Guide 11: Writing Joint Network Projects (JNPs)

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If you require further help or guidance after reading this document, please contact the helpdesk

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1 Scope

This document explains how to write a Joint Network Project (JNP) proposal for an EMPIR Call. It includes information on how to complete the templates and submit your proposal, and examples to help you write your proposal.

It does not include information on:

- eligibility, this is described in Guide 1: Admissibility and Eligibility for EMPIR Calls
- resourcing and costing a proposal, this is described in Guide 5: Submitting Administrative Data for EMPIR Projects
- evaluating a proposal, this is described in Guide 6: Evaluating EMPIR projects

This guide is based on the equivalent guide for JRPs and has been written for a generic JNP. Where a JNP is intended to support a potential or approved “European Metrology Network” (EMN) then there are additional constraints to consider:

1. There should be a clear distinction between the routine activities of the EMN and the additional activities to be funded by the JNP. Activities to establish an EMN, develop its governance processes and maintain routine activities are to be funded by the members of the EMN from their national funds, not a JNP. Such activities should not be described in a JNP proposal. The JNP should cover additional activities, carried out by a sub-set of the EMN members, which will result in the EMN achieving greater (or earlier) impact than it could achieve with the national funding alone. Such activities should lead to specific, time limited, deliverables. Any ongoing responsibilities resulting from the deliverables should become the responsibility of the EMN to be funded from other resources.
2. EMNs will receive support from EURAMET similar to that provided to its Technical Committees e.g. web presence, brand design, administration, legal and communications support. These services may be assumed in the proposal and should not be included in the funding requested for the JNP. For example, if a JNP proposes to develop a specialised, web based, communications portal, then the development should be funded from the JNP, but the required hosting and ongoing servicing may rely on the infrastructure provided by EURAMET.
3. Not all members of an EMN need to be beneficiaries of the JNP. In the extreme case a JNP may have a single beneficiary. For example, if the sole task of a JNP were to develop a Strategic Research Agenda for an EMN then it may be that only one member needs to be funded to manage the tasks, arrange consultation meetings with stakeholders, compile and edit documents. All other EMN members would participate as part of their normal activities related to the EMN and avoid the burden of financial and technical reporting.

2 Submission

You should submit your JNP proposal electronically via the Call webpages https://msu.euramet.org/calls.html before the Call deadline. For each complete proposal, the following documents must be combined as a single ZIP file and submitted:

1. Template 11: JNP protocol (required)
2. Template 5: Project Administrative Data (required)
3. Letters of support (optional). These should be collated together as a single unsecured pdf file, which should not exceed 6 MB in size. Please note that letters of support submitted in an unsuitable format will not be provided to the referees by EURAMET.

This document includes size limits for some sections of your JNP proposal, the referees will be instructed to ignore any text over these limits.

If you wish to make corrections or amendments, you should resubmit a complete set of documents as a new ZIP file via the online submission system, indicating the original submission reference number.

Proposers should note that no other documents should be submitted, and any that are, will not be passed to the referees by EURAMET.

3 Participants

You can identify and select your project participants in any way you choose, however EURAMET has created an online tool Connections https://msu.euramet.org/ to help potential participants find one another.

If you want to join or form your own consortium, we strongly recommend that you add the details of your capabilities to the Connections website.

JNPs may include four types of project participant

1. Internal Funded Partner(s)
2. External Funded Partner(s)
3. Unfunded Partner(s)
4. And rarely, Linked Third Parties

If you think you will need to include a Linked Third Party, please email msu@npl.co.uk or contact the EURAMET Management Support Unit (MSU) for advice.

The eligibility criteria for each type of participant are described in Guide 1: Admissibility and Eligibility for EMPIR Calls. EURAMET will also make further checks to establish eligibility prior to issuing contracts.

4 Completing the JNP protocol

All sections of Template 11: JNP protocol, are mandatory, unless otherwise stated, and should be completed as detailed in the sections below.

The page limits given for a section MUST be adhered to using Arial font size 10. If the page limits are exceeded (for a section) then referees will be asked to disregard the text/information that is over the page limit.

4.1 Title page

Please complete and remove the <>, and ensure that the data is consistent with that in Template 5: Project Administrative Data. The JNP number and title must be the same as the SNT number and title. If your proposal is selected for funding it will be issued with a new JNP number and you may revise the title during grant preparation (if required). You should include a proposed short name/acronym for your JNP (a maximum of 13 characters including spaces) and ensure that the proposed short name is consistent between Template 11: JNP protocol and Template 5: Project Administrative Data.

Please do **not** delete the automatic footers from Template 11: JNP protocol.

4.2 Glossary

A Glossary is optional and, if required, should be included before the table of contents.

4.3 Section A: Key data

4.3.1 Section A1: Project data summary and Section A2: Financial summary

In order to help proposers capture the necessary data, reduce duplication of data, and minimise errors, EURAMET have created Template 5: Project Administrative Data (an Excel workbook). The data entered in Template 5 automatically populates a number of worksheets containing tables that you should copy and paste into Section A1 and Section A2 in Template 11: JNP protocol.

Pasting tables from Template 5 into Section A1 and Section A2 in Template 11: JNP protocol		
Template 5 Worksheet	**Template 11: JNP protocol Section A tables**	**Notes**
A	Section A1 Coordinator contact details	Select the right hand column inside the table and copy. Ctrl V or Paste Special as “Formatted Text”. Do not paste as “Picture”
B	Section A1 Participant details	Select the area inside the table and copy (excluding the column and row headings). Ctrl V or Paste Special as “Formatted Text”. Do not paste as “Picture”

		Please delete any empty rows in the tables. If your project does not include Linked Third Parties then “table b. Linked Third Parties” should be deleted.
C	Section A2 Financial summary	Select the area inside the table and copy (excluding the column and row headings). Ctrl V or Paste Special as “Formatted Text” those cells that include data. Do not paste as “Picture” or re-paste the column or row headings. If your proposal includes any subcontracting, include one or two sentences under the A2 table explaining what will be subcontracted and why.

