

European Metrology Programme for Innovation and Research Decision (EU) 2021/2084 Delegation Agreement RTD/xxxxxxxxx

**European Partnership on Metrology ANNUAL REPORT
2021 – Part B
Period: 1 January 2021 – 31 December 2021**

**Author: Dagmar Auerbach (EURAMET Programme
Manager)
Commission Project Officer: Georgios Valsamos**

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1 Implementation of the annual work plan and the resulting activities

1.1 Definition of the area of the programme to be opened

The areas of the programme in broad terms (topics) to be opened in each year were decided by the Partnership Working Group at the beginning of the programme, along with an indicative budget for each topic, and are included in Annex 1. While budget may be rebalanced between topics in any year it is not expected that the sequence of calls will be changed. Three topics were identified for the 2021 Call were “Metrology for Green Deal”, “Metrology for Pre- and co-normative research”, and “Research Potential” which are Research and Innovation Actions and implemented in two stages.

To encourage input from stakeholders, EURAMET consulted with its relevant European Metrology Networks (EMN);

- EMN for Climate and Ocean Observation
- EMN on Smart Electricity Grids
- EMN on Advanced Manufacturing
- EMN for Energy Gases

and relevant Technical Committees:

- TC Thermometry
- TC Thermometry - Thermophysical quantities of materials
- TC Ionising Radiation

in order to identify needs related to the EU Green Deal and to support the preparation of the 2021 call. This information, along with EURAMET’s Strategic Research Agenda for Metrology in Europe and a copy of the EC’s policy brief on Industry 5.0 was published with the Stage 1 call.

To encourage input from European Standardisation Organisations, EURAMET consulted with:

- CEN
- CENELEC
- IEC
- NEN
- and WELMEC

in order to collect standardisation research needs and support the preparation of the 2021 call. The results of this consultation identified 9 priority standardisation needs which were published with the Stage 1 call.

The Scope documents for the 2021 Calls are reproduced in Annex 1.

1.2 Call budget, national funding and Union contribution

The total budget for the 2021 calls was 26 M€ in EU contribution. In addition, the necessary budget of the participating states cash contribution for the administration of the programme can be associated with the call. The initial breakdown of the budget between the TPs was

- TP Green Deal – 22 M€
- TP Normative – 4 M€

In terms of EU Contribution.

1.3 Call announcement

1.3.1 “TP Metrology for Green Deal”, TP Metrology for Normative” and “TP Research Potential” Stage 1

The launch of Stage 1 for the TPs Green Deal and Normative for the Research Potential TP was announced on 13 January 2021.

The announcements were made through the EURAMET website and through various other electronic media like social media as well as individual emails to NCPs as well as other known networks like:

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- Technology Platforms relevant to topic areas
- EURAMET community, including Partnership Committee members, EURAMET TC and EMN Chairs, EURAMET Contact Persons
- EURAMET Research Council members
- Stakeholder communities, such as:
 - EA (European Co-operation for Accreditation)
 - Eurachem
 - Eurolab

1.3.2 “TP Metrology for Green Deal” and “TP Normative” Stage 2

The Stage 2 call was pre-published in on 22nd June and officially launched on 24th August and closed on 11th October, addressing 31 topics which had been distilled from the best of the ideas received in Stage 1. For each of the topics published a supporting document was provided identifying the need or opportunity, the scientific objectives and potential impact.

The announcements were made through the EURAMET website and EURAMET also announced the launch of the call to:

- EURAMET community, including Partnership Committee members, EURAMET TC and EMN Chairs, EURAMET Contact Persons
- EURAMET Research Council members
- Stakeholder communities, such as:
 - EA (European Co-operation for Accreditation)
 - Eurachem
 - Eurolab

1.4 Call 2021 Stage 1 – Potential Research Topics (PRTs)

The topic areas Metrology for Green Deal, Metrology for Pre- and Co-normative Research and Research Potential on were implemented in two stages. EURAMET launched Stage 1 for PRTs requesting research or network ideas and needs, respectively, on 13 January 2021 and the call closed on 22 February 2021.

The aim of Stage 1 was to identify challenges and problems and provide ideas to help EURAMET best prioritise the most important topics to address and make best use of the resources available in the NMI and DI community. Stage 1 was open to any person or organisation from anywhere in the world. The process was web based and used a simple Word template to ensure ideas were expressed in an appropriate and consistent way. Proposers provided administrative information online and uploaded their PRT as a Word file. Submissions were automatically acknowledged by e-mail.

1.4.1 Stage 1 submissions received

There was a total of 98 Stage 1 submissions received; 71 Stage 1 submissions received for Green Deal, 21 Stage 1 submissions received for Normative and 6 Stage 1 submissions received for Research Potential.

All were subject to a very simple but defined eligibility check, mainly to simply identify any repeat submissions or inadequate submissions, or submissions entirely out of scope. Of the 98 a total of 19 were superseded (those submitting before the deadline had the opportunity to make changes and resubmit up until the deadline, thus superseding their earlier submission); 14 for Green Deal, 5 for Normative and 0 for Research Potential. No submissions failed to meet the eligibility criteria.

The online web page required proposers to identify the most appropriate classification against a list, with the option of “other” for cross cutting topics or topics which the proposers felt did not fall easily into one of the predefined classifications. The classification was only used to make it more likely that similar topics were reviewed together.

1.4.2 Stage 1 admissibility, eligibility and prioritisation

Having completed the admissibility and eligibility checks, EURAMET revisited the classification. A check was made to ensure that the proposers had allocated their proposal to the appropriate classification. The classifications were also revisited to ensure they best captured the actual submissions received. Excel workbooks were prepared for the Partnership sub-committees with instructions, statistical data and collated information on all of the submissions, and pre-programmed cells to enable initial views and comments to be captured.

The PRTs that passed the eligibility sift were forwarded to the Partnership sub-committees. The subcommittee members initially worked in pairs, each pair responsible for the initial review of PRTs within two or three classifications, thus sharing the workload. Each sub-committee member was provided with an individual Excel workbook to capture initial impressions and comments. These

individual workbooks were then sent back to the MSU where the inputs were collated into a single consolidated Excel workbook for each Call topic.

The consolidated workbooks were then redistributed such that all members of the relevant Partnership sub-committees could see all initial PRT comments, i.e. their own and every other member's comments in preparation for the sub-committee meetings. At this stage the review was widened with sub-committee members free to review all PRTs and prepare further comments. This whole process took place during February and March 2021, culminating in virtual meetings on 7th, 8th, 9th & 12th April for the Sub-Committee Research to review the Green Deal and Normative PRTs and a virtual meeting on 13th April for the Sub-Committee Capacity Building to review the Research Potential PRTs. The results from the meetings were a consensus view to publish a total of 35 selected research topics (SRTs) at Stage 2; 22 for Green Deal and 13 for Normative.

No SRTs were agreed for publication for Research Potential due to a limited amount of needs submitted in response to this call.

The key criteria in the selection of the topics were alignment with the scope of the call, that the stakeholder need was clearly identified and supported, and knowledge that relevant expertise and facilities existed within EURAMET to address those needs.

Following the meeting, a list of the titles of the SRTs was released to the Partnership Working Group to allow appropriate partnering meetings to be arranged following the launch of Stage 2. The first drafts of the "Supporting Documents" were prepared by the MSU, a short document for each topic to be published at Stage 2 describing the background, objectives and potential impact. The information and much of the text for the supporting documents was drawn from the relevant PRTs. These drafts were then reviewed by the Partnership sub-committee and iterated until deemed acceptable. The objectives outlined in each SRT were presented to the full Partnership Working Group at virtual meetings on 31st May and 10th June. The Partnership Working Group made amendments to the SRT objectives and concluded this part of the process with a formal decision to support 31 of the 35 SRTs and associated objectives; 20 for Green Deal and 11 for Normative.

When considering the above process, it would be rather misleading to imagine the process as one of prioritising one PRT over another. Rather it was a case of reviewing all PRTs in a given area, establishing a list of all of the needs, scientific and technological objectives and potential impacts expressed, and then identifying which of those ideas could be addressed most effectively by the metrology research community. Thus, in each area all of the objectives from all relevant PRTs were assembled, and prioritised. The process is better thought of as a prioritisation of ideas rather than prioritisation of particular PRTs, although the genealogy of all Stage 2 topics was carefully captured ensuring the traceability of each of the Stage 2 topics to its "parent" contributing PRTs. This approach ensured efforts would be focused most appropriately but made the preparation of the supporting documents challenging (e.g. as it was not simply a case of choosing PRT X over PRT Y and then editing the text of PRT X). The topics were assembled not only to bring the best resources from EURAMET to bear on the identified needs, but also to promote closer working between different EURAMET members and across technical disciplines by combining objectives in single topics that could only be addressed through collaboration.

1.5 Call 2021 Stage 2 – Joint Research Projects (JRPs)

Stage 2, a dedicated call for JRPs was pre-published on 22 June and officially launched 24th August and was due to close on 11 October 2021. This call opened the 31 SRTs for Green Deal and Normative, each with a supporting document identifying the need or opportunity, the scientific objectives and likely impact.

The following detailed EURAMET documentation was produced or updated, approved and published with the Stage 2 call:

- Guide 1: Admissibility and Eligibility for the potential Partnership on Metrology Calls
- Guide 4: Writing Joint Research Projects (JRPs)

- List 4: Checklist for Template 4
- Template 4: JRP protocol
- Guide 5: Submitting administrative data for Partnership projects
- Template 5: Project Administrative Data (PAD)
- HE Security Form
- HE Ethics Form
- HE guide on how to complete the ethics self-assessment

1.6 Admissibility and eligibility of proposals

1.6.1 Metrology for Green Deal

Following closure of Stage 2 a total of 20 JRP proposals for Metrology for Green Deal were received. This was one proposal for each SRT topic published for Metrology for Green Deal except for SRTs v20, although more than one proposal per topic was possible. All JRP proposals underwent admissibility and eligibility checks by the MSU against a pre-defined checklist. All proposals submitted were deemed eligible.

1.6.2 Metrology for Pre- and co-normative research

Following closure of Stage 2 a total of 11 JRP proposals for Metrology for Pre- and co-normative research were received. This was one proposal for each SRT topic published for Metrology for Pre- and co-normative research although more than one proposal per topic was possible. All JRP proposals underwent admissibility and eligibility checks by the MSU against a pre-defined checklist. All proposals submitted were deemed eligible.

1.7 Referees

In parallel with the 2021 calls the MSU and the EMPIR Deputy Chair and Chair established the list of independent referees. All referees were drawn from EURAMET's Referee Database which had been established at the beginning of 2014 by direct contact with referees. EURAMET had used previously and asking for registrations through the EURAMET website. The database contains 373 potential referees. The primary and overriding criteria for the selection of the referees were scientific and technical competence (and their independence from the proposers). Within that constraint the best balance of gender, nationality, background etc was sought. This process involved the establishment of a larger than needed initial pool of competent referees from which the MSU checked availability, and then provided there was choice, followed a defined set of criteria aimed at achieving the best balance.

