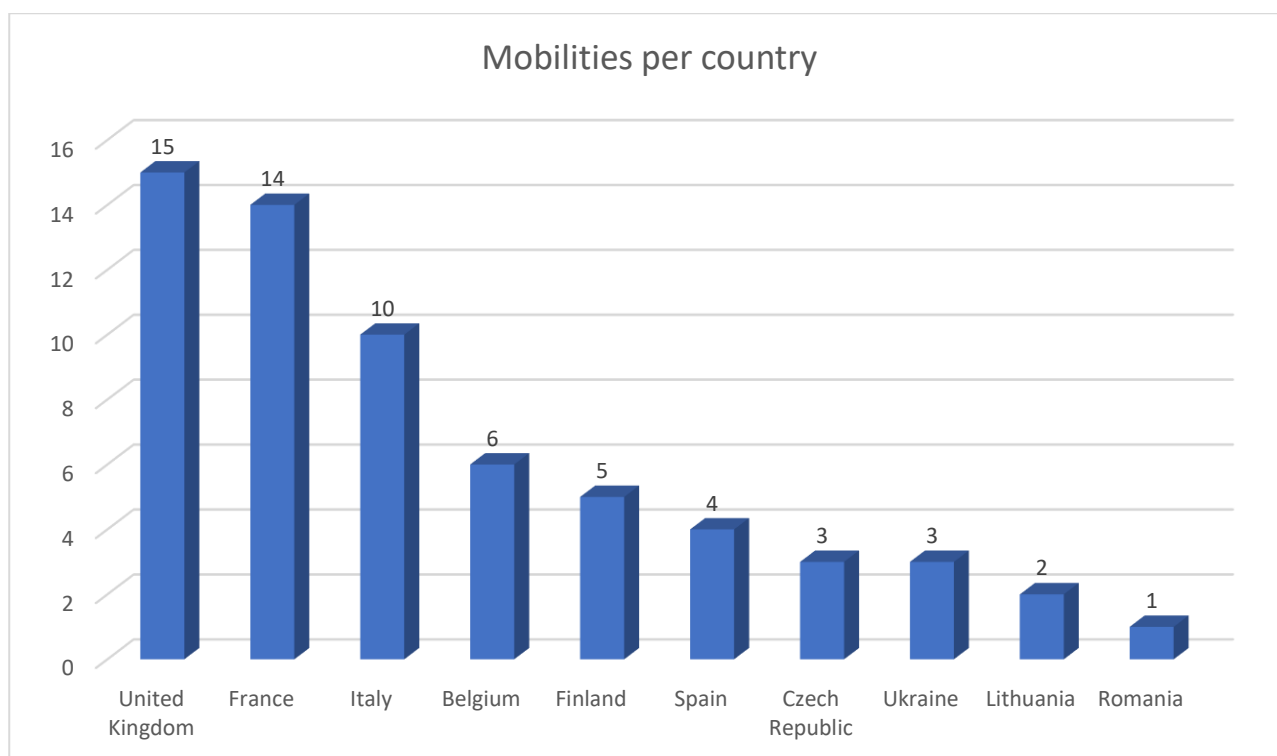
*Figure 7: Realised mobilities, per country of grantees home institute*

## 4.2 Costs distribution

The cost distribution for mobility actions is presented in the following tables and graphs. In Table 5 it can be noticed that there are discrepancy between approved and finalised mobility costs for project years 2 and 4. The difference between approved and finalised costs is that the mobility was approved, but the reimbursement from the project to the grantee organisation was not made, since it can only be made after that the grantee has performed the mobility and written a mobility report. In some cases, the mobility has been postponed or cancelled and in some, the mobility was done, but no mobility report was sent to WP3. The mobility budget was kept within the financial envelop as agreed on with the PREDIS management team. Updates were given to the Management Team at least every 6 months to ensure the mobility funding use was on track and evaluate if changes to the budgeting needed to be made.

*Table 5: Annual mobility costs*

|  | Approved | Finalised (after submission of mobility report) |
|---|---|---|
| PREDIS year 1 | 18 011 € | 18 011 € |
| PREDIS year 2 | 46 825 € | 36 825 € |
| PREDIS year 3 | 28 588 € | 28 588 € |
| PREDIS year 4 | 48 869 € | 40 702 € |
| **Total** | **142 293 €** | **124 126 €** |

Table 6 shows the costs breakdown into different mobility actions. It can be noticed in three cases that mobilities within a WP (internal) is associated with the largest part of the mobility budget. External mobility (external to PREDIS, including conferences and workshops) were the second largest expense, while cross-

WP mobilities were the least expensive. It can also be noticed that costs for the different types of mobility actions, expressed as percentage of all mobility costs, considerably differs from the number of mobilities, as shown in Table 5. It exemplifies the need to keep track of the targeted number of mobilities (as part of the project's Key Performance Indicators, KPI) and the mobility budget envelop.