4.3.2 Section A3: Work packages summary

The information should be consistent with the work packages in Section C of Template 11: JNP protocol and the “WP months data entry” worksheet in Template 5: Project Administrative Data.

If your project includes a Linked Third Party you must include the following sentence under the work packages summary table “Some of the staff working on the project at YYY are employed by the Linked Third Party NNN. NNN will provide N months of labour resource overall to this project in WPX, WPY and WPZ. This resource is included in the table above.” and you must identify the number of person months the Linked Third Party will provide to each WP.

4.4 Section B: Overview

Section B should be used to explain how your project addresses each of the 3 evaluation criteria (“Excellence”, “Impact” and “Quality and Efficiency of the Implementation”). Proposers should therefore take note of the evaluation criteria (see Section 5.1).

Please do not include any photographs in Section B. Diagrams should only be included if absolutely necessary and should be limited to one or two schematic diagrams. In addition, do not include lists of references in Section B. Lists of references should only be included in Sections E and G, as appropriate (see Sections 4.12 and 4.14).

4.5 Section B1: Excellence

4.5.1 Section B1.a: Summary of the project

This section should be aimed at a non-specialist audience and must cover the need for the project, its objectives, its key technical outputs (what it will achieve), and the wider benefits to end users and society (who will be using the outputs). The summary of the project should be a standalone and self-contained summary that can be read and understood without reading any other sections from the proposal.

The summary of the project should be no more than 3.5 pages in length and should have the following subsections with subheadings:

Subsection	Content
Overview **(50-100 words)**	This section should present a two or three sentence high-level overview of the purpose of the project. It should state a high-level overview of the project including the overall need and how the project will address this.
Need **(150-300 words)**	This section should explain why the project needs to be undertaken. It should clearly state the external needs for the network, including the needs for end users and the wider needs across Europe and internationally. Where relevant, refer to European legislation, documentary standards, technology roadmaps etc.
Objectives **(100-200 words)**	This section presents the objectives for the project. To give some context for the objectives, please begin with the overall goal of the project in one simple sentence.
Results **(≤ 1 page)**	This section should describe the expected final outputs of the project on an objective by objective basis (i.e. use each objective as a subheading). It should not contain detailed descriptions of the project’s activities.

Impact **(≤ 1 page)**	This section should describe the impact the project is expected to have and the route to impact. To do this please explain how the network and outputs of the project will be used and the benefits to end users. It should also explain how the impacts may spread to the wider community to create wider and longer-term economic, social and environmental impacts and what the impacts are expected to be. It can be based on the text from Section B2.

Please note that a preliminary Publishable Summary will be required for successful proposals and EURAMET will ideally use the summary in section B1.a for that purpose. You should therefore exclude any confidential material and SNT references from the summary. The Publishable Summary will not include a list of references, hence any key reference documents should be detailed in full in the summary.

4.5.2 Section B1.b: Objectives

This section should describe the objectives for your project and it should be approximately half a page. A numbered list is recommended for your objectives and you should indicate which work package(s) address each objective.

The description of the objectives should align with those in Section B1.a and with the SNT objectives. They may be the same as the SNT objectives, or they may be slightly revised or refocused. However, if there is a divergence from the SNT objectives, please:

- Identify any SNT objectives or parts of objectives that the proposed project does not address and explain why.
- Explain why any additional objectives (i.e. that are not part of the SNT objectives) are included.

Example B1.b: Objectives

The specific objectives are:

1. To develop a strategic research agenda for the EMN that supports EU and EURAMET priorities by addressing the grand challenges in mathematics and statistics in metrology (e.g. large-scale and multivariate data analysis, new data analytics including machine learning, mathematical modelling, uncertainty quantification for large-scale metrology and virtual experiments and simulation).
2. To develop stakeholder consultation processes for the EMN to enable it to identify the most urgent guidelines, software tools, virtual training and reference data in line with the strategic research agenda.
3. To create and implement a quality management system that includes criteria and procedures for the assessment of advanced metrology software and guidance documents which ensures that the EMN recommendations meet the highest quality levels and achieve wide use and substantial impact.

4.5.3 Section B1.c: List of deliverables

You should list your deliverables in the table provided in Template 11: JNP protocol. The deliverables should align with the project's objectives in Section B1.b and hence the SNT objectives. There should be a maximum of 10 deliverables including a mandatory deliverable for impact and a mandatory deliverable for the completion of the project's reporting.

Deliverable descriptions must provide evidence of a tangible high-level project output, such as the key output of a work package. Please remember that each deliverable should be able to be sent to EURAMET and stored, and must have been reviewed and approved by the whole consortium before being submitted to EURAMET by the coordinator.

For each deliverable you should also include the number of the activity (e.g. A1.4.5) where the deliverable is delivered to EURAMET in the first column of the deliverable table under the objective number(s).

Example B1.c: List of deliverables

Relevant objective (Activity delivering the deliverable)	Deliverable number	Deliverable description	Deliverable type	Partners (Lead in bold)	Delivery date
1 (A1.2.5)	D1	Strategic research agenda that supports EU and EURAMET priorities by addressing the grand challenges in mathematics and statistics in metrology	Strategic research agenda	**AAA**, BBB, CCC	M60
3 (A3.4.8)	D2	Documented quality management system that includes criteria and procedures for the assessment of advanced metrology software and guidance documents that ensures that the EMN recommendations meet the highest quality and achieve wide use and substantial impact	Document	**CCC**, BBB, AAA,	M36
2 (A2.1.4)	D3	Design of a stakeholder consultation process for the identification of guidelines, software tools, virtual training and reference data that address the grand challenges identified in the strategic research agenda from D1	Design	**AAA**, BBB, CCC	M24
2 (A2.4.6)	D4	Report on the initial implementation of the process in D3 including recommendations for improvements	Report	**CCC**, BBB	M56
5	D6	Examples of early uptake of project outputs by end users. Examples of contributions to new or improved international standards	Reporting documents	**CCC**, all partners	M60
n/a	D7	Delivery of all technical and financial reporting documents as required by EURAMET	Reporting documents	**BBB**, all partners	M60 + 60 days

4.5.4 Section B1.d: Need for the project

This section must explain a clear need for the project i.e. why the project is being undertaken. It should be approximately 1 page in length and should explain the background to the need for the project.

The description should follow a logical flow from the high-level needs (e.g. to contribute to mitigating climate change, improve productivity in sector X), through to the specific user needs (problems encountered in specific types of companies or public agencies) that needed to be addressed via improved measurement capabilities at NMIs/DIs.

The explanation of the need for the project should link clearly to the project's objectives and explain the need for each of them i.e. it should be clear to the reader why the project, with its particular objectives, needs to be conducted. Where relevant, you should refer to the European legislation, documentary standards, technology roadmaps etc. that need to be addressed.

If your project continues the work undertaken in a previous EMRP or EMPIR project please summarise why further work is needed in this area.

You may also include evidence of support from the "end user" community (e.g. letters of support; see Section 2), but please note that all references to letters of support will be removed during grant preparation, therefore the need should be adequately explained without requiring reference to them.

For most proposals the need for the work extends beyond the metrology community, so you should clearly identify the potential stakeholder groups. You should explain why bringing together a critical mass of European expertise, will enable progress in this area; and why a non-collaborative approach would be less successful.

4.6 Section B2: Impact

This section is made up of two impact sub-sections; sections B2.a and B2.b should provide details of the **early impacts** and the **wider economic, social and environmental impacts** that your project will contribute to. Section B2.c provides information on the data management for the project.

You should describe how your project will make a positive difference to Europe (and internationally) by addressing the needs described in Section B1.d. This should not be a statement of what your project will do, but a statement of the benefits the project will bring to those who make direct use of the project outputs (**early impact**) and how these early impacts will contribute to the wider economic and societal benefits (**wider impacts**). You should also ensure that the impact you describe can realistically be achieved by your project.

4.6.1 Section B2.a: Projected early impact on user communities

This section is mandatory and should be a maximum of 1 page. It should describe the direct effect your project will have on user communities. The early impacts described in this section should relate to the uptake, exploitation and use of project outputs by the early users of the project's outputs. These impacts will begin in the short-term, (towards the end of the project and very soon after its completion). The beneficiaries are expected to be the people and organisations in the target user community, with which the project has direct interactions, such any non-NMI/DI partners, collaborators and stakeholders.

You should describe your expected early impacts including: details of who the organisations are (specific organisations and types of organisations) that will benefit; which project outputs different types of beneficiaries will benefit from, as well as describing how you will ensure the maximum benefits are achieved.

4.6.2 Section B2.b: Projected wider impact of the project

This section should explain why your project is important and should be a maximum of 1 page. You should describe the wider (i.e. longer-term) impacts that your project will contribute to and the routes to facilitate them (i.e. the links between the early impacts and the wider impacts).

For the wider impacts, please explain the **economic, social and environmental** impact that your project will make across Europe (and internationally). Where possible quantify each of the impacts numerically. You should also provide details of who will benefit from the project, and which aspects of the project each stakeholder group will benefit from.

If your project is expected to contribute to wider impact through EC Directives, regulations and/or legislation, you should provide details of this. Finally, describe how you will ensure that the maximum benefits and impact is achieved by your project.

4.6.3 Section B2.c: Data management

For EMPIR call 2017 onwards, the Grant Agreement will contain conditions related to open access to research data. Projects that 'opt-in' will be required to prepare a Data Management Plan (DMP) which will describe the data management plans for all of the data sets that will be collected, processed or generated by the project.

Please note that even if projects 'opt-in' to having a DMP they will not be required to open up all of their research data. The DMP applies primarily to the data needed to validate the results presented in scientific publications.

The use of a DMP is obligatory for all projects that do not 'opt-out'. Projects can opt-out on the following grounds:

- Incompatibility with the Horizon 2020 obligation to protect results that are expected to be commercially or industrially exploited
- Incompatibility with the need for confidentiality in connection with security issues
- Incompatibility with rules on protecting personal data
- Incompatibility with the project's main aim
- If the project will not generate / collect any research data, or
- If there are other legitimate reasons not to provide open access to research data

Further information on DMPs is available in the EMPIR Reporting Guidelines Part – 9 Preparing data management plans and in Reporting Template 9 – Data Management Plan.

A proposal will not be evaluated more favourably if the consortium agrees to share its research data, nor will it be penalised if it opts-out.

The consortium's approach to research data management should be detailed in section B2.c for projects that both opt-in and opt-out, and should include the following issues:

- How will data be exploited and/or shared/made accessible for verification and reuse? If data cannot be made available, why?
- What standards (including data security and ethical aspects) will be applied?
- How will data be selected, managed and preserved?

You must state whether your proposal will 'opt-in' or 'opt-out' and explain why. This section should be a maximum of 1 page.

Example 1: Section B2.c: Data management (opt-in)

The project chooses to 'Opt-in' to the open access data requirement.

The consortium has chosen to opt-in as the deliverables and/or outputs from the project include publications in peer reviewed journals. Thus, for these to be disseminated as widely as possible and used by as many stakeholders as possible, the data should be freely accessible. Furthermore, the consortium intends the outputs of the project to be adopted and up taken by as many end users as possible. Therefore as the consortium includes NMIs/DIs who will generate data sets which can be considered traceable to the SI, these data sets should be available to other organisations for use in tests and validation.

The project will make its research data Findable, Accessible, Interoperable and Reusable (FAIR) in order to ensure that it is soundly managed. The consortium will produce a suitable Data Management Plan (DMP) which will describe the data management plans for all of the data sets that will be collected, processed or generated by the project. The DMP will cover the following aspects:

- the handling of research data during and after the end of the project;
- specification of the data that will be collected, processed or generated;
- the methodology and standards (including data security and ethical aspects) that will be applied;
- plans for data curation and preservation (including after the project).

An outline DMP will be created within the first month of the project and agreed by the consortium. The consortium intends prepare a first draft of the DMP for discussion at the project kick-off meeting. Each subsequent project meeting will include an agenda item on the DMP.

The consortium agrees to deposit its open access data sets in suitable repositories. These will be located by the consortium using the Registry of Research Data Repositories (http://www.re3data.org/). Possible examples include Zenodo (https://zenodo.org/), which will allow the consortium to deposit both publications and data, and the EUDAT B2SHARE tool (https://b2share.eudat.eu/) which includes a license wizard for data licence selection.

In order to follow current best practice on data management further information will be obtained by the consortium from the Digital Curation Centre (http://www.dcc.ac.uk/dmponline), ScienceMatters (https://www.sciencematters.io/) and the Research Data Alliance (http://rd-alliance.github.io/metadata-directory/). The project will also seek to follow current best practice guidance on open data such as that from the Open Data Institute (https://theodi.org/).

As a minimum, the consortium will ensure that the data selected for open access:

- can be linked to and is available in a standard, structured format (e.g. JSON, XML, ASCII or TIFF), so that it can be easily shared;
- is consistently availability over time, so that end users can reliably use it;
- is stored self-descriptively or with a link to the publication/document (e.g. identified with a DOI) that accurately describes the data format and parameters used.

The selection of data to be openly accessible will be made on a case by case basis and agreed by the consortium. This will include ethical aspects and data security such as for the protection of IP for any project outputs that are considered to be commercially exploitable. In such cases, it may be necessary to withhold all or some of the data generated. This will be decided by the relevant partner(s) and managed by the DMP, the Consortium Agreement and if appropriate the project's exploitation plan.

Example 2: Section B2.c: Data management (opt-out)

The project chooses to 'Opt-out' to the open access data requirement.

The consortium has chosen to opt-out because of incompatibility with the Horizon 2020 obligation to protect results that are expected to be commercially or industrially exploited.

The consortium believes that the protection of innovative research at an early stage or, more generally, IP protection, is a way the EU can grow and compete with non-EU economies. As the project is of fundamental nature and has the potential to lead to genuine innovation regarding novel theoretical models, experimental solutions and the design and fabrication of artificial materials, all data produced within the project should not be disclosed by default, even if it only relates to the validation of the results presented in the scientific outputs. In fact, the validation data or methods can themselves be very valuable and subject to potential IP protection.

However, all scientific publications generated within the project will be submitted to scientific journals as open access (as per EMPIR/Horizon 2020 requirements). Additionally, if required by a specific journal, or deemed useful for the broader scientific community, data obtained from the experiments or numerical computations can be made available on the publisher's website.

Furthermore, all partners agree on the importance of having a Data Management Plan (DMP), and a DMP will be maintained by the coordinator and updated as required. The consortium will produce a suitable DMP which will describe the data management plans for all of the data sets that will be collected, processed or generated by the project. The DMP will cover the following aspects:

- the handling of research data during and after the end of the project;
- specification of the data that will be collected, processed or generated;
- the methodology and standards (including data security and ethical aspects) that will be applied;
- plans for data curation and preservation (including after the project).

The DMP will be set up at the beginning of the project and agreed by the consortium. The consortium intends prepare a first draft of the DMP for discussion at the project kick-off meeting. Each subsequent project meeting will include an agenda item on the DMP.

4.7 Section B3: The quality and efficiency of the implementation

4.7.1 Section B3.a: Overview of the consortium

This section should be a maximum of 1.5 pages for proposals with 15 partners or less (up to 20 partners a maximum of 2 pages, and up to 25 partners a maximum of 2.5 pages) and should explain how the consortium brings a balance of skills and high quality experience to the project. You should explain how your consortium makes the best use of the available capabilities and if there are any duplicated skills or facilities between your partners, you must justify this. Similarly if a few partners dominate particular parts of the project this should be explained.

You must explain the contribution of all partners on a partner by partner basis, even if they have a small role in the project. Please do not name individual people or include collaborators.

4.8 Section C: Detailed project plans by work package

This section should describe the work planned to meet the objectives described in Section B1.b and to deliver the summary list of deliverables in Section B1.c.

Your proposal must contain:

- A maximum of 5 network work packages.
- 1 "Creating impact" work package (mandatory).
- 1 "Management and coordination" work package (mandatory).

PLEASE NOTE that each work package should have a clear aim, be suitably challenging, and demonstrate that the project is collaborative, therefore it should usually have a good balance of partners. In addition, unless stated, it is expected that the activities within the work packages will be carried out using the equipment available at the project partners and under their supervision.

Please do NOT include any photographs, diagrams or lists of references in Section C. Lists of references should only be included in Sections E and G, as appropriate (see Sections 4.12 and 4.14).

4.8.1 Special case of similar work in proposals

In previous Calls there have been occasions where projects addressing different SRTs or SNTs require similar work. In such cases, you should treat the work as part of your own project, but you should also identify in the relevant tasks where there is synergy with another proposal. Should both projects be selected for funding the overlapping work in each of the projects will be examined and an appropriate resolution will be reached to avoid double funding. It would therefore simplify proceedings if you design the work in such a way that the potential duplicate work could be removed with minimal changes.

4.8.2 Section C1: Network work packages

You should choose a suitable and concise title that describes the work in the work package. Then provide a brief overview of the work package, which is a maximum of half a page and includes;

- The aim of the work package,
- A brief overview of the background for the work package and tasks,
- How the tasks of the work package fit together and the task aims. PLEASE NOTE that the task aims must match those stated in each task.

4.8.3 Section C1.a: Network tasks

You should choose a suitable and concise task title that describes the work/aim of the task. Then describe the aim of the task. This should be a maximum of 2 short paragraphs ONLY.

For each task use the activity table format in Template 11: JNP protocol. Using this table, describe the activities that will be undertaken and the role of each partner in the activity. Where an activity relies on input from another activity, the text should include reference to that dependency. You should also include the end date of each activity e.g. M15, under the activity number in the first column. Activities should be scheduled so that all necessary inputs will be available in time. All partners involved in the activity should be mentioned in the activity text and listed in the appropriate column, with the lead partner in bold.

For each deliverable in Section B1.c you need to include an activity for the submission of the completed deliverable to EURAMET.

Finally, if a Linked Third Party is included in your project, they should not be mentioned in the activities. Instead, a sentence similar to "The Linked Third Party NNN will work with partner BBB on this task." should be included under the activities table.

Example 1: Network tasks

Task 3.1: XXXX
The aim of this task is to design a stakeholder consultation process for the EMN to enable it to identify the most urgent guidelines, software tools, virtual training and reference data in line with the strategic research agenda for mathematics and statistics in metrology (from Task 1.2).

Activity number	Activity description	Partners (Lead in bold)
A3.1.1 M11	CCC and AAA will analyse the use of existing guidelines and reference data that addresses the issues identified in the strategic research agenda for mathematics and statistics in metrology.	**CCC**, AAA
A3.1.2 M18	BBB will analyse the use of existing software tools and virtual training that addresses the issues identified in the strategic research agenda for mathematics and statistics in metrology.	**BBB**
A3.1.3 M22	Using input from A3.1.1 and A3.1.2, CCC, AAA and BBB will jointly prepare and distribute a draft stakeholder consultation process designed to identify the most urgent guidelines, software tools, virtual training and reference data (as identified in A3.1.1 and A3.1.2). The draft will be reviewed by all members of the EMN.	**CCC**, AAA, BBB
A3.1.4 M24	Using the draft design from A3.1.3 AAA, BBB and CCC will discuss and improve (as necessary) the draft design. Input from the Scientific Advisory Board (A2.1.2) will be used to revise and improve the design.	**AAA**, BBB, CCC
A3.1.5 M24	AAA, BBB and CCC will review the design from A3.1.4 and will send it to the coordinator. Once the design has been agreed by the consortium, the coordinator will submit it to EURAMET as **D3**: 'Design of a stakeholder consultation process for the identification of guidelines, software tools, virtual training and reference data that address the grand challenges identified in the strategic research agenda from D1.'	**AAA**, BBB, CCC

4.8.4 Section CN-1: Creating impact

This work package should include all partners in a wide range of activities to disseminate the outputs of the project and to particularly encourage their uptake by end-users. These activities should not duplicate those in the previous network work packages, but can link and use input from them.

You should ensure the work package includes adequate and appropriate links with the end-user community, as well as appropriate links with stakeholders in standards developing organisations (and their relevant committees and working groups), regulatory bodies and industrial/policy advisory committees. You should also establish a project advisory group/board or stakeholder committee, in order to support interaction with the end-user community and to ensure the project can meet their needs.

It is recommended that you structure your work package into 3 tasks:

Task N-1.1 Knowledge transfer This task should include a wide range of activities such as establishing a stakeholder committee or advisory board, establishing and maintaining a project website, producing peer-reviewed publications, good practice guides, articles in the popular press, presentations at conferences and work with standards developing organisations etc. The activity related to peer-reviewed publications should clearly indicate the target number of papers the project will produce and the number of these that will be collaborative publications. All peer-reviewed scientific publications must be open access (see section 29.2 of the Model Grant Agreement).

Task N-1.2 Training This task should include activities such as workshops or training courses organised and delivered by the project.

Task N-1.3 Uptake and exploitation This task should describe your plans to facilitate the uptake and use of the project's outputs by relevant users. This may include the development of commercial measurement services, the marketing and selling of reference materials, software etc. Where these are protected by formal intellectual property (IP) you should produce a plan for managing and exploiting the IP.

Under the activity table you should include the sentence "All IP and potential licencing/exploitation will be handled in accordance with the Grant Agreement and Consortium Agreement."

Example: WPN-1: Creating impact

Task N-1 Knowledge transfer

<table>
<tr><th>Activity number</th><th>Activity description</th><th>Partners (Lead in bold)</th></tr>
<tr><td>AN-1.1.1
M60</td><td>A project webpage will be created on BBB website with public access and a part restricted for partners only. The webpage will be regularly updated with information such as project reports, papers published by the partners, project meetings.
The part of the website with restricted access will be dedicated to exchange information and reports throughout the project. It will also include a digital archive of all outputs from the project.</td><td>BBB, all partners</td></tr>
<tr><td>AN-1.1.2
M60</td><td>The partners plan to present at least 4 papers at the following international conferences;
• XX IMEKO world congress (Republic of Korea, September 2019)
• TEMPMEKO (Autumn 2020, tbc 2021)
• Metrologie 2020 (tbc)
Further relevant conferences may be identified during the project.</td><td>CCC, all partners</td></tr>
<tr><td>AN-1.1.3
M60</td><td>The partners will submit at least 7 papers in total to peer-reviewed journals during the project (all these peer-reviewed papers are identified in activities in the network WPs). Target journals include Metrologia, International Journal of Thermophysics, Measurement Science and Technology.
The expectations are that at least 5 of the publications will be the result of a collaborative effort from partners from different countries.
The authors of the peer reviewed papers will clearly acknowledge the financial support provided through the EMPIR as required by EURAMET.</td><td>CCC, all partners</td></tr>
<tr><td>AN-1.1.4
M60</td><td>To enable other interested parties to understand the results of the project, 5 articles will be submitted to trade journals such as XXXX.</td><td>CCC, all partners</td></tr>
<tr><td>AN-1.1.5
M60</td><td>Information on the results of the project will be disseminated to a range of standards bodies and committees and feedback sought (see details below).
<table>
<tr><th>Standards Committee / Working Group</th><th>Partners involved</th><th>Likely area of impact / activities undertaken by partners related to standard / committee</th></tr>
<tr><td>IS0 TC/212 WG2</td><td>AAA</td><td>ISO TC212 'Clinical Laboratory Testing and IVDs' aims to provide guidelines on standardisation in the field of laboratory medicine and in vitro diagnostic test systems. This includes, for example, quality management, pre- and post-analytical procedures, analytical performance, laboratory safety, reference systems and quality assurance.</td></tr>
</table></td><td>CCC, all partners</td></tr>
</table>

				This project has an expert representative on ISO TC212 WG2 (reference systems) which meets biannually in May and October. AAA will input to the recently approved revision of ISO 17511 - Reference systems for in vitro diagnostics, through submission of a relevant case study to the proposed annex to the standard.	
		CEN TC/140/WG10	AAA, CCC	This CEN WG meets annually in March and it has a specific remit for the standardisation of reference method(s) for the in vitro testing of the susceptibility of bacteria, with importance in human infections, to antimicrobial agents. It also has a remit for standardisation in the field of bacteriology relating to the performance of antimicrobial susceptibility devices which are used for testing the susceptibility of bacteria to antibiotics in most medical laboratories. AAA and CCC will discuss with the DIN secretariat whether the WG could develop a new programme of standards to capture the specific guidance generated in this area by the project.	
	The representatives on the corresponding committee or WG from the partners will jointly ask the chairperson to include a point in the agenda to briefly present the outputs of the project related to the WG activities and ask for comments. Where appropriate a written report will be submitted for consideration by the committee or WG.				

Task N-1.2 Training

Activity number	Activity description	Partners (Lead in bold)
AN-1.2.1 M31	Two workshops for stakeholders will be organised and held during the project. A 0.5 day mid-term workshop will be organised and held at BBB. The workshop will be dedicated to XXXX. The target audience is XXXXX and the target number of delegates is 25. Possible stakeholder attendees will be contacted directly by e-mail and the workshop will be advertised on the project website. A second stakeholder workshop (1 day duration) will be organised and held in M30 at CCC. The workshop will be open to all XXXXX. The workshop will present the results achieved by the project but will allow time for discussion of the results with participating stakeholders. The target number of delegates is 50. Possible stakeholder attendees will be contacted directly by e-mail and the workshop will be advertised on the project website.	**BBB**, all partners
AN-1.2.2 M26	A two-day training course will be organised and held on the day preceding the second stakeholder workshop in M25, probably at CCC. The training course will be targeted at XXXX and will focus on the new methods and techniques developed in the project for use in XXXXX. The target number of delegates is 25. The training course will be publicised through the website and by e-mail.	**CCC**, all partners
AN-1.2.3 M60	A video for e-training on XXXXXX will be developed by CCC and DDD and posted on the project website foe end user use.	**CCC**, DDD

Task N-1.3 Uptake and exploitation

Activity number	Activity description	Partners (Lead in bold)
AN-1.3.1 M60	An exploitation plan will be created at the beginning of the project and reviewed and updated at least at each project meeting.	**CCC**, all partners
AN-1.3.2 M60	DDD, CCC and AAA will introduce new calibration services for XXXXXX based on the techniques developed in WP2.	**DDD,** CCC, AAA

All IP and potential licencing/exploitation will be handled in accordance with the Grant Agreement and Consortium Agreement.

4.8.5 Section CN: Management and coordination

This work package must involve all partners as each has to contribute to project reporting and should attend project meetings. It is recommended that you structure your work package into 3 tasks:

Task N.1 Project management

Task N.2 Project meetings

Task N.3 **Project reporting** The dates for the submission of reporting documents will depend upon the duration of the JNP. However, there must be 2 periods and hence 2 periodic reports. Therefore for a 60 month JNP reporting documents must be submitted at months 12, 36, 48 (+ 45 days) and 24, 60 (+ 60 days), for a 48 month JNP reporting documents must be submitted at months 12, 36 (+ 45 days) and 24, 48 (+ 60 days) and for a 36 month JNP reporting documents must be submitted at months 9, 27 (+ 45 days) and months 18 and 36 (+ 60 days).

Under the activity table you should include the sentence "All formal reporting will be in line with EURAMET's requirements and will be submitted in accordance with the Reporting Guidelines."

Example: WPN: Management and coordination

Task N.1: Project management

Activity number	Activity description	Partners (Lead in bold)
AN.1.1 M60	The project will be managed by the coordinator from AAA, who will be supported by the project management board consisting of one representative from each partner; including the leaders of each work package. The members of the project management board will guide the project, attend the project meetings, organise the progress meetings at their local institutes and call additional meetings if needed to ensure the overall project's success.	**AAA**, all partners
AN.1.2 M60	The work package leaders will report on the on-going progress to the coordinator by e-mail and telephone conferences.	**AAA**, all partners
AN.1.3 M60	The coordinator, with support from the partners, will manage the project's risks to ensure timely and effective delivery of the objectives and deliverables.	**AAA**, all partners
AN.1.4 M60	The consortium will ensure that any ethics issues identified (see Section D3) are addressed.	**AAA**, all partners

Task N.2 Project meetings

Activity number	Activity description	Partners (Lead in bold)
AN.2.1 M2	The kick-off meeting involving all partners will be held approximately one month after the start of the project, at AAA.	**AAA**, all partners
AN.2.2 M60	There will be eleven formal project meetings. These meetings include the kick-off, mid-term (around M30) and final meeting (around M60). The meetings will be held prior to reporting. The meetings will review progress and will be used to ensure partners are clear as to their role for the next period. The location of the meetings will rotate among the partners. Where possible, meetings may be held as satellite meetings to important conferences or committee meetings.	**AAA**, all partners
AN.2.3 M60	In addition, meetings of work package groups may be held whenever necessary, and will be arranged on an ad-hoc basis.	**AAA**, all partners

Task N.3 Project reporting

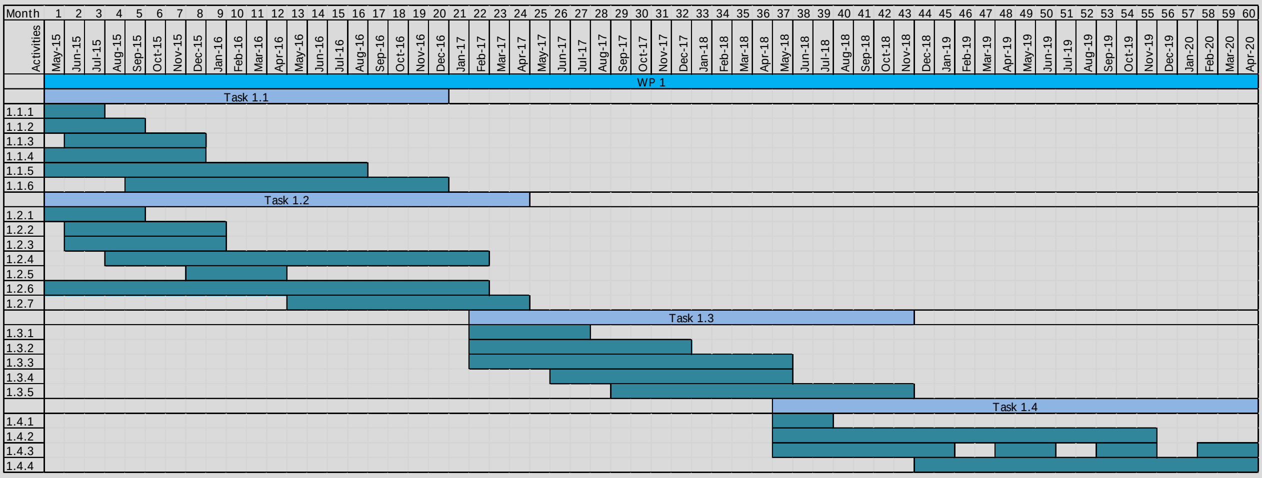
Activity number	Activity description	Partners (Lead in bold)
AN.3.1 M1	One month after the start of the project a publishable summary and data management plan (DMP) (if applicable) will be produced and submitted to EURAMET.	**AAA**, all partners
AN.3.2 M60 +60 days	Following Articles 17 and 20 of the grant agreement, information will be submitted to EURAMET, in accordance with the procedures issued by them to enable EURAMET to comply with its obligations to report on the programme to the European Commission. • Progress reports will be submitted at months 12, 36, 48 (+ 45 days), 24, 60 (+ 60 days). • Impact/Output reports and data management plans (if applicable) will be submitted at the same times. All partners will provide input to these reports and the coordinator will provide these and updated publishable summaries to EURAMET.	**AAA**, all partners
AN.3.3 M60 +60 days	Periodic Reports (including financial reports and questionnaires) will be delivered at months 24 and 60 (+ 60 days) in accordance with Article 20 of the grant agreement. All partners will provide input to these reports and the coordinator will provide these to EURAMET.	**AAA**, all partners

AN.3.4 M60 +60 days	Final Reports will be delivered at month 60 (+ 60 days) in accordance with Article 20 of the grant agreement. All partners will provide input to these reports and the coordinator will provide these to EURAMET.	**AAA**, all partners
All formal reporting will be in line with EURAMET's requirements and will be submitted in accordance with the Reporting Guidelines.		

4.9 Section CN+1: Gantt chart

The Gantt chart can be produced using MS Excel or MS Project but it must show the duration of each work package, task, and activity (by month). Please do NOT include lists of partners involved or the title for work packages or tasks.

Example: CN+2: Gantt Chart



4.10 Section D: Risks and risk mitigation

This section should be completed using the tables in Template 11: JNP protocol. You should separate your risks into 2 categories:

Section D1 **Network risks** (problems related to network tasks)

Section D2 **Management risks**

PLEASE NOTE that where a collaborator or a 'Linked Third Party' is included in your proposal you should include specific risks associated with their involvement.

Network risks should be considered on a task by task basis, although some may be grouped for identical or similar risks. For each risk, you should identify:

- What the risk is
- What is the likelihood of the risk occurring and what impact this would have on the project
- What could the consortium do to decrease the likelihood of the risk occurring (mitigation)
- What the consortium could do if despite the mitigation the risk still occurs (contingency)

Example: Section D1 network risks

Risks (description)	**Likelihood and impact of occurrence**	**Mitigation** i.e. what the consortium will do to decrease the likelihood of the risk occurring	**Contingency** i.e. what the consortium will do if despite the mitigation the risk still occurs
Task 3.1: Cannot define the use of existing guidelines, software tools, virtual training and reference data that addresses the grand	Likelihood without mitigation: Medium Impact: A lack of supporting data available for the design of the infrastructure.	The partners are very experienced in this field and will be able to define at least a basic set of existing guidelines, software tools, virtual training	A reduced amount of supporting data will be used for the design of the infrastructure.

challenges identified in the strategic research agenda for mathematics and statistics in metrology	Likelihood after mitigation: Low	and reference data that are currently in use.	If necessary the work will be re-scope of the work will be agreed with EURAMET.
Task 3.1: Lack of agreement and/or stakeholder input for the draft design for an infrastructure	Likelihood without mitigation: Low Impact: Stakeholder input cannot be used to revise the design of the infrastructure. Likelihood after mitigation: Very low	Risk is low as it is very likely that partners will be able to find a commonly agreed consensus with stakeholders. If necessary consensus voting or input from a reduced number of stakeholders will be used.	Partners CCC, AAA and BBB are all experienced in this area and have much experience of working with end-users and receiving their feedback, therefore the design without stakeholder input will be used.
Task 3.1: Not enough questionnaires are completed or the results from the questionnaires are insufficient for proper analysis	Likelihood without mitigation: Medium Impact: Questionnaire input cannot be used to design the infrastructure. Likelihood after mitigation: Low	At the start of the project the partners will identify enough stakeholders to be contacted, with the aim of ensuring that a sufficient number of responses and quality of answers are received.	Ask more stakeholders, including the Stakeholder Advisory Board. If no additional responses can be obtained the infrastructure will be designed without input from the questionnaires.

Example: Section D2 management risks

Risks (description)	**Likelihood and impact of occurrence**	**Mitigation** i.e. what the consortium will do to decrease the likelihood of the risk occurring	**Contingency** i.e. what the consortium will do if despite the mitigation the risk still occurs
Key personnel are lost to the project	Likelihood without mitigation: Medium Impact: The loss of key team members would create difficulties in delivering the project, or specific tasks or deliverables. Likelihood after mitigation: Low	None of the team members are planning to leave or retire within the project. The grouping of experts within the consortium should minimise the areas where knowledge is held by a single person. All the partners will identify backups for key workers wherever possible to reduce the overall risk to the project. Project plans will be shared within the consortium and results and methodology will be documented.	If a key member leaves the project, then the partner concerned will be responsible for appointing a replacement. However this may still lead to a delay in delivery.
Complexity of managing a large consortium	Likelihood without mitigation: Medium Impact: Failure to fully cooperate or communicate effectively within the consortium could endanger efficient delivery of the project. Likelihood after mitigation: Low	The partners are all experienced with complex multinational projects. Many have previously developed close relationships through collaborating within other European consortia. Regular communication and feedback will ensure that potential problems are identified early and that all partners are clear on their roles.	WP leaders will play an important role in flagging up potential problems to the coordinator and the project management board, who will then decide on the best course of action to take. If necessary, work will be reassigned to an alternative partner, or parts of the work re-scoped in agreement with EURAMET.
Inter-dependencies between activities and tasks are too complex	Likelihood without mitigation: Medium Impact: Tasks are delayed or it is not possible to deliver them. Likelihood after mitigation: Low	Meetings run by WP leaders have been scheduled to ensure proper sharing of knowledge. The interdependencies between tasks will be considered at meetings to ensure that this is addressed properly in the planning of the work. The WPs will be closely managed by their WP leaders to ensure that they deliver their own outputs.	In most cases, activities on the critical path have some overlap in time and thus a delay in the output of one deliverable does not necessarily cause an immediate delay in another.

Problems dealing with Intellectual Property (IP) ownership and/or exploitation might occur and could be a source of potential conflict	Likelihood without mitigation: Medium Impact: Disagreement between the partners could delay the progress of the project (in implementing the work and publishing results). Likelihood after mitigation: Low	All partners will sign the grant agreement and consortium agreement, which includes IP clauses.	Independent arbitrators will be used in the event of disagreement between partners.
The Linked Third Party does not deliver their key parts of the work	Likelihood without mitigation: Low Impact: Parts of the project may not be delivered effectively. Likelihood after mitigation: Very low	Under the terms of the grant agreement partner YYY would be liable for the relevant parts of the project if the Linked Third Party defaults.	If partner YYY also defaults on their obligations then the other partners become liable. The tasks affected would have to be reassigned or re-scoped in agreement with EURAMET.

4.11 Section D3: Ethics

EURAMET is required by the Horizon 2020 Rules for Participation to undertake an ethics review of all EMPIR projects. This will be part of the evaluation process and there are 4 possible outcomes for a proposal following the ethics review:

1. Ethics clearance (the proposal is 'ethics ready')
2. Conditional ethics clearance (clearance is subject to conditions, i.e. ethics requirements. The requirements must either be fulfilled before grant signature or become part of the grant agreement)
3. Ethics Assessment recommended (i.e. the proposal raises serious and/or complex ethics issues)
4. No ethics clearance (the proposal will not be funded)

The MSU will complete Section D3 as part of the grant preparation of successful proposals therefore please do not complete this section at the proposal stage.

Example D3: Ethics

The EMPIR Ethics Review 2018 has given JNP 18NET99 NETWORK "Ethics clearance".

Third Countries

The consortium will ensure that any partners or collaborators from Third Countries fully adhere to H2020 ethics standards, no matter where the research is carried out. The consortium will also, in the case of dual use applications, clarify whether any export licence is required for the transfer of knowledge or material.

Data protection

The consortium will ensure that all participants in training activities and meetings give a valid informed consent for the processing of personal data.

4.12 Section E: Operational capacity

EURAMