Deliverable 13.8:

KM Training - Development of mobility programme

Work Package 13

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Executive Summary

This deliverable titled "KM Training - Development of mobility programme" (D13.8) is issued by Work Package 13, Task 5 (Implementation of Mobility Programme). It describes the development, implementation and improvement of the EURAD Mobility Programme. All data are acquired from the EVALATO mobility platform. The data were analysed and the outcome is published in this deliverable. The outcome is used to gradually steer the Mobility Programme implementation stages, reflecting also identified additional needs by the EURAD community, but respecting the financial envelop and work resources.

50 applications were submitted during 19 calls of the Mobility programme till May 2023. 47 of the applications were accepted for support, three rejected or resubmission was required. Three participants cancelled later their (submitted and accepted) applications. The resulting 44 applications/ actions are "alive" and provide the majority of data for this report.

It is obvious that the impact of the Covid-19 pandemic influenced o mobility actions and the availability of infrastructures until Q4 2022. Therefore, some mobility actions originally planned at the start of EURAD had to be postponed and adapted to new conditions. Nevertheless, since Q4 2022, when travelling and visits to infrastructures was again allowed, the Mobility Programme implementation started in its full extent and the number of applicants to the Mobility Programme increased together with the mobility actions performed.

The main results, evolution and progress of the Mobility Programme up to the end of May 2023 are presented in this document to inform the larger EURAD community about the Mobility Programme's development, usage by EURAD partners, gender balance, costs, etc.

The quality and perception of the mobility actions will be analysed based on the grantees mission reports and reported in a planned deliverable *D13.10: Update of mobility actions performed in EURAD* (to be delivered by the end of 2023).

Table of content

Glossary

CS	Civil Society
ENEN+	European Nuclear Education Network PLUS Project
EURAD	European Joint Programme on Radioactive Waste Management
EVALATO	Software used to manage the EURAD mobility programme
IAEA	International Atomic Energy Agency
KM	Knowledge Management
NEA	Nuclear Energy Agency
NEST	NEA Nuclear Education, Skills and Technology Framework,
PMO	Project Management Office
PREDIS	Pre-disposal management of radioactive waste – EU Project
R&D	Research, Development and Demonstration (also workpackage type)
RE	Research Entity
RE/ TSO	Organisation with mixed role
RWM	Radioactive Waste Management
SS	Strategic Study (Workpackage type)
TSO	Technical Support Organisation
WMO	Waste Management Organisations
WP	Work Package
WP1 – PMO	Project Management Office
WP2 – ACED	Assessment Chemical Evolution ILW and HLW Disposal Cells
WP3 – CORI	Cement Organic Radionuclide Interactions
WP4 – DONUT	Development And Improvement Numerical Methods and Tools Modelling Coupled Processes
WP5 – FUTURE	Fundamental Understanding of Radionuclide Retention
WP6 – GAS	Mechanistic Understanding Gas Transport Clay Materials
WP7 – HITEC	Influence Temperature Clay Based Material Behaviour
WP8 – SFC	Spent Fuel Characterisation And Evolution Until Disposal
WP9 – ROUTES	Waste Management Routes in Europe from Cradle to Grave
WP10 – UMAN	Understanding of Uncertainty, Risk And Safety
WP11 – KM SoK	Knowledge Management - State of Knowledge

Glossary

WP12 – KM Guidance   Knowledge Management - Methodological Guidance

WP13 – KM Training   Knowledge Management - Training/Mobility

WP14 – Ethics requirements

WP15 – MAGIC   Chemo Mechanical Aging Cementitious Materials

WP16 – ConCorD   Container Corrosion Under Disposal Conditions

WP17 – MODATS   Monitoring Equipment And Data Treatment Safe Repository Operation And Staged Closure

1. Introduction

The main goal of the European Joint Programme on Radioactive Waste Management (EURAD) Mobility Programme is to provide access to dedicated infrastructures associated with the Mandated Actors and their Linked Third Parties organisations in order to assure knowledge exchange and to support competence building.

The Mobility Programme is based on the needs identified by the EURAD community, is structured along the EURAD Roadmap [1], and complies with the EURAD Knowledge Management and Networking programme [2].

Its structure has been developed in a close cooperation with the other Knowledge Management (KM) Work Packages (WPs) (WP11 and WP12) with the ambition to meet EURAD's RD&D and Strategic Studies WPs needs. Based on up to date experience, there is also a close cooperation with the European Commission (EC) funded Pre-disposal management of radioactive waste project (PREDIS) which also utilises the EVALATO platform for its mobility programme.

The Mobility Programme establishment and its successive implementation is based on the Mobility Programme Stages, introduced in the WP13 deliverable D13.7 [3]. The stages involve different types of mobility actions and participants, and step-wise opens up the mobility programme to a larger applicant base depending on the number of mobility requests and available financial resources. The target audience of Mobility Programme consists, in particular, of junior professionals entering in the field of radioactive waste management (RWM) but also of Ph.D. students.

The research infrastructures supported through the EURAD Mobility Programme are located in European Member States (MSs). A list of European R&D infrastructures was generated through a survey and is available on the EURAD School of RWM webpage [4] and in the deliverable D13.7, Appendix B [3]. The infrastructures offered by the PREDIS [5] project are also available to the EURAD Mobility Programme participants, and vice versa.

The mobility application procedure together with general and financial rules, and the evaluation criteria are described in the D13.7 [3].

The number of applications for mobility was low during the Covid-19 pandemic, which seriously affected its implementation schedule. Nevertheless, when the most serious phase of Covid-19 had passed, the Mobility Programme regained popularity.

This deliverable describes the main points of Mobility Programme development and its evaluation is based, in particular, on the analyses of data collected during the Programme execution under conditions requested by the EURAD community. It is based on the evaluation of data stored internally in the database of the EURAD School of RWM.

50 applications were submitted during 19 calls in total till end of May 2023. 47 of them were accepted for support, three rejected or resubmission was required. Three participants cancelled later their (submitted and accepted) applications. The resulting 44 applications/ actions are "alive" (47-3 cancelled) and provide the majority of data.

2. Mobility programme development/implementation

2.1 Development/Implementation stages

The Mobility Programme has been developed in compliance with scenarios identified and agreed at the beginning of EURAD [3]. It respects the financial possibilities and limitations, and consider the EURAD budget allocated for the identified mobility actions. It foresees 60 months duration with an ambition to apply a step-wise increase of mobility actions and ensures high quality and efficiency.

Furthermore, information and practice from other existing projects and platforms dealing with mobility, such as Pre-disposal management of radioactive waste (PREDIS [5]), Nuclear Energy Agency (NEA [6]), European Nuclear Education Network PLUS Project (ENEN+ [7]), and/or e.g. the International Atomic Energy Agency (IAEA) fellowship programmes on various nuclear-related topics [8] were explored in order to design a sustainable mobility programme whose structure could possibly last beyond EURAD.

Based on the stage identified in the scenarios of the Mobility Programme, the mobility actions carried out at the beginning were focused on technical visits to research infrastructures and on internships at partner institutions and targeted at EURAD community (professionals and PhD students), i.e. Stage I. Concerning mobility actions, the technical visits had to be linked strictly to the work in EURAD RD&D WPs, internships or exchanges could apply for a specific on-the-job-training/tutoring.

In Stage II, mobility actions were extended in order to allow visits and internships related to broader RWM topics (e.g. ongoing projects in RWM), the target audience remained the same. A feasibility study concerning participation in training courses was performed.

When Stage II had been implemented, a feasibility study on possible support of the participation in conferences was performed, i.e. Stage III. The participation in the training courses has been allowed to the professionals and PhDs in EURAD community and a group of applicants to technical visits and internships has been extended by MSc students.

Currently, we are at the beginning of the final Stage IV, where Mobility Programme can support all identified mobility actions and can be open also to the non-EURAD members. But, prior the decision on the agreement with the submitted application to the mobility grant, the resting financial resources allocated to the Mobility programme have to be verified/considered as the priority is set for applicants from the EURAD community.

2.2 Applications to the Mobility Programme

The process, rules and the own submission of the application through Evalato platform and its consequent evaluation are described in the EURAD Mobility manual and other related documents, including requested templates, all easily available online or in D13.7 [3]. Public information and the EVALATO access link are available on www.euradschool.eu. This approach has proven to be effective and highly transparent, especially concerning the evaluation of the application, and can be used for the next stages of the Mobility Programme.

2.2.1 Status

This deliverable includes data on applications received up to 30 April 2023 (Call no. 19). These have also been fully assessed (as at the end of May 2023). Applications were managed by the EVALATO system. This system is the source of most of the data in this report. Costs and acceptances track the status as of 5 May 2023 (source: ProjectPlace EURAD; source not in the public domain).