*Table 6: Use of resources for different types of mobility*

| Mobility type | Amount | % of total costs |
|---|---|---|
| Cross WP | 7 965 € | 6.4 |
| External | 47 393 € | 38.2 |
| Internal | 68 768 € | 55.4 |

The type of mobility (internal/external/cross-WP) varied between the different R&D WPs. The mobility costs are associated with the number of grantees in the work package. WP3´s mobility consisted mainly of the mobility for the PREDIS Ukrainian partners (Table 7 and Figure 8).

*Table 7: Mobility grant distribution per work package*

| Work package | Cross-WP | External to PREDIS | Internal in WP | Total |
|---|---|---|---|---|
| WP1 – Project management | | 2 538 € | | **2 538 €** |
| WP2 – Strategic Implementation | | 1 959 € | 5 064 € | **7 023 €** |
| WP3 – Knowledge management | 700 € | 29 824 € | 2 663 € | **33 187 €** |
| WP4 – Metallic wastes | 5 046 € | 1 416 € | 30 205 € | **36 667 €** |
| WP5 – Liquid organic wastes | 931 € | 1 525 € | 18 879 € | **21 335 €** |
| WP6 – Solid organic wastes | 1 288 € | 3 576 € | 10 269 € | **15 133 €** |
| WP7 – Cemented waste packages | | 6 555 € | 1 688 € | **8 243 €** |
| **Total** | **7 965 €** | **47 393 €** | **68 768 €** | **124 126 €** |
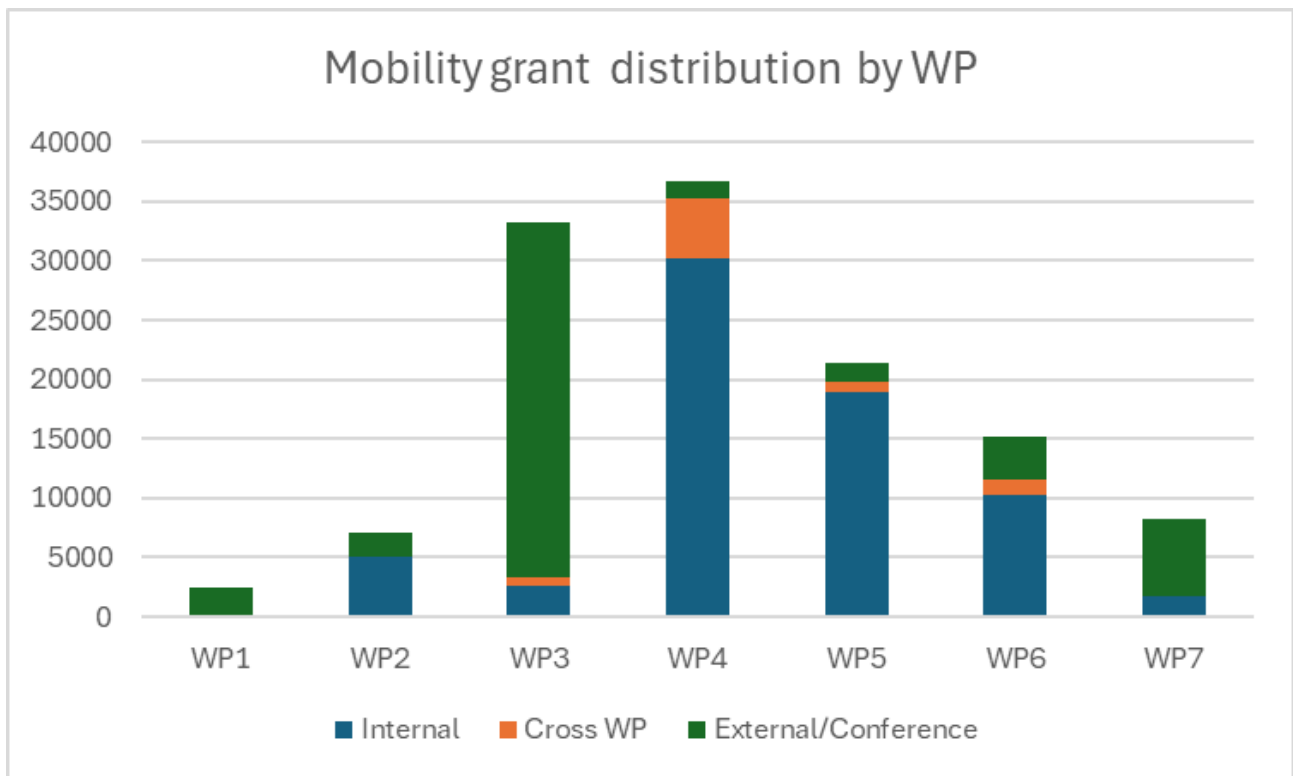
*Figure 8: Mobility grant distribution awarded (in €), by work package*

A majority of mobility actions lasted about one week and the typical expenditure was in the range of 1200-1800 EUR. There were two special cases of two mobility actions supporting PREDIS Ukrainian partners for one half-year period each. These mobilities were about 15 000 EUR each. There was a slightly increased mobility cost during the last years due to increased travel expenses (flight tickets, hotel costs) of the actual travel claims that took place later than the application period.

The number of mobilities increased the last year, when WP3 removed the restriction on number of mobilities per grantee to grant the students a possibility for attending the PREDIS final conference in June 2024 and since there were enough financial means. During the last year, there were an increased amount of final technical and scientific results in the project, thus an increase in mobilities was associated with grantees dissemination at conferences. Also, there were mobilities to large events that supported the whole PREDIS project, such as to WM2024 in Arizona (panel by a student representative) and to ICGR in Korea (panel by a grantee).

*Figure 9: Next generation experts participating to the PREDIS final meeting in Avignon 2024*

# 5 Feedback

## 5.1 Applicants feedback

At the end of PREDIS, the WP3 Knowledge Management task leader asked all mobility applicants to respond to the mobility feedback survey. Out of 61 possible respondents, 23 answered. The lower than targeted response rate could be explained by the fact that the survey was done late during the PREDIS project and that some earlier applicants (no longer involved in PREDIS) showed lower interest in replying. The distribution of the survey respondents divided by their work category is presented in Figure 10. Most of the grantees were early in their professional career, which was also the targeted group.
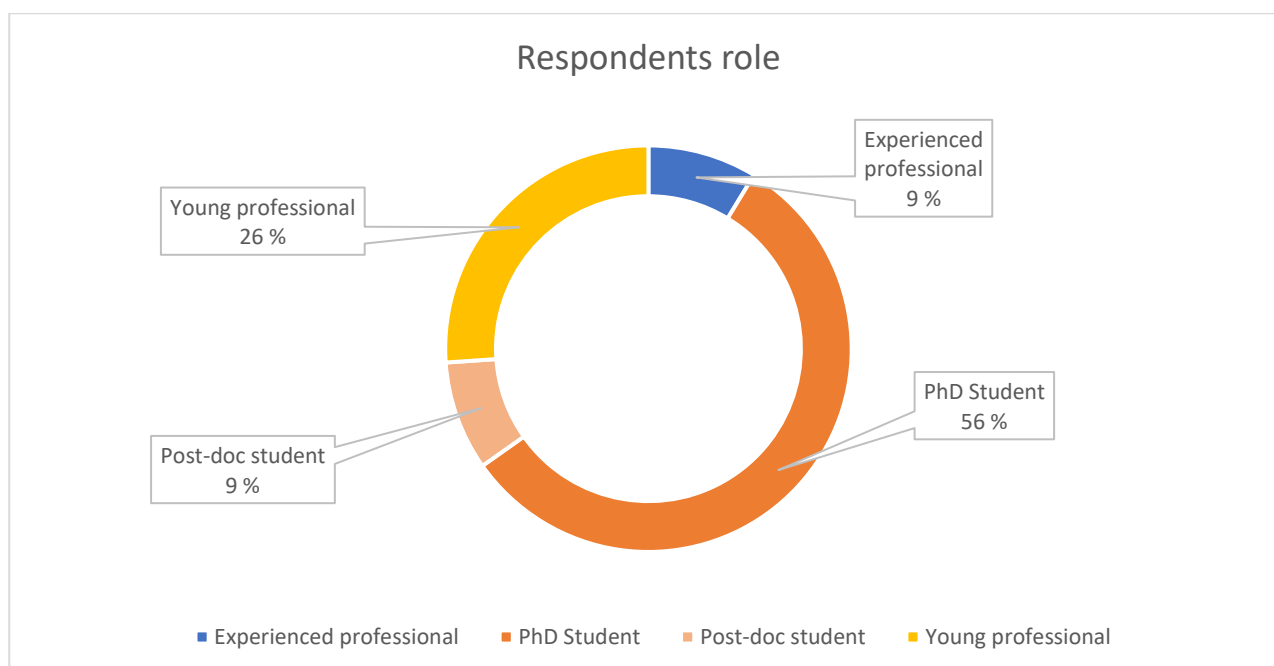
Figure 10: Respondents role of ending survey by WP management

Table 8 presents survey respondents answers regarding the mobility´s usefulness for grantees work in PREDIS, impact on their work and knowledge gained from the mobility action. All categories scored high (4.3-4.7, where 1 is poor and 5 excellent). Feedback from the grantees showed that the respondents positively evaluated the usefulness of mobility for their contribution to the PREDIS project as well as for their own personal development. Lower scores were given for the user-friendliness of the EVALATO application platform.

Table 8: Quantitative survey answers

| Question | Respondents' score | | | | | |
|---|---|---|---|---|---|---|
| | Average scores | 1 | 2 | 3 | 4 | 5 |
| How useful was the mobility for your work in the PREDIS project? | 4,7 | | | | 6 | 17 |
| How would you rate the impact of the mobility action on your work? | 4,6 | | | 1 | 6 | 16 |
| How would you rate the knowledge you gained during this mobility action? | 4,3 | | | 1 | 13 | 8 |
| To what extend did you find the application platform easy to use? | 3,2 | 2 | 4 | 6 | 6 | 4 |

One of the most appreciated effects of the mobility was professional networking, between students as well as contacts and personal meetings with experts (Table 9). Respondents positively evaluated the usefulness of the mobility for their contribution to the PREDIS project as well as for their own personal development. An overwhelming majority of students evaluated the mobility as meeting their expectations. The used lump sums for the mobility expenses were judged by the receivers to be sufficient.

Here are some examples of respondents' comments:

*"Thanks to the PREDIS Mobility programme, I was able to attend scientific conference, where I gained a lot of knowledge in both my own research and nuclear chemistry in general."*

*"The mobility action helped me meet people from all over EU who I might not be able to meet otherwise. I was able to chat with industry professionals and regulators present who can be difficult to meet due to their busy schedules."*

*"PREDIS mobility grant gave me an important opportunity to learn about state-of-the-art waste conditioning technologies and also to connect to industry experts."*

*"It was a great way to get to know some of the students and partners. As I at the time was rather new to the project, I did not know anybody physically. It made it easier to socialize and get to know even more people at the PREDIS conference."*

*"More mobility please, especially for the students because we provide most of the work, I won't be humble here, and we need to talk each other and create network with the professionals."*

*Table 9: Qualitative survey answers*

| Question | Answers | | |
|---|---|---|---|
| | No | I don't know | Yes |
| Did the mobility action improve/lead to partnerships/involvement in new networks? (text) | | 1 | 21 |
| Did the mobility action meet your personal expectations (like the ones described in your mobility application)? (text) | 1 | | 21 |
| Were the lump sums sufficient? | 3 | | 19 |

## 5.2  Recommendations for the input data/information improvement

Several issues with data availability and consistency emerged during the mobility report analysis and the mobility reimbursement procedure. As some of this data is important for the evaluation of the effectiveness and usefulness of the mobility programme, it is proposed to make modifications of the management of the programme and its supportive tools.

There lacks information in the grantees mobility report on the following:

- cross WP action - target WP is missing
- use of various names/ abbreviations of institutions - sometimes misleading
- grantees college (institution role in the project) is missing (Universities, industry or WMO, research entity, technical support organisations)
- duration of mobility action (in days)
- feedback on mobility benefit for the applicant and the project (e.g., a statement of the persons who issue mobility supporting letters)

Furthermore, there is a need to improve the mechanism for informing the financial department (project coordinator) that all duties of the grantee have been fulfilled, so that the reimbursement procedure can be started.

It is important, at an early phase of the project, to define the set of input report data that will be used for later statistical evaluation.

## 6  Conclusions

The mapping performed of the PREDIS partners mobility needs and requirements (see Deliverable D3.6 [2]) was a crucial action to design a useful mobility programme. The mobility manual/application/reporting forms were well designed and useful for grantees input [3]. The mobility report could be used to evaluate the efficiency of each mobility action. The majority of mobility actions lasted about one week, and the typical total expenditure was in the range of 1200-1800 EUR.

The feedback confirms the high quality of mobility actions (majority of scores were above 4.3 out of 5 points). Respondents positively evaluate the usefulness of mobility for their contribution to the PREDIS project and for

their own personal development. An overwhelming majority of grantees evaluated the mobility as meeting their expectations. The lump sums used for the mobility expenses here judged by the grantees to be sufficient.

The PREDIS mobility programme allowed PREDIS partners and especially the next generation experts to acquire the appropriate level of knowledge needed to develop their work and professional careers in the field of pre-disposal management of radioactive waste.

# 7   References

[1]           EURAD project link

[2]           Priority list and mobility formats, depending on the priorities identified and approved within PREDIS, PREDIS Deliverable 3.6, link

[3]           PREDIS Mobility manual, 21.12.2022 Version 5.0, link