It was assumed that many if not most NMIs and DIs in Europe would participate in the programme so even at this stage no referees were targeted from these organisations. For all referees a more detailed check for conflict of interest was made at each stage of the process to ensure that referees were not drawn from organisations involved in the submission of proposals. Those experts passing the sift were entered into the pool which eventually contained 290 referees. The experts in the pool were then contacted to establish their willingness to act as referees for EURAMET, their availability and their expectation of being independent from any proposal. The terms and conditions offered in terms of expenses etc closely followed those used by the Commission for Horizon Europe.

Furthermore, referees in the pool who had indicated they were available were provided with the relevant supporting documents and asked to "self-check" their suitability. They responded by e-mail indicating one of three possibilities for each SRT:

- Able to read a proposal likely to be received against the SRT as a specialist
- Able to read a proposal likely to be received against the SRT as a generalist

- Unable to read a proposal likely to be received against the SRT

After these replies the “pool of available” referees included 189. This allowed the establishment of the boundary conditions of available and competent referees with a very high degree of confidence that there would be “no surprises”. The aim was for at least three referees allocated to each proposal and ideally a maximum of three proposals allocated to each referee.

In the event a total of 61 referees were used to evaluate all proposals: 39 referees for Green Deal and, 22 referees for Normative.

Some redundancy had been deliberately built in the process in case the MSU checks or the declaration by the referees identified real or potential conflicts of interest requiring them to drop out ahead of the evaluation. The final statistics for the referees who attended the review conferences for Green Deal and Normative are given below.

1.7.1 Overall statistics (referees):

Gender: 40 men (65.6 %), 21 women (34.4 %)

25 Nationalities, Austria (2), Bulgaria (1), Croatia (2), Czech Republic (1), Finland (2), France (4), FYR Macedonia (1), Germany (4), Greece (3), Hungary (1), Iceland (1), Ireland (1), Italy (5), Lebanon (1), Lithuania (1), Netherlands (3), Poland (6), Portugal (2), Romania (3), Serbia (3), Slovakia (1), Slovenia (2), Spain (6), Turkey (2), United Kingdom (3).

Industry vs. academia: the categories of organisation defined include: Consultancy firms, Higher Education Establishments, Non-research Commercial sector including SMEs, Non-research International Organisations (Association of States), Non-research Public Sector, Private / Commercial Research Centres, Private Non-profit Research Centres, Public Research Centres, Other and No information given.

The attending referees came from:

- 30 Higher Education Establishments (49.2 %)
- 12 Non-research Commercial sector including SMEs (19.7 %)
- 2 Non-research International Organisations (Association of States) (3.3 %)
- 8 Private / Commercial Research Centres (13.1 %)
- 1 Private Non-profit Research Centres (1.6 %)
- 8 Public Research Centres (13.1 %)

The list of Referees was published on 18 January 2022 on www.euramet.org.

1.8 Evaluation of proposals

The following detailed EURAMET documentation was sent to referees:

- Guide 4: Writing Joint Research Projects (JRPs)
- Guide 6: Evaluating JRP Proposals
- Form 6a: Code of Conduct and Declaration
- Form 6b: Payment to Referees
- Form 6c: JRP Evaluation

Referees were asked to confirm by e-mail that they were able to agree to both the “Code of Conduct for Referees” and the “Declaration of Confidentiality and Any Conflict of Interest” which are parts of

Form 6a and referenced in Guide 6. A signed copy of Form 6a was sent to the MSU by each referee prior to the evaluation of proposals as a prerequisite for the referee's participation.

The Form 6c used for evaluation followed the evaluation criteria in the Partnership work programme. The evaluation criteria were:

- Excellence.
- Impact
- Quality and efficiency of the implementation

Marking was against each evaluation criteria between 0 and 5. The threshold for individual evaluation criteria was 3 and the overall threshold, applying to the sum of the three individual scores was 10. If a proposal scored less than this, it was considered of insufficient quality to be funded.

The Partnership Committee had decided the weighting for the evaluation criteria for Call 2021. **Fehler! Verweisquelle konnte nicht gefunden werden.** shows the specific weightings for the evaluation criteria for the Call 2021.

Table 1: Weightings for the evaluation criteria for the 2021 calls

Call/Evaluation criteria weighting	Excellence	Impact	Implementation
Green Deal	1.25	1.75	1
Normative	1.25	1.75	1

1.8.1 Review conference

The Green Deal and Normative proposals were each evaluated at a review conference. For the review conference the process of evaluation involved the referees receiving the proposals assigned to them several weeks ahead of the review conference (although all of the remaining proposals were made available to them as the possibility existed of needing a debate in plenary session). The referees were requested to review and make their own preliminary informal marking. Referees were not required to submit these marks prior to the review conference as experience has shown that often the referees modify their views following the face-to-face discussions at the review conference.

The review conferences took place virtually using MS Teams on the 22nd - 25th November 2021; 22nd & 23rd November for Normative and 24th & 25th November for Green Deal. At each review conference the referees met a representative of the proposing consortia (normally the person who would become the coordinator should the proposal be successful), enabling referees to clarify their understanding of the proposed project and to test the various claims made prior to marking the JRP proposals.

Key elements of each virtual review conference included:

- Separate guidance briefings for the referees and proposers,
- A presentation session for the referees with the proposers,
- Discussion between the referees of their initial thoughts based on their individual remote prior reading and their views following the presentation session,
- Development of formal questions by the referees to be put to the proposers,
- Formal Q&A session with the proposers,
- Marking of the proposals,
- A final plenary session to address any issues arising and to finalise the ranked list.

The full agenda for the review conference is given in the Annex 1.

The referees were split into pre-defined groups to allow efficient and effective discussion of the proposals. Each of the proposals in the group was marked within the group by consensus, however the bulk of the input into the discussions came from a minimum of three referees formally assigned to the proposal. Although the discussions amongst the referees involved robust debate, they were able to reach consensus in all cases without any specific difficulties. All of the referees within the group declared agreement to the final marking books and overall, there were no problems encountered with this process. Indeed, the approach allowed wide and effective debate on the relative merits of the proposals.

To ensure consistency between the scores from different groups of referees, the training of the EURAMET facilitators concentrated on leading their referees to consensus opinions based on the scoring guidance:

0	The proposal fails to address the criterion or cannot be assessed due to missing or incomplete information
1	Poor: the criterion is inadequately addressed or there are serious inherent weaknesses
2	Fair: the proposal broadly addresses the criterion but there are significant weaknesses
3	Good: the proposal addresses the criterion well but a number of shortcomings are present
4	Very Good: the proposal addresses the criterion very well but a small number of shortcomings are present
5	Excellent: the proposal successfully addresses all relevant aspects of the criterion. Any shortcomings are minor

As marks were agreed between the referees, the facilitators would keep referring to these definitions. To further promote consistency between the groups the Programme Manager wandered between the groups collecting scores as they developed and listening to the debates. Where a group appeared to be scoring out of line with other groups, she asked questions of the referees against this guidance – prompting them to defend their scores.

The final discussions, where referees from all groups came together to review and approve the single ranked list, demonstrated that scoring had been consistent across the groups.

1.8.2 Independent observation of the evaluation process

The review conferences and consensus group meeting were attended by an independent observer (Jo Prieur) who had been proposed to EURAMET by the European Commission. Jo had access to all documentation, all communications with the referees, and attended the review conferences with full access to all areas. He also had the freedom to interview proposers, referees and EURAMET staff. He was asked to provide a report in two parts – the first part to report on the correctness of the process as implemented and the second part to offer any suggestions for improvement for EURAMET. It was done in this manner so the first part could be published with the results of the Call while the second part could be considered in slower time without EURAMET feeling obliged to respond to those suggestions in public. He gave a positive report of the evaluation, which is included in the Annex.

1.8.3 The Partnership Working Group Decision

It should be noted that the Partnership Working Group respectively the later formed Partnership Committee is the body within EURAMET charged with the overall responsibility for the Partnership. The Partnership Working Group consists of one representative from each of the currently 29 participating countries. Membership of the Partnership Working Group is published on the

EURAMET website. Voting within the Partnership Working Group takes recognisance of the significantly varying levels of national commitment but uses a “square root” system to ensure the decision-making process is not dominated by the representatives from the countries with larger national contributions.

On 30 November and 1 December, immediately following the review conferences/consensus group meeting, the Partnership Working Group met and formally endorsed the recommendations of the referees without change. Although the referees deemed 16 of the 19 Green Deal proposals and 10 of the 11 Normative proposals of suitable quality for support, budget restrictions were such that a funding line had to be drawn in each list.

Neither the referees nor proposers had identified any significant duplication of work between proposals likely to be funded, and so there were no changes to be made to the size of individual projects and the choice faced by the Partnership Working Group was merely where to draw the line in each list.

The Ranked Lists are shown in the annex. The predefined budget allowed the first 4 projects in the Normative list and the first 9 projects in the Green Deal list to be funded, but no more. The Committee took various votes on how to distribute the budget for the year between the lists and in the end decided to fund the top 9 Green Deal projects and the top 4 Normative projects.

The provisional EU contribution allocated was 25.2 M €. These figures may be adjusted as the budgets are examined in Grant Preparation.

The full names of the selected projects are shown in Table 2.

21NRM01	HiDyn	Support for the standardisation of luminance distribution measurements for assessing glare and obtrusive light using high-dynamic-range imaging systems
21NRM02	Digital-It	Metrology for digital substation instrumentation
21NRM03	MEWS	Metrology for emerging wireless standards
21NRM04	Biomethane	Protocol for SI-traceable validation of methods for biomethane conformity assessment
21GRD01	OpMetBat	In operando metrology for energy storage materials
21GRD02	BIOSPHERE	Metrology for Earth Biosphere: Cosmic rays, ultraviolet radiation and fragility of ozone shield
21GRD03	PaRaMetriC	Metrological framework for passive radiative cooling technologies
21GRD04	isoMET	Metrology for European emissions verification on methane isotopes
21GRD05	Met4H2	Metrology for the hydrogen supply chain
21GRD06	MetCCUS	Metrology support for carbon capture utilisation and storage
21GRD07	PlasticTrace	Metrological traceability of measurement data from nano to small-microplastics for a greener environment and food safety
21GRD08	MetroSoilMoist	Metrology for multi-scale monitoring of soil moisture
21GRD09	MetEnvPol	Metrology for the harmonisation of measurements of environmental pollutants in Europe

Table 2: Full names of selected projects from the 2021 Call

1.9 Announcement and Grant Agreement preparation

Announcement and Grant Agreement preparation for the projects selected in 2021 will take place in the first few months of 2022.

2 Financial Management

EURAMET received no EU funds for the Partnership in 2021, had no running Grant Agreements or cost claims, and made no payments of EU funds.

The Participating States made no contribution to the Partnership, either in-kind or in cash contribution for the administration.

The administrative costs of the Partnership for 2021 are shown in Part C of this report. EURAMET has funded these costs by borrowing from the reserve of payments collected from the Participating States for EMPIR administration and does not intend to collect the cash contribution for the Partnership until all the cash contributions for EMPIR have been paid.

3 Management of the Partnership by EURAMET

3.1 People

The organisation of the EURAMET Secretariat can be seen in Figure 1 and the staff in post in 2021 are listed in Table 3.

Figure 1: Organisation of the EURAMET Secretariat

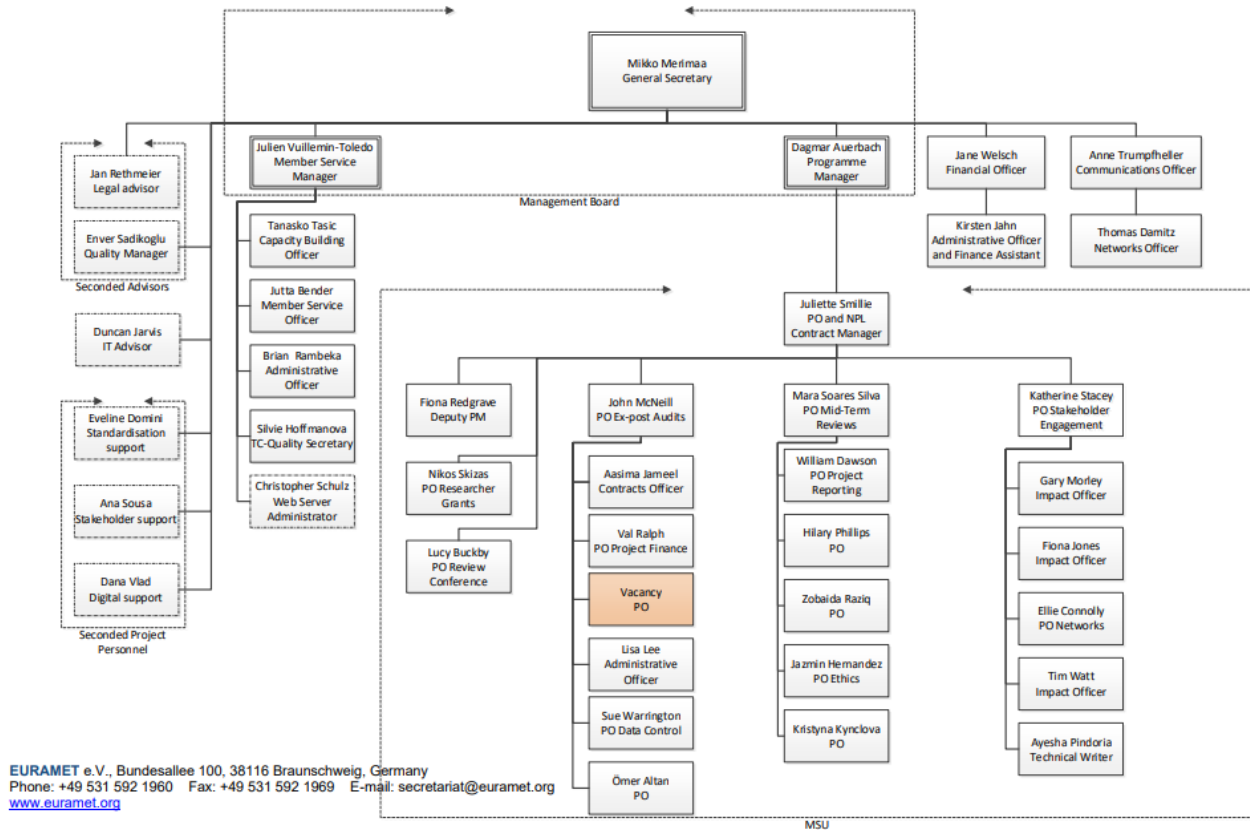


Table 3: EURAMET staff in 2021

Staff accounted for in Braunschweig	
General Secretary	Mikko Merimaa (from August)
General Secretary	Duncan Jarvis
Member Service Manager	Julien Vuillemin-Toledo
Programme Manager	Dagmar Auerbach
Communications Officer	Anne Trumpfheller
Quality Manager	Enver Sadikoglu
Legal Advisor	Jan Rethmeier
Head of General Management Unit	Jutta Bender
Administrative Officer	Brian Rambeka
TC-Quality Secretary	Silvie Hoffmanová
Capacity Building and Members' Support Officer	Tanasko Tasić
Support for Standardisation	Eveline Domini
Support for Stakeholders	Caroline Pritchard (until August)
Support for Stakeholders	Ana Sousa (from September)
Support for Digitalisation	Dana Vlad
Financial Officer	Jane Welsch
Finance Assistant and Administrative Officer	Kirsten Jahn
Support for Networks	Thomas Damitz
IT Advisor	Duncan Jarvis (from August)
Staff accounted for in Teddington	
Project Officer (Deputy Programme Manager)	Fiona Redgrave
Project Officer (Researcher Grants)	Nikos Skizas
Project Officer (Project Reporting)	William Dawson
Project Officer (Review conference)	Lucy Buckby
Project Officer (Mid-Term Reviews)	Mara Soares Silva
Project Officer (Stakeholder Engagement)	Katherine Stacey
Project Officer (Project Finance)	Val Ralph
Project Officer	Ömer Altan (from April)
Project Officer	Georgia Vatougia
Project Officer	Zobaida Raziq
Project Officer (Data Control)	Sue Warrington
Project Officer (Group Leader)	Juliette Smillie
Project Officer	Kristyna Kunclova
Project Officer (Ex-post Audits)	John McNeill
Project Officer	Elanor Connolly
Project Officer (Ethics)	Jazmin Hernandez
Contracts Officer	Aasima Jameel
Project Officer	Hilary Philips
Technical Writer	Tim Watt
Technical Writer	Gary Morley
Impact Officer	Fiona Jones
Technical Writer	Ayesha Pindoria
Project Coordinator	Karen Paul (until September)
Administrative Officer	Lisa Lee

3.2 Processes

In 2021 all the call documentation used for EMPIR had to be revised to apply to the Partnership and the Horizon Europe rules for participation. Especially for the Cofunding Reporting this involved a long consultation process to test the new documentation with a group of users. This was a considerable task – especially as the draft FFPA text and the Model Grant Agreement were always not available. The new guides are available from the Partnership Participant portal at www.metpart.eu.

While EURAMET has been working ahead of a contract on the implementation of the programme the resources used have been minimised, using just those necessary to end the year with a set of selected projects approved.

3.3 Promotion and Stakeholder engagement

No promotion and Stakeholder engagement activities were attributed to Partnership funding in 2021. Activities to promote the adoption of the Partnership Decision that took place in the first 11 months of the year were funded separately inside EURAMET. However, European Partnership on Metrology was a constant theme at all activities and events funded by the EMPIR.

4 Implementation of the action plan

The Delegation Agreement respectively the Financial Framework on Partnership Agreement and action plan were not finalised before the end of 2021.

5 Achievement of KPIs

The programme has not yet funded any activities that would achieve the targets of KPIs.

6 Data on the programme implementation and its impact

6.1 Call dates, timescales & overall statistics on proposals received

Table 4: Dates and timescales

Stage	Stage 1 GRD, NRM, RPT	Stage 2 GRD, NRM
	PRT	JRP
Call opened	13.01.2021	24.08.2021
Call closed	22.02.2021	11.10.2021
Selection decision made by Partnership Committee	31.05.2021	01.12.2021
Announcement		18.01.2022
Expected Grant Agreement Signature		10.06.2022
Days between Call closure and Announcement		99
Days between Call closure and expected Signature of Grant Agreement		242

Table 5: Number of applications submitted, evaluated or prioritised and selected

Stage	Application type	Number of submissions*	Number eligible for evaluation	Number selected
Stage 1	PRT	98	78	31**
Stage 2	JRP	29	29	13

Table 6: Type of organisation submitting PRTs

Country	NMI/DI	Other	Total
Austria	0	2	2
Belgium	1	1	2
Bosnia and Herzegovina	1	0	1
Czechia	5	0	5
Denmark	3	0	3
Finland	1	0	1
France	6	1	7
Germany	14	0	14
Italy	10	2	12
Netherlands	2	1	3
Romania	2	1	3
Slovenia	1	0	1
Spain	2	1	3
Sri Lanka	0	5	5
Sweden	1	0	1
Switzerland	4	0	4
Turkey	1	0	1
Ukraine	1	0	1
United Kingdom	9	0	9
Total	64	14	78

6.2 Detailed statistics from Stage 1

Table 7: Type of organisation submitting PRTs by country

Country	NMI/DI	Other	Total
Austria	0	2	2
Belgium	1	1	2
Bosnia and Herzegovina	1	0	1
Czechia	5	0	5
Denmark	3	0	3
Finland	1	0	1
France	6	1	7
Germany	14	0	14
Italy	10	2	12
Netherlands	2	1	3
Romania	2	1	3
Slovenia	1	0	1
Spain	2	1	3
Sri Lanka	0	5	5
Sweden	1	0	1
Switzerland	4	0	4
Turkey	1	0	1
Ukraine	1	0	1
United Kingdom	9	0	9
Total	64	14	78

6.3 Detailed statistics from Stage 2

Table 8: Resource details for all submitted JRP proposals

	Total
- Internal funding requested	33.991.189 €
-External funding requested	19.292.492 €
-Unfunded Annex 2 Costs	6.586.110 €
Total requested EU funding	53.340.325 €
Total available EU funding	26.000 €
Total person months efforts	753
- Person months efforts -internal funded	432
- Person months efforts -external funded	269
- Person months efforts - unfunded	52
Number of proposals	29
Number of eligible proposals	29
Total number of partners	474
Average partners per proposal	16
Average total value per proposal	3.236.586 €
Average funding request per proposal	1.839.321,56 €

Figure 2: Value of submitted proposals by country and type

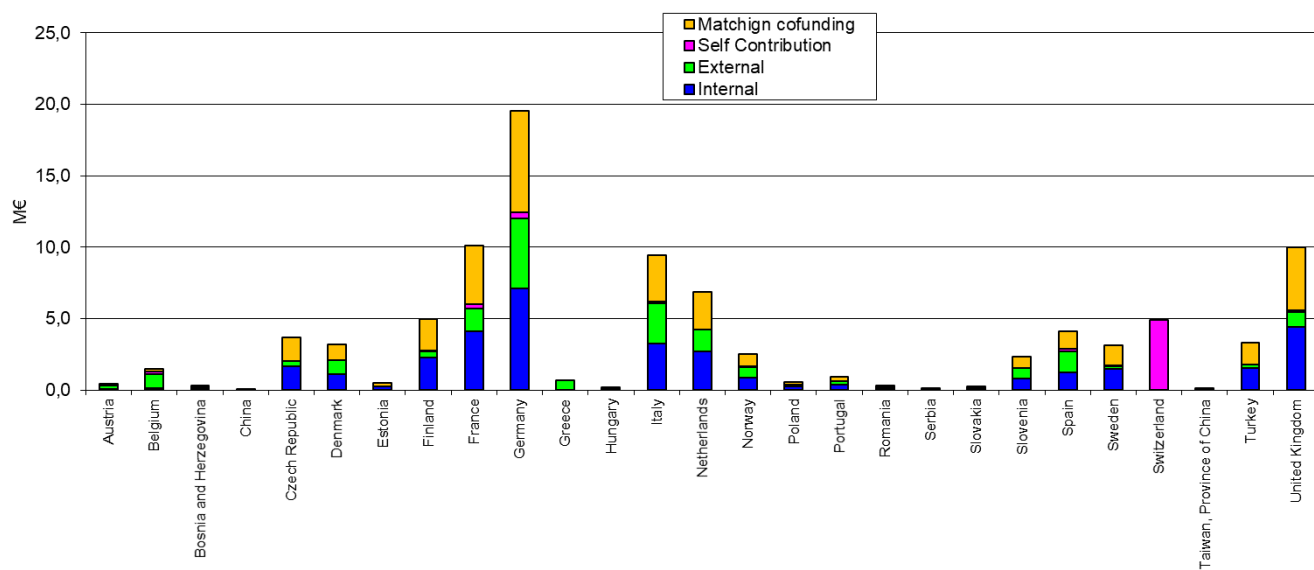


Table 9: Type of participant in submitted JRP proposals by country

	Internal	External	Self Funded	Total
Austria	2	2	1	5
Belgium	2	8	2	12
Bosnia and Herzegovina	5	2	0	7
China	0	0	2	2
Czech Republic	23	6	0	29
Denmark	9	9	0	18
Estonia	3	0	0	3
Finland	18	5	1	24
France	22	14	5	41
Germany	28	43	9	80
Greece	0	4	0	4
Hungary	2	0	0	2
Italy	15	29	5	49
Netherlands	11	9	0	20
Norway	7	5	1	13
Poland	5	2	0	7
Portugal	6	6	0	12
Romania	3	1	0	4
Serbia	1	0	0	1
Slovakia	2	1	0	3
Slovenia	6	8	0	14
Spain	10	15	7	32
Sweden	14	3	1	18
Switzerland	0	0	22	22
Taiwan, Province of China	0	0	1	1
Turkey	15	5	0	20
United Kingdom	16	11	2	29
Total	225	188	59	472

An organisation is counted each time it is included in a proposal, therefore 1 organisation may equate to a number of counts.

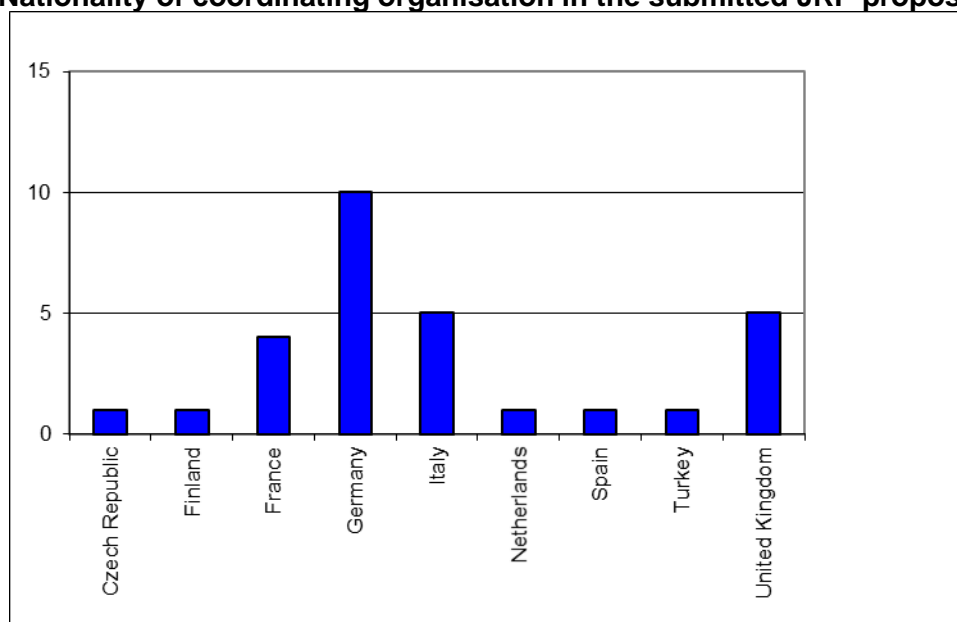
Figure 3: Nationality of coordinating organisation in the submitted JRP proposals

Table 10: Resource details for all selected JRP proposals

	Total
- Internal funding requested	16.488.403 €
-External funding requested	8.715.584 €
-Unfunded Annex 2 Costs	2.831.606 €
Total requested EU funding	25.216.462 €
Total available EU funding	26.000 €
Total person months efforts	361
- Person months efforts -internal funded	207
- Person months efforts -external funded	131
- Person months efforts - unfunded	22
Number of projects selected	13
Total number of partners	232
Average partners per selected project	18
Average total value per selected project	3.424.923 €
Average funding request per selected project	1.939.727,85 €

Figure 4: Value of selected proposals by country and type

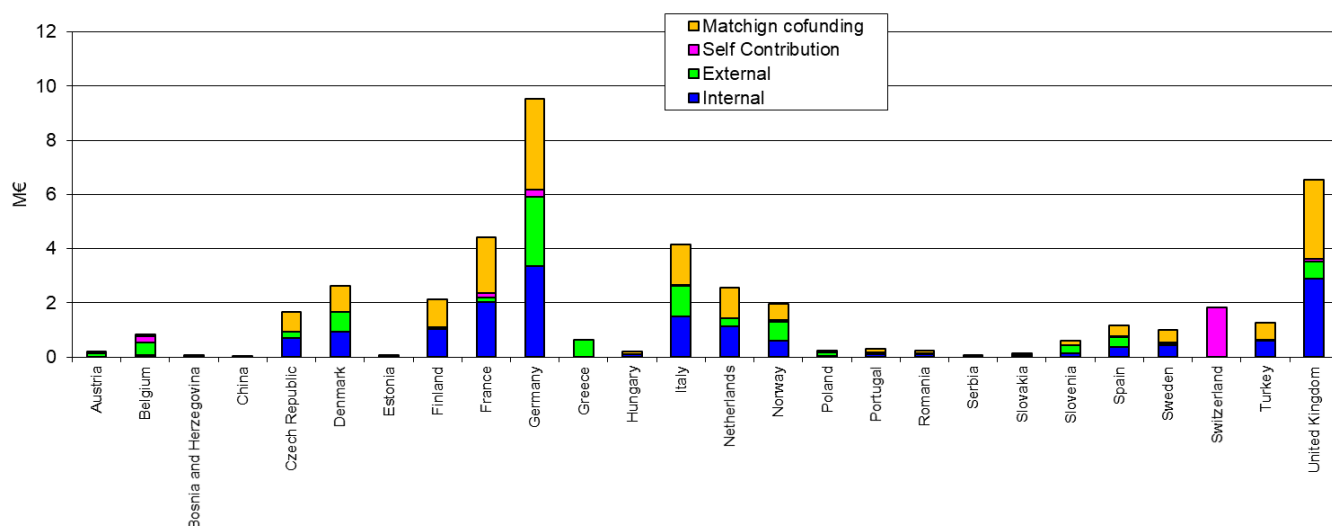
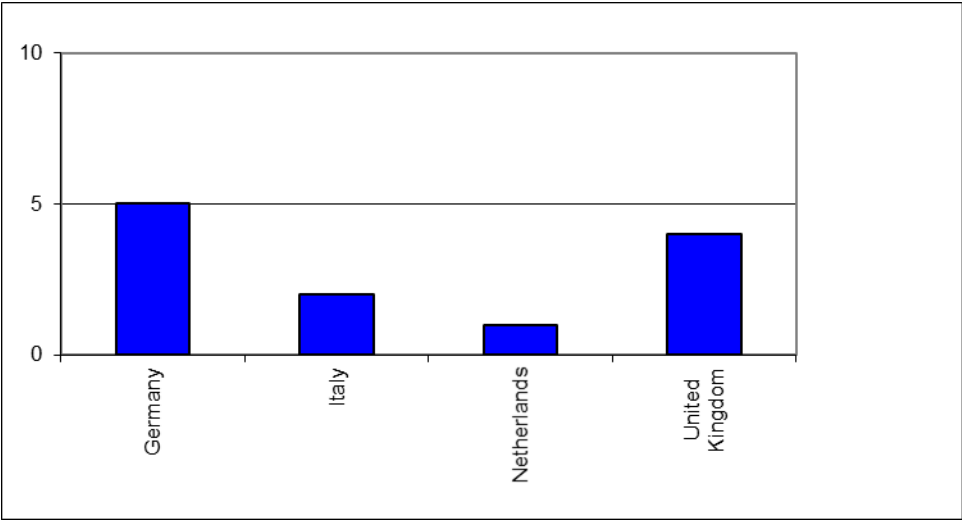


Table 11: Type of participant in selected JRP proposals by country

	Internal	External	Self Funded	Total
Austria	1	1	1	3
Belgium	1	5	2	8
Bosnia and Herzegovina	2	0	0	2
China	0	0	2	2
Czech Republic	11	3	0	14
Denmark	7	7	0	14
Estonia	1	0	0	1
Finland	9	1	0	10
France	12	2	3	17
Germany	14	23	4	41
Greece	0	4	0	4
Hungary	2	0	0	2
Italy	6	14	2	22
Netherlands	4	2	0	6
Norway	5	5	1	11
Poland	2	2	0	4
Portugal	3	3	0	6
Romania	2	1	0	3
Serbia	1	0	0	1
Slovakia	1	0	0	1
Slovenia	2	4	0	6
Spain	4	5	1	10
Sweden	6	1	1	8
Switzerland	0	0	8	8
Turkey	6	1	0	7
United Kingdom	11	7	2	20
Total	113	91	27	231

Figure 5: Nationality of coordinating organisation in selected JRP proposals



Annex 1 Previously submitted documents

This annex contains the following documents which were submitted during 2021 but are included again here for completeness. They are included in their original form and not reformatted to match the page numbering of the bulk of this report.

1. Scope documents for the 2021 Call
2. Virtual Review Conference Agendas
3. Independent Observer's Report
4. Summary of selected projects of call 2021 which are still under negotiation