2.2.2 Calls

The calls for the application to the Mobility Programme are regularly published on the EURAD and EURAD School of RWM websites. In general, the new call is open every 2 months, afterwards, there is 1 month for the applications evaluation by the Evaluation Committee or other evaluators (in case of WP internal mobility action). The deadline for evaluators is always at the end of the calendar month following the deadline for submission of applications. This practice has proved to be well-adjusted.

To date, 19 calls have been launched and evaluated. At the beginning, the number of applications to the Mobility Programme was severely affected by the COVID-19 pandemic. Initially, applicants asked for internships and/or technical visits within one WP where the applicant was engaged, but cross WPs applications were submitted, too. Due to fact that we now are in Stage IV of the Mobility Programme and relevant feasibility studies were already executed, mobility grants have been approved for the participation to training courses and/or conferences. The list of the calls and Covid-19 influence on the Mobility Programme implementation can be found in Table 1.

Tab. 1 – Calls and Covid-19

Call	Submission deadlines	Note
1	30 Apr 20	opened for intra and cross WP actions and EURAD training courses only, COVID restrictions
2	30 Jun 20	COVID restrictions
3	31 Aug 20	COVID restrictions
4	31 Oct 20	COVID restrictions
5	31 Dec 20	COVID restrictions
6	28 Feb 21	COVID restrictions
7	30 Apr 21	COVID restrictions
8	30 Jun 21	
9	31 Aug 21	
10	31 Oct 21	Opened to broader RWM related topics
11	31 Dec 21	
12	28 Feb 22	
13	30 Apr 22	
14	30 Jun 22	Opened also for support of conferences and workshops participation
15	31 Aug 22	
16	31 Oct 22	
17	31 Dec 22	

Call	Submission deadlines	Note
18	28 Feb 23	
19	30 Apr 23	Last call (data) included in this report

2.3 Mobility Programme database

In order to have an overview and being able to analyse the efficiency of the Mobility Programme, a mobility database was created. In particular, it collects data of an administrative and technical nature for the internal uses of WP13, where records are linked to the application ID and which respect the General Data Protection Regulation requests as specified in the EURAD Consortium Agreement Update [9].

Only records of scientific nature are publicly available with explicit permission of the applicant, as e.g. Mobility mission reports. All these reports are stored by WP13 in a dedicated form and place and also published on EURAD School of RWM website in the section: Previous mobility actions (https://euradschool.eu/previous-mobility-actions/).

As already published in the D13.7, the database consists of two different modules. Firstly, the Evalato online platform, hosted by SCK CEN, which is more the Mobility Programme management component, and secondly, the Mobility matrix is focused on the evaluation of the Mobility Programme efficiency. The content of both these modules is regularly updated with current call data. Relevant data are transferred from Evalato into the Mobility Matrix for further analysis. These data are supplemented by new data obtained in connection with the mobility action.

The most important mobility indicators, collected in the Mobility Matrix, are linked to the specific application ID only, in order to keep anonymity of the applicants and later approved participants. These indicators are divided into following main groups as follows:

- Call – call number, call deadline, date of submission;
- WP – EURAD participant, type of action, if cross then from which to which WP;
- Action – name of mobility action, link to scientific theme, link to EURAD training topics;
- Sending Institution – name, type;
- Hosting Institution – name, type;
- Applicant – gender, job title/description, job category, permission to publish name on the EURAD School webpage;
- Application – approved or not, evaluation score
- Cost – approved costs in EUR, report acceptance status
- Action – duration in days, mode of action

The most important data collected in relation to these indicators/criteria and completed with data from Evalato, were processed and used for further analyses related to evaluating the efficiency of the Mobility Programme.

3. Mobility Programme evaluation

The analysis methodology, and evaluation of the Mobility Programme is presented in this chapter. First, the data were sorted and grouped. Then, the evaluation was done according to various indicators/criteria, as described above (call, type of organisation, type of action, etc.).

In the first subsection, the input data of the Mobility Programme, the principles and groups for further sorting and evaluation are described. This is followed by sub-sections that correspond to the individual questions that the data/charts seek to answer.

3.1 Input data

As the most significant for the Mobility Programme evaluation, the following types of information and groups were defined and used: job categories, action group, action type, institution type (according to their role in EURAD), application and cost acceptation status. Details are as follows:

Job categories

The applicants are requested to type their job category during filling the application in. There are many job variants typed in the database because it is a "free typing" cell. For the purpose of data evaluation, three groups of job categories were established, and all typed options were grouped into them, see Table 2. For more details see below, written as found in the database.

Groups of job categories:

- consultant/ engineer
- senior researcher/ scientist
- junior researcher/ student

Tab. 2 – Grouping of job titles into categories

Job category	Job type (from applications)
Consultant/ engineer	Consultant
	Geological Engineer
	Chief Expert
	Knowledge Manager
	Materials specialist
	Nuclear Services Consultant
Senior researcher/ scientist	Senior researcher
	Assistant Professor
	Consultant scientist
	Post-Doc
	Research and development - program of radioactive waste management
	Research Associate
	Research Project Leader

Job category	Job type (from applications)
	Research Scientist
	Researcher
	Scientific Personnel in Licensing and Inspections Department
	Scientific Researcher
	Senior Advisor
	Senior advisor/ researcher
	Senior research scientist
	Senior scientist
Junior researcher/ student	Doctoral Candidate
	Doctorand
	Intern
	Junior researcher
	Junior researcher/PhD student
	Master thesis student
	Ph.D. student
	PhD
	PhD candidate
	PhD student
	Radiation Medical Physicist PhD
	Student
	Student, Graduate Assistant

Action group

- Intra WP
- Cross WP mobility actions
- Training courses
- Conferences or Workshops

Action type

- WP1 – PMO (Project Management Office)
- WP2 – ACED (Assessment Chemical Evolution ILW and HLW Disposal Cells)
- WP3 – CORI (Cement Organic Radionuclide Interactions)
- WP4 – DONUT (Development and Improvement Numerical Methods and Tools Modelling Coupled Processes)
- WP5 – FUTURE (Fundamental Understanding Radionuclide Retention)
- WP6 – GAS (Mechanistic Understanding Gas Transport Clay Materials)
- WP7 – HITEC (Influence Temperature Clay Based Material Behaviour)
- WP8 – SFC (Spent Fuel Characterisation and Evolution Until Disposal)
- WP9 – ROUTES (Waste Management Routes Europe Cradle Grave Routes)
- WP10 – UMAN (Understanding Uncertainty Risk and Safety)
- WP11 – KM SoK (Knowledge Management – State of Knowledge)
- WP12 – KM Guidance (Knowledge Management – Methodological Guidance)
- WP13 – KM Training (Knowledge Management – Training/Mobility)
- WP15 – MAGIC (Chemo Mechanical Aging Cementitious Materials)

- WP16 – ConCorD (Container Corrosion Under Disposal Conditions)
- WP17 – MODATS (Monitoring Equipment And Data Treatment Safe Repository Operation And Staged Closure)
- Cross WP mobility actions
- Training courses
- Conferences or Workshops

Institution type (= EURAD college)

- RE – Research Entity
- TSO – Technical Support Organisation
- WMO – Waste Management Organisations
- RE/ TSO – organisation with mixed role
- CS – Civil Society

Application status

- approved
- approved, cancelled.
- resubmission required
- rejected

Cost of approved action accepted (Mobility report completed)

- yes
- not yet
- refused

3.2 Submitted applications evaluation

3.2.1 Number of applications submitted; average score per call

Participants must first to register in the Evalato system and then complete and submit the application form. These are evaluated by a EURAD mobility evaluation committee. Following table and graph show the number of applications completed and submitted to the call; whether they were accepted, rejected or need to be resubmitted.

The rating of applications is in the range 7.5-10 (the scale from 0 to max 10 – meaning highest match between the goal of the mobility programme and the applicant). Average score (of accepted applications) in each call can help to observe quality of applications and whether the quality changes in time.

Tab. 3 – Number of applications submitted in each call; average score

Call	No. of applications	Accepted	Rejected/ resubmission required	Cumulative number of accepted applications	Average score (of accepted applications)	Cancelled (later by the participant)
1						
2	1	1		1	9.4	
3				1		
4	1	1	1 rejected	2	8.3	
5				2		
6	1	1		3	9.7	
7				3		

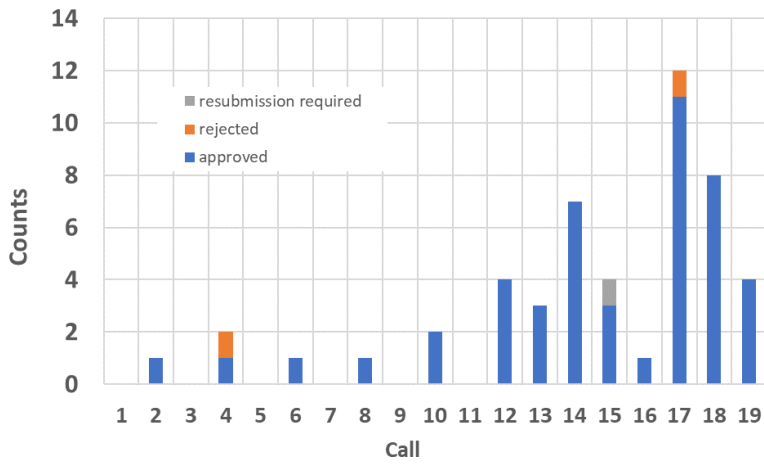|						
8	1	1		4	10.0	
9				4		
10	2	2		6	9.7	
11				6		
12	4	4		10	8.7	1
13	3	3		13	9.6	
14	7	7		20	9.4	
15	4	3	1 resubmission required	23	9.2	1
16	1	1		24	8.1	
17	12	11	1 rejected	35	7.9	1
18	8	8		43	7.5	
19	4	4		47	6.4	
Sum	**50**	**47**	**3**	**47**	**8.6**	**3**

Figure 1 - Number of applications submitted in each call
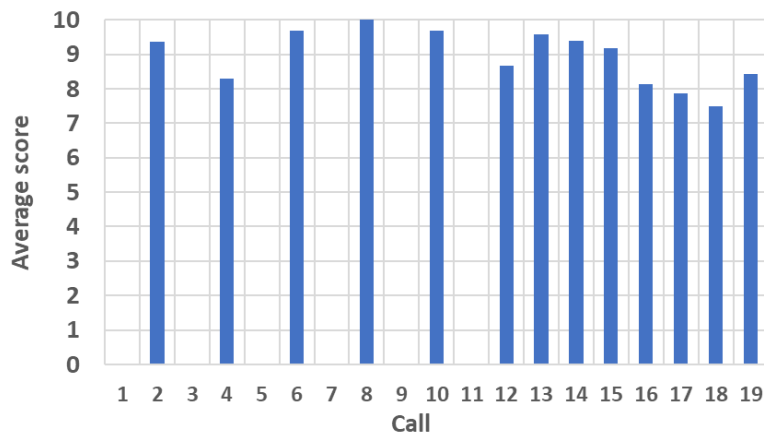

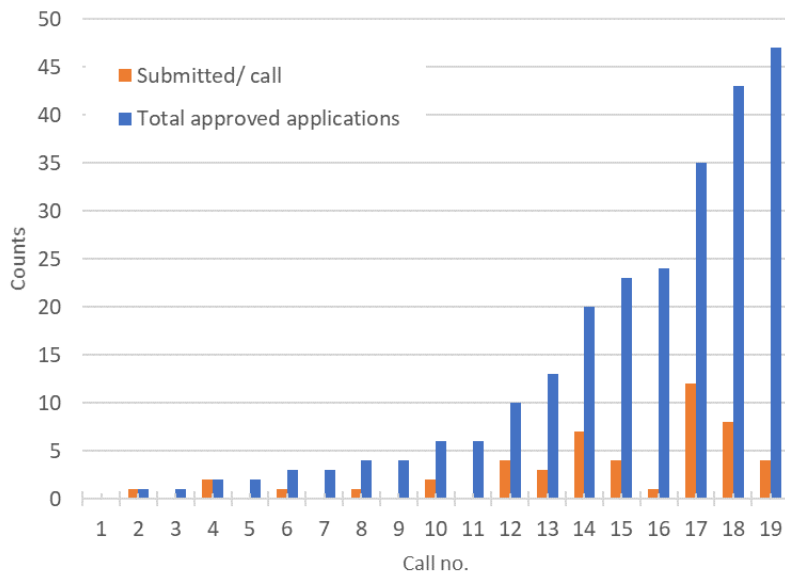*Figure 2 - Average score in each call*

Figure 3 - Cummulative number of submitted and approved applications

Summary/Comments:

- 50 applications were submitted in total.
- 47 applications were accepted; only three in total rejected or resubmission required (in calls no. 4, 15, 17).
- Three participants cancelled their already accepted applications.
- The first year of implementation of mobility actions was severely affected by the COVID-19 pandemic (call 1-6).
- During the first two years (call 1-12), no applications were submitted in half of the cases; overall, the number of applications was very limited. The reason could have been as a still uncertain evolution of Covid-19 pandemic, affected health and budgeting from the applicant side.
- An increase in applications is observed once the programme was opened to support workshops and conferences (No. 12).
- The maximum number of applications per call is 11 (No. 17).
- The rating of applications is in the range 7.5-10 (from 0 to max 10 (highest match between the goal of the mobility programme and the applicant).

3.2.2 Structure of applications according to action group

This subchapter shows number of applications according to action group in the call. A distinction is made between accepted/non-accepted applications (not accepted in brackets).

Tab. 4 – Structure of applications according to action groups; in each call (not accepted in brackets)

Call	Intra WP	Cross WP	Training courses	Conferences or Workshops	Sum
1					0
2	1				1
3					1

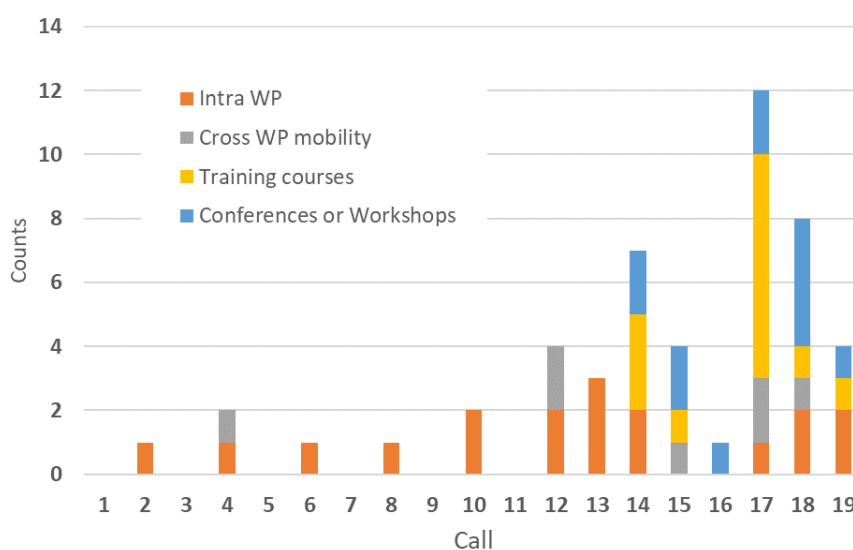|					
4	1	(1 rejected)			1 (+ 1)
5					1
6	1				1
7					1
8	1				1
9					1
10	2				2
11					2
12	2	2			4
13	3				3
14	2		3	2	7
15		1	(1 resubmission required)	2	3 (+1)
16				1	1
17	1	1 (+ 1 rejected)	7	2	11 (+ 1)
18	2	1	1	4	8
19	2		1	1	4
Sum	**18**	**5 (+ 2)**	**12 (+ 1)**	**12**	**47 (+ 3)**

Figure 4 – Structure of all applications according to action groups; in each call

Summary/Comments:

- Only three applications from 50 were not accepted (successful).
- Two of three not accepted applications were for cross WP action.
- Due to very limited number of not accepted/ unsuccessful applications following numbers and comments below refer to accepted/ successful applications.
- During the first two years of the programme, a total of 10 successful applications were submitted, of which 8 intra WP and 2 cross WP (zero to two/call)
- Approximately one intra WP action (zero to three) per call.
- Very limited number of cross WP actions (5 in total).

- Accumulation of applications before the training course(s).
- Equal support for WP events (intra + cross) and training and conferences.
- Equal support for training and conferences (12 applications each).
- The highest number of applications in one call was due to the upcoming EURAD course.

3.2.3   Structure and distribution per call of Intra WP applications

Tab. 5 – Structure and distribution per call of Intra WP applications (R&D and SS WP)

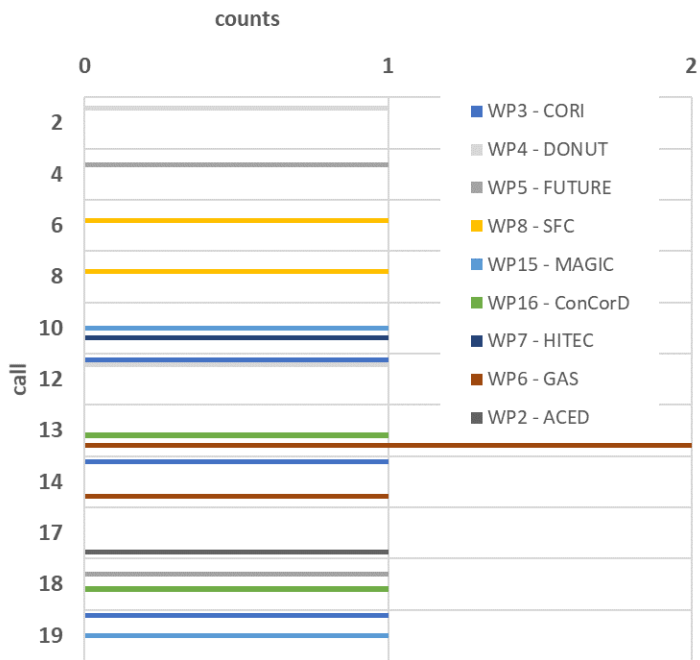| Call	WP2 ACED	WP3 CORI	WP4 DONUT	WP5 FUTURE	WP6 GAS	WP7 HITEC	WP8 SFC	WP9 ROUTES (SS)	WP10 UMAN (SS)	WP15 MAGIC	WP16 ConCorD	WP17 MODATS	Sum
1													
2			1										1
3													
4				1									1
5													
6							1						1
7													
8							1						1
9													
10						1				1			2
11													
12		1	1										2
13					2						1		3
14		1			1								2
15													
16													
17	1												1
18				1							1		2
19		1								1			2
Sum	1	3	2	2	3	1	2			2	2		18

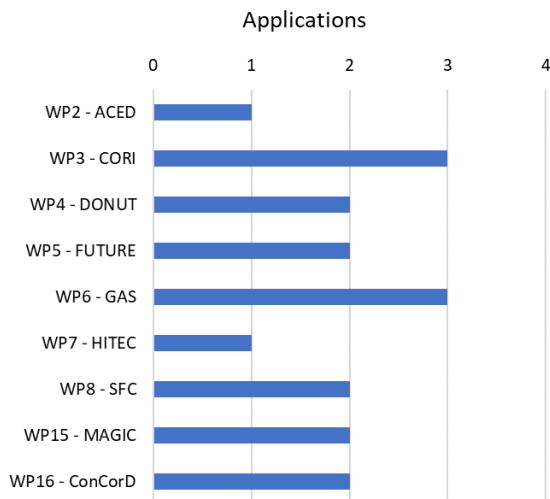*Figure 5 – Structure and distribution per call of Intra WP applications*

Figure 6 – Total number of Intra WP applications

Summary/Comments:

- All Intra WP applications were accepted/ successful.
- One application/call; only one case with two applications (WP6 in call 13).
- 9 WPs are "active" (WP2-8; 15; 16).
- No activity in WPs 9-14 (WP9-10 are Strategic Studies, WP11-13 are Knowledge Management WPs and WP14 is Ethics).
- Maximal three applications in total for one WP (WP6 – GAS).

3.2.4 Proportion of accepted applications according to type of action

Tab. 6 – Proportion of accepted applications according to type of action; in total (%)

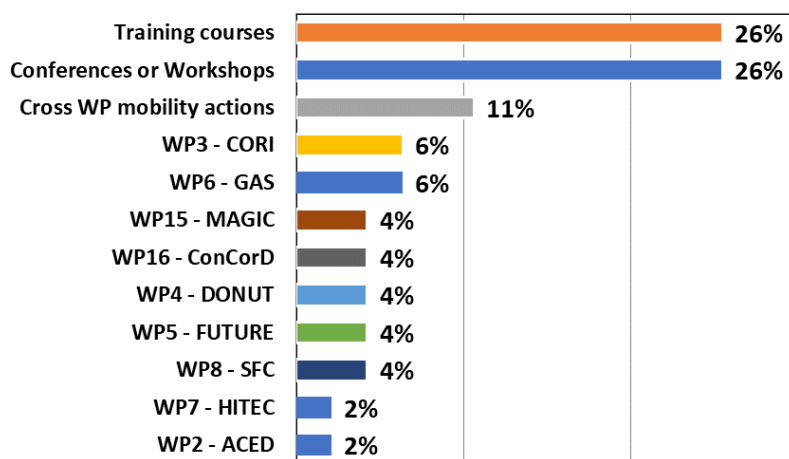| Type of action	Number of accepted applications	Proportion - number of applications in (%)
Conferences or Workshops	**12**	**26%**
Training courses	**12**	**26%**
Cross WP mobility actions	**5**	**11%**
Intra WP	**18**	**37%**
WP2 - ACED	1	2%
WP3 - CORI	3	6%
WP4 - DONUT	2	4%
WP5 - FUTURE	2	4%
WP6 - GAS	3	6%
WP7 - HITEC	1	2%
WP8 - SFC	2	4%
WP9 – ROUTES	0	0%
WP10 - UMAN	0	0%
WP15 - MAGIC	2	4%
WP16 - ConCorD	2	4%
WP17 - MODATS	0	0%
Sum	**47**	**100%**

Figure 7 – Proportion of accepted applications (type of action); in total (%)

Summary/Comments:

- 37% intra WP, 11% cross WP which is approx. 50% of all applications.
- Equal mobility support (26%) to conferences and training courses.
- Relatively even distribution of mobilities between R&D WPs.

3.2.5 Structure of accepted applications according to applicant job category and action group

Tab. 7 – Accepted applications according to job category and action group; in %

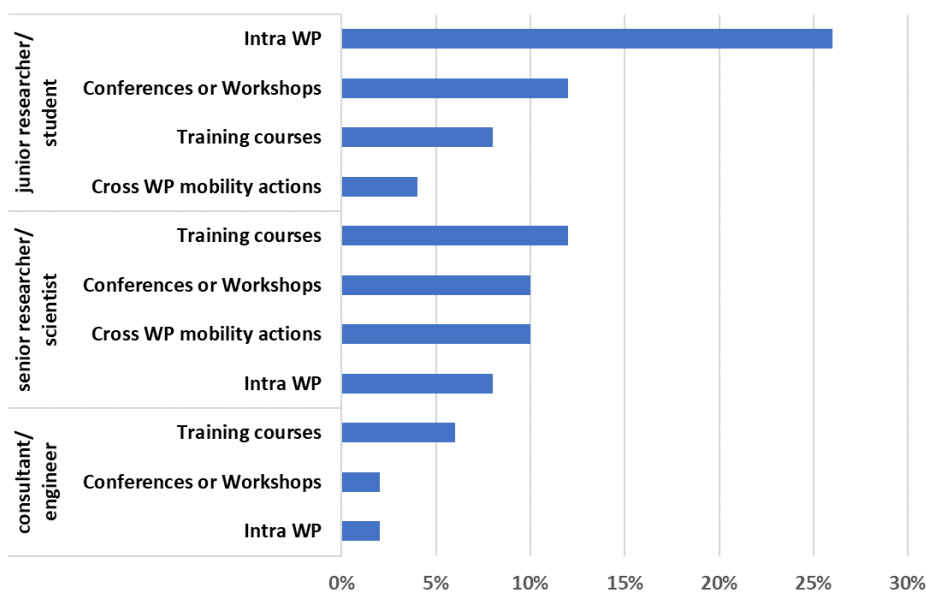| Jos category and action type	Number of applications	Proportion
consultant/ engineer	**5**	**10.6%**
Intra WP	1	2.1%
Training courses	3	6.4%
Conferences or Workshops	1	2.1%
senior researcher/ scientist	**18**	**38.3%**
Intra WP	4	8.5%
Cross WP mobility actions	4	8.5%
Training courses	5	10.6%
Conferences or Workshops	5	10.6%
junior researcher/ student	**24**	**51.1%**
Intra WP	13	27.7%
Cross WP mobility actions	1	2.1%
Training courses	4	8.5%
Conferences or Workshops	6	12.8%
Sum	**47**	**100%**

Figure 8 – Accepted applications according to applicant category and action group; (%)

Summary/Comments:

- One half (51%) of applications came from „students/ junior researchers"
- 38% from "researcher/ scientist" (11% consultants).
- The most supported group (28%) are students/ juniors on intra WP actions.
- Four (from five in total) cross WP actions are requested by "senior researchers/ scientists".

3.2.6 Structure of accepted applications according to institution type

Tab. 8 – Structure of accepted applications according to institution type; in total (counts; RE, WMO, TSO, CS)

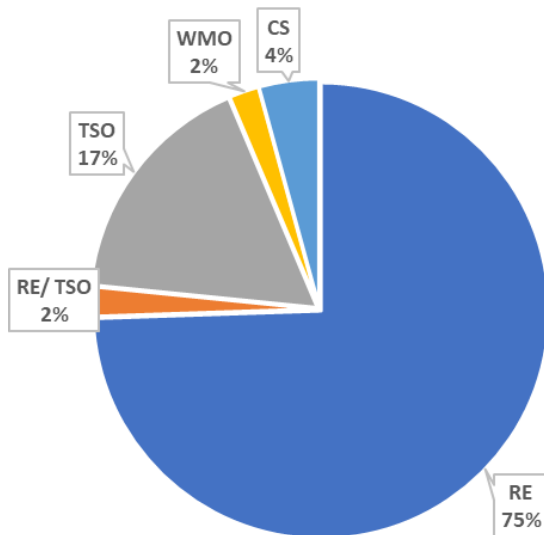| Type of institution/ Action type	Number of applications	Proportion
RE	**35**	**75%**
Intra WP	12	26%
Cross WP mobility actions	4	9%
Training courses	9	19%
Conferences or Workshops	10	21%
RE/ TSO	**1**	**2%**
Intra WP	1	2%
TSO	**8**	**17%**
Intra WP	5	11%
Cross WP mobility actions	1	2%
Training courses	2	4%
WMO	**1**	**2%**
Training courses	1	2%
CS	**2**	**4%**
Conferences or Workshops	2	4%
Sum	**47**	**100%**

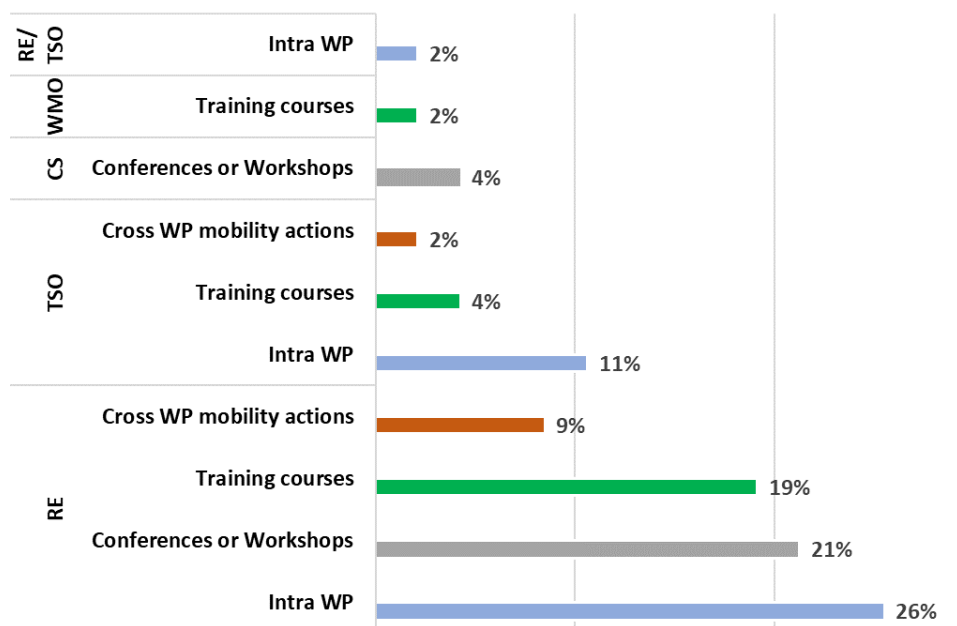*Figure 9 – Structure of applications according to institution type*

Figure 10 – Structure of applications according to institution type; per type of activity

Summary/Comments:

- The majority of applicants (3/4) are from Research Entities (RE); however, RE is also the most represented type of institution in EURAD
- The RE uses mobility for Intra WP events > conferences and courses > trainings.
- TSO, with 5 out of 8 applications is targeting Intra WP events
- CS also uses mobility (2 applications for conference/workshops)

3.3 Costs, budget distribution

3.3.1 Cost per call, average cost and duration of events

Tab. 9 – Cost sum per call; average cost/ application and duration of events

Call	No. of accepted applications	Sum cost/ call (EUR)	Average cost/ application (EUR)	Sum duration; in days
1				
2	1	670	670	11
3				
4	1	625	625	30
5				
6	1	2 000	2 000	60
7				
8	1	3 500	3 500	90
9				
10	2	1 406	703	25
11				

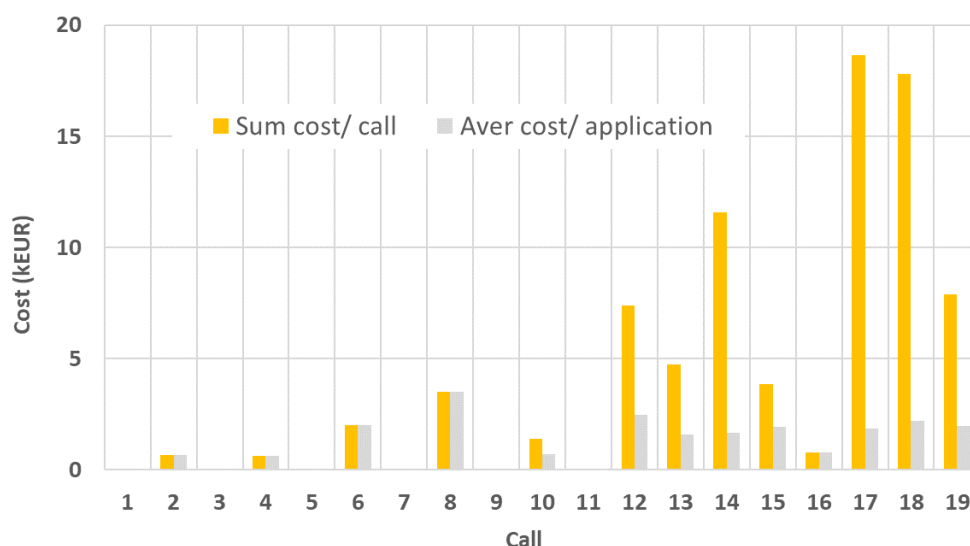| Call	No. of accepted applications	Sum cost/ call (EUR)	Average cost/ application (EUR)	Sum duration; in days
12	3 (+1 cancelled)	7 390 (+2 940 cancelled)	2 463	350 (+365 cancelled)
13	3	4 755	1 585	25
14	7	11 580	1 654	34
15	2 (+1 cancelled)	3 842 (+4 253 cancelled)	2 698	24 (+5 cancelled)
16	1	791	791	3
17	10 (+1 cancelled)	18 640 (+1 250 cancelled)	1 808	72 (+3 cancelled)
18	8	17 803	2 225	177
19	4	7 902	1 975	85
Sum	**44 (+3 cancelled)**	80 904 (+8 443 cancelled)	**1 838**	**986 (+370 cancelled)**

Figure 11 – Cost sum per call (accepted, not cancelled applications); average cost/ application and in call (note: doesn't take duration, type of activity etc. in account)

Summary/Comments:

- 89 347 € granted in total from which 8 443 € allocated for 3 actions which were later cancelled; 80 904 € is remaining support.
- 0.6-3.5 kEUR average grant/ application/ call; 1 838 € average grant
- 986 days supported; average duration is 21 days; cancelled actions were planned for 370 days.
- 82 € average cost of 1 "granted" day (not cancelled applications)
- A strong variation in cost/call (depending on action type, duration etc.)

3.3.2 Cost per type of action

Tab. 10 – Cost per type of action and WP; accepted, not cancelled applications (EUR, %)

Type of action	Sum costs (EUR)	Cost (%)	Aver. Cost (EUR)	Number of apps	Number of apps (%)
Conferences or Workshops	**14 326**	**18%**	**1 433**	**10**	**23%**
Training courses	**21 145**	**26%**	**1 762**	**12**	**27%**
Cross WP mobility actions	**8 380**	**10%**	**2 095**	**4**	**9%**
Intra WP action	**37 053**	**46%**	**2 059**	**18**	**41%**
WP2 - ACED	3 000	4%	3 000	1	2%
WP3 - CORI	6 214	8%	2 071	3	6%
WP4 - DONUT	3 670	5%	1 835	2	2%
WP5 - FUTURE	3 620	4%	1 810	2	3%
WP6 - GAS	4 835	6%	1 612	3	5%
WP7 - HITEC	656	1%	656	1	1%
WP8 - SFC	5 500	7%	2 750	2	2%
WP15 - MAGIC	3 638	4%	1 819	2	4%
WP16 - ConCorD	5 920	7%	2 960	2	4%
Sum	**80 904**	**100%**	**2 058**	**44**	**100%**

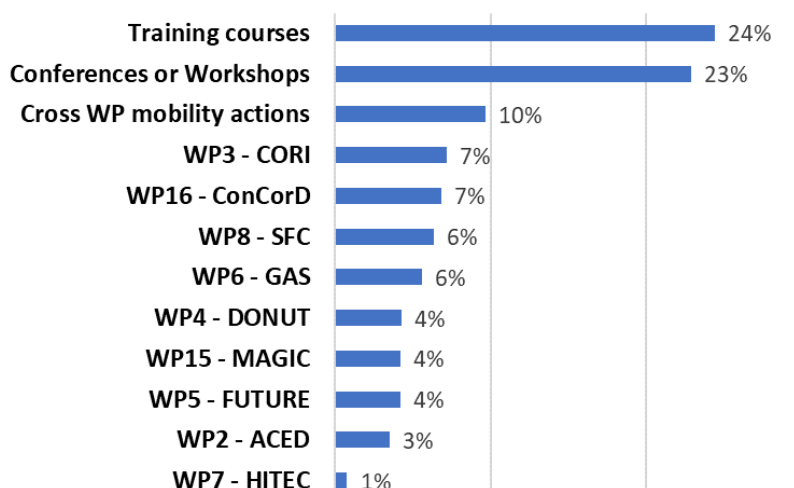*Figure 12 – Cost per type of action and WP; accepted, not cancelled applications (% EUR)*

Summary/Comments:

- The most supported is group of Intra WP action (46% of budget) followed by 26% on Training courses and 18% on Conferences; distribution of applications among Intra WP actions/ Training courses and Conferences is similar to distribution of budget.
- The support of individual WPs on intra WP actions is between 650 and 6200 EUR (considering "active" WPs only)
- The most active and supported WP is WP3 - CORI (6214 EUR/ 3 applications followed by WP6 - GAS (4835 EUR/ 3 apps)

3.3.3 Cost per type of job and action

Tab. 11 – Cost per type of job and action; accepted, not cancelled applications (EUR, %)

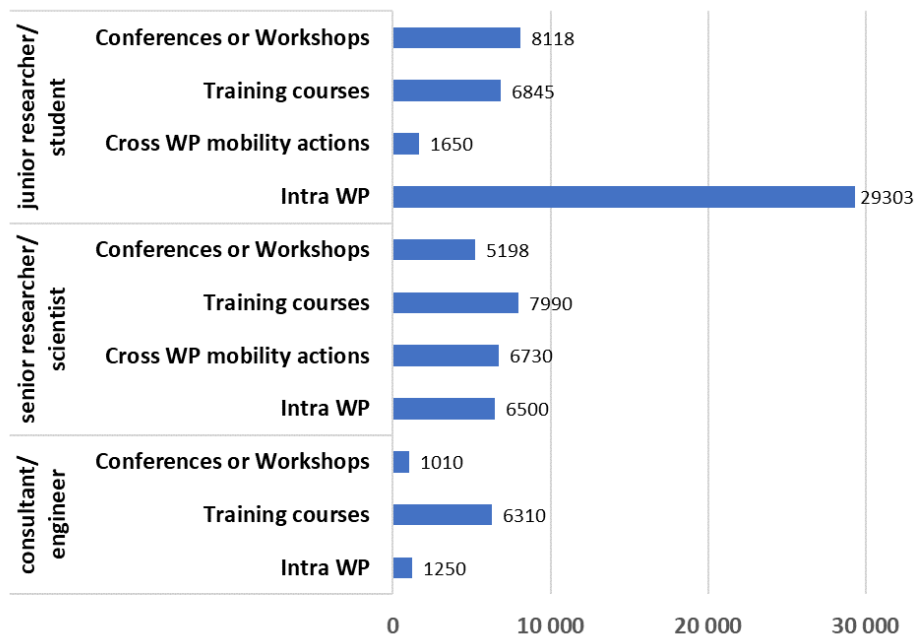| Type of job/ action	Sum cost (EUR)	Cost (%)
consultant/ engineer	**8 570**	**11%**
Intra WP	1 250	2%
Training courses	6 310	8%
Conferences or Workshops	1 010	1%
senior researcher/ scientist	**26 418**	**33%**
Intra WP	6 500	8%
Cross WP mobility actions	6 730	8%
Training courses	7 990	10%
Conferences or Workshops	5 198	6%
junior researcher/ student	**45 916**	**57%**
Intra WP	29 303	36%
Cross WP mobility actions	1 650	2%
Training courses	6 845	8%
Conferences or Workshops	8 118	10%
Sum	**80 904**	**100%**

Figure 13 – Cost per type of job and action (EUR)

Summary/Comments:

- The most supported group of applicants are students for Intra WP actions (29.3 kEUR; 36%)
- Other groups and types of actions have much less support; typically 6-10%

3.3.4 Mobility support to WPs on intra & cross WP actions

Tab. 12 – Mobility support to WPs on intra & cross WP actions; in EUR and ppm (EUR support on mobility/ WP budget); accepted, not cancelled applications

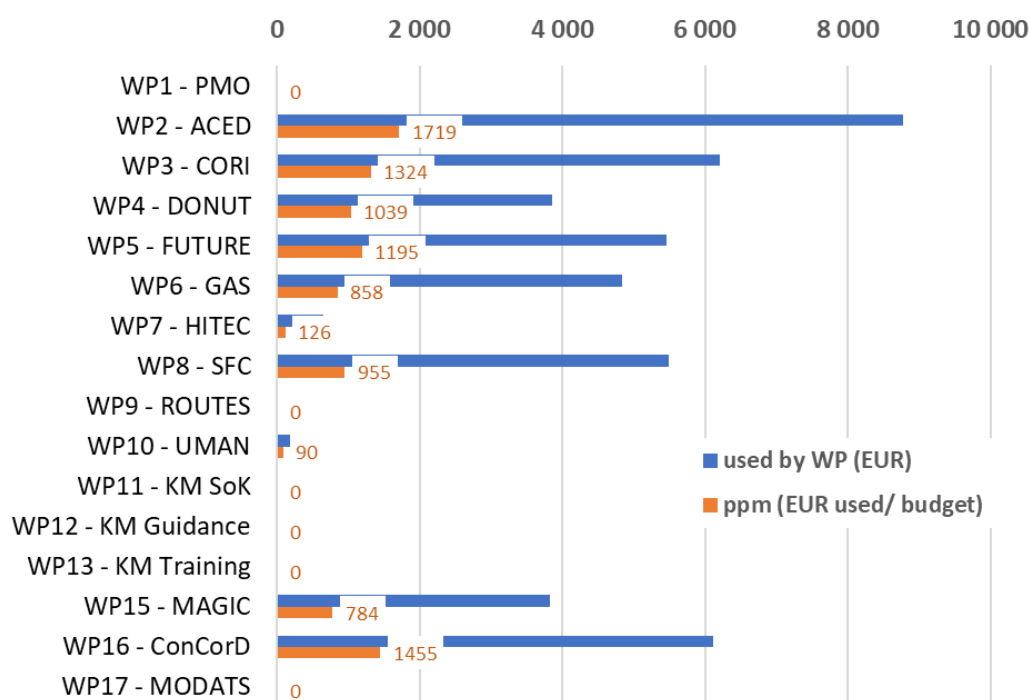| WP/ mobility support on	Intra WP (EUR)	Cross WP (EUR)	Sum intra & cross (EUR)	Total WP budget (EUR)	ppm (support/ budget)
WP1 - PMO	0	0	**0**	3 427 679	0
WP2 - ACED	3 000	5 780	**8 780**	5 107 848	1 719
WP3 - CORI	6 214	0	**6 214**	4 692 698	1 324
WP4 - DONUT	3 670	0	**3 860**	3 716 460	1 039
WP5 - FUTURE	3 620	1 650	**5 460**	4 569 611	1 195
WP6 - GAS	4 835	0	**4 835**	5 635 787	858
WP7 - HITEC	656	0	**656**	5 220 944	126
WP8 - SFC	5 500	0	**5 500**	5 762 135	955
WP9 - ROUTES	0	0	**0**	2 009 780	0
WP10 - UMAN	0	0	**190**	2 099 747	90
WP11 - KM SoK	0	0	**0**	1 235 772	0
WP12 - KM Guidance	0	0	**0**	700 025	0
WP13 - KM Training	0	0	**0**	1 212 704	0
WP15 - MAGIC	3 638	0	**3 828**	4 880 000	784
WP16 - ConCorD	5 920	0	**6 110**	4 199 691	1 455
WP17 - MODATS	0	0	**0**	4 474 017	0
total	**37 053**	**7 430**	**45 433**	**58 944 897**	771

Figure 14 – Mobility support spent by WPs on WP actions; in EUR and ppm; accepted, not cancelled applications

Summary/Comments:

- Intra & cross WP activity support is, for most of active WPs, in the range of 3.8 – 6.2 kEUR. WP HITEC and UMAN were supported in the hundreds of EUR.
- The highest amount on intra & cross WP mobility activity is directed to WP2 – ACED followed by WP3 - CORI and WP16 - ConCord.
- "Effectivity of WP" measured by proportion of support on mobility and total budget of each WP is about 800-1700 EUR/ EUR 1 000 000 budget (800-1700 ppm) for most of active WPs.

3.4 Gender & social

3.4.1 Proportion of male/ female applications

Tab. 13 – Proportion of male/ female applications (counts; EUR; days; %); accepted, not cancelled

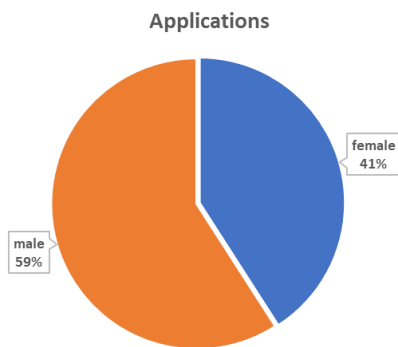| Gender	Applications; accepted, not cancelled	Applications (%)	Support (EUR)	Support (%)	Duration (days)	Duration (%)
female	18	41%	31 165	39%	319	32%
male	26	59%	49 739	61%	667	68%
total	**44**	**100%**	**80 904**	**100%**	**986**	**100%**

Figure 15 – Proportion of male/ female applications (counts; %); accepted, not cancelled
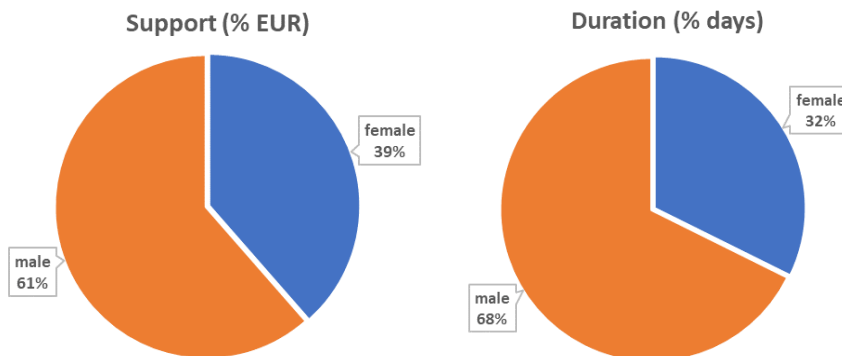

Figure 16 – Proportion of male/ female applications support (EUR % left; % days right)

Summary/Comments:

- 5 longest actions (approx. 10 %) take 571 days (from 978 in total; i.e. 58 %), where 391 days are spent by male and 180 days by female (these longest actions are also part of following statistics).
- Male/ female proportion in number of applications and requested support is similar 59/41% and 62/38 %).
- After check of the duration (68/32 %;) is clear that:
  - female apply for shorter actions (17 days) than male (25 days) while,
  - an average cost of supported one day is almost equal for both groups.

3.4.2 Proportion of male/ female applications according to type of the activity

Tab. 14 – Proportion of male/ female applications according to type of the activity (count in %; EUR in %; duration in %)

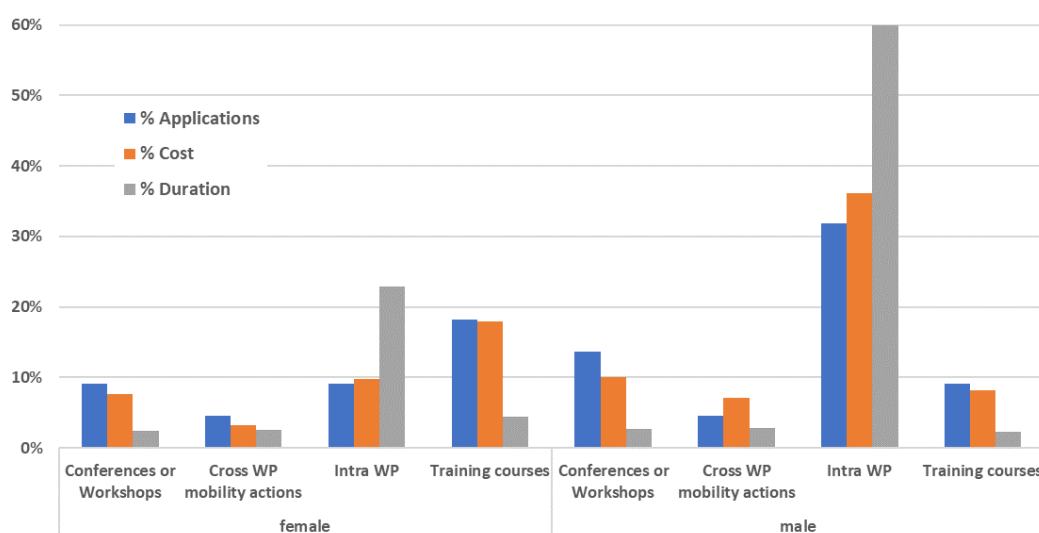|	Applications (%)	Cost (%)	Duration (%)
female	**41%**	**38,5%**	**32,3%**
Conferences or Workshops	9%	7,7%	2,5%
Cross WP mobility actions	5%	3,2%	2,6%
Intra WP	9%	9,7%	22,9%
Training courses	18%	17,9%	4,4%
male	**59%**	**61,5%**	**67,7%**
Conferences or Workshops	14%	10,1%	2,7%
Cross WP mobility actions	5%	7,1%	2,9%
Intra WP	32%	36,1%	59,9%
Training courses	9%	8,2%	2,2%
Sum	**100%**	**100,0%**	**100,0%**

Figure 17 – Proportion of male/ female applications according to type of the activity (count in %; EUR in %; duration in %)

Summary/Comments:

- The most supported activity is male Intra WP.
- The second group is female/ training courses followed by female Intra WP and male and female/ conferences and workshops.
- The longest lasting are male/ intra WP (in WP CORI and WP DONUT).

3.4.3 Permission to publish name on the EURAD School webpage

Tab. 15 – Permission to publish name on the EURAD School webpage (counts; %)

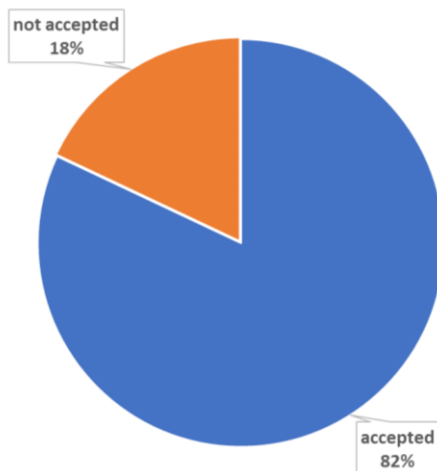|	Permission (counts)	Permission (%)
Accepted	**38**	**81%**
Not accepted	**9**	**19%**
Conferences or Workshops	3	6%
Cross WP mobility actions	1	2%
Training courses	1	2%
WP15 - MAGIC	1	2%
WP3 - CORI	1	2%
WP4 - DONUT	1	2%
WP8 - SFC	1	2%
total	**47**	**100%**

Figure 18 – Permission to publish name on the EURAD School webpage (%)

Summary/Comments:

- More than 80% of applicants agree to have their name published on the EURAD School of RWM website.
- Applicants refusing to publish their name are evenly distributed across WP and activities.

3.5 Completed reports - cost accepted up to date

Tab. 16 – Completed reports in each call (as of May 2023)

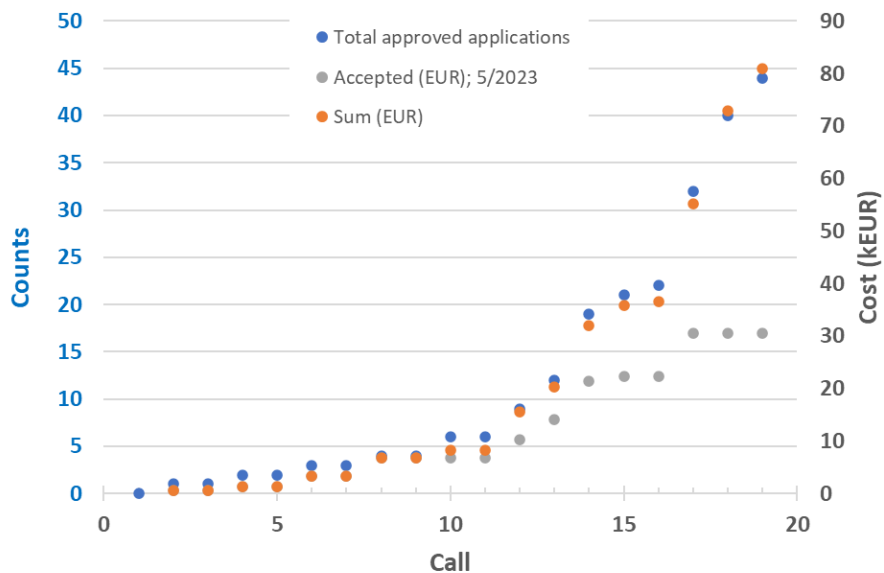|	Cost accepted (EUR)		Sum / call (EUR)	Cost accepted - report completed (no. of reports)	
Call	Yes	Not yet		Yes	Not yet
1				**0**	
2		670	670	1	
3					
4		625	625	1	
5					
6		2 000	2 000	1	
7					
8		3 500	3 500	1	
9					
10	1 406		1 406		2
11					
12	3 950	3 440	7 390	1	2
13	910	3 845	4 755	2	1
14	4 250	7 330	11 580	5	2
15	2 840	1 002	3 842	1	1
16	791		791		1
17	10 540	8 100	18 640	5	5
18	17 803		17 803		8
19	7 902		7 902		4
total	**50 392**	**30 512**	**80 904**	**18**	**26**

Figure 19 – Cumulative: number of applications (main y-axis) and related budget (secondary y-axis); cost of completed reports (as of May 2023)
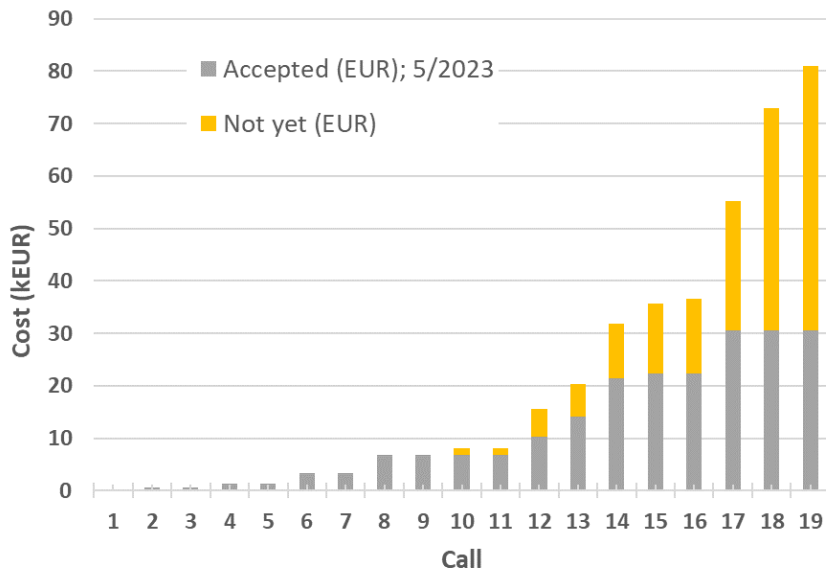
Figure 20 – Completed reports (cost accepted) in each call (as of May 2023)

Summary/Comments:

- This section describes the status as of May 2023.
- Grants awarded are progressively closing (by Mobility report approval).
- The oldest outstanding grants are from call 10 and 11.
- The number of pending grants/ Mobility reports in more recent calls is logically increasing.

3.6 Recommendation for the input data/information improvement (challenges)

Several issues with data availability and consistency emerged during - data collection and analysis. As some of these data are considered as important for the Mobility Programme evaluation we therefore propose modifications to the Mobility Programme management and its supportive tools.

Lacking information:

- cross WP action - target WP is missing
- various names/ abbreviations of institutions - sometimes misleading
- type of college (institution role in EURAD) is missing (RE/ WMO/ TSO/ SC)
- EURAD SRA topics relevance often missing; if available – "hidden" in the pdf attachments (it is time consuming to check it to process overall evaluation of the Mobility Programme)
- Duration of action (in days)

Proposed modifications can be easily managed by adding the missing items to Mission report (Mission report template). Some of information can be confusing as they are not used in the unified form, like abbreviations etc.

4. Conclusion

Time period valid for data analysis in this report was April 2020 - July 2023 and during this time 19 calls have been launched and evaluated. Calls open regularly every two months starting at the first day and closing on the last day of said month.

In line with the established strategy and proposed scenarios, the Mobility Programme was initially open to applications for single WP (intra/cross WP action) and EURAD courses.

In six calls (no. 1, 3, 5, 7, 9, 11) no applications were submitted. The most probable reason were the COVID restrictions.

The maximum number of applications submitted in one call was 11 (No 17). This was due to requests for support for participation in EURAD training course.

Only three applications from 50 in total were not accepted (successful). Also three applicants cancelled their already accepted applications.

As a result of the application evaluation, the rating of applications is in the range 7.5-10 (the scale from 0 to max 10 – meaning highest match between the goal of the mobility programme and the applicant).

The equal number of applications were submitted and accepted for "individual" WP events (intra + cross; 18+5 applications) and 'mass events' such as training courses and conferences (12+12).

Intra WP actions dominate to the statistics of number of applications (18). A limited number of cross WP actions (5 in total) were performed. This could be improved, potentially by the motivation within WPs. Two application for cross WP mobility were not successful.

There is equal request and support for training and conferences (12 applications each).

The activity within WPs differs - 9 WPs are "active" (WP2-8; 15; 16); No activity in WPs 9, 10, 11, 12, 13, and 14. In this regard, there needs to be mentioned, that WP 9 and WP 10 are Strategic Studies WPs and WP11, WP12 and WP13 are KM WPs.

Origin of applicants is structured according to their job type (junior researcher/ student; senior researcher/ scientist or consultant/ engineer) and type of institution according to its role in EURAD (RE, TSO, WMO, CS).

The most supported group is „students/ junior researchers" - they submitted more than half (51%) of all applications followed by "researcher/ scientist" with 38% of all applications.

Most applicants (3/4) are from RE; however, RE is also the most represented type of institution in EURAD. Civil Society is also involved (2 applications for conference/workshop).

Male/female proportion in number of applications and requested support is similar 59/41% and 62/38%). After check of the duration (68/32%) is clear that females apply for shorter actions (17 days) than male (25 days) while an average cost of supported one day is almost equal for both groups (82€).

The most frequent and supported activity is intra WP action of males (32% of all applications; 36% of cost and 60% of duration of all actions). Females request for support of training courses mainly (18% of all applications and cost) but the longest of female activities are Intra WP actions (23%).

In general, the most financially supported mobility type is Intra WP mobility (46% of budget) followed by 26% to training courses and 18% to conferences.

The most active WPs with 3 applications are WP3 - CORI (6214 EUR) and WP6 - GAS (4835 EUR).

The most supported group of applicants are students for Intra WP actions (29.3 kEUR; 36%). Other groups and types of actions have much less support; typically 8-10%.

In total, 89 347 € were granted; 3 applications (in total 8 443 €) were cancelled by the participants later. Then 80 904 € remained as support of mobility in calls 1-19. 1 838 € is an average grant.

Grants awarded are progressively closing (by mobility report approval). The oldest outstanding grants are from call 10 and 11.

More than 2.5 years (978 days) of visits/ courses etc. are supported; average duration is 21 days.

During the course of data collection and analysis, several issues with data availability and consistency emerged. Therefore, some modification of data input were proposed.

It seems that after four years of development, the EURAD Mobility Programme is being successfully implemented despite the fact that at the beginning, the implementation of the Mobility Programme was severely affected by the COVID-19 pandemic. It is also reason, why this deliverable was issued later than planned, as there has been a need to have a sufficient amount of the applications available and mobility actions realised for a meaningful evaluation of the Mobility Programme development.

5. References

[1] Beattie T. et al. (2021): EURAD Roadmap, extended with Competence Matrix. Final version as of 27.09.2021 deliverable D1.7 of the HORIZON 2020 project EURAD. EC Grant agreement no: 847593. https://www.ejp-eurad.eu/publications/eurad-roadmap

[2] EURAD Knowledge Management & Networking Programme 2020-2024; Supporting the capturing of knowledge and its transfer between organisations, Member States and generations. Published on May 2021, https://www.ejp-eurad.eu/publications/eurad-knowledge-management-and-networking-programme

[3] Miksova J., Belmans N., Vasicek R. (2022): Specification of the content, material and learning outcomes of mobility training. Final version as of 15.11.2022 of deliverable D13.7 of the HORIZON 2020 project EURAD. EC Grant agreement no: 847593. https://www.ejp-eurad.eu/publications/eurad-d137-specification-document-content-material-and-learning-outcomes-mobility

[4] EURAD School of RWM webpage, https://www.ejp-eurad.eu/

[5] PREDIS, https://predis-h2020.eu/

[6] NEA Nuclear Education, Skills and Technology Framework, https://www.oecd-nea.org/jcms/pl_21786/nuclear-education-skills-and-technology-nest-framework

[7] ENEN PLUS Project, https://plus.enen.eu/

[8] IAEA Education and training, https://www.iaea.org/services/education-and-training

[9] EURAD Consortium Agreement [09/02/2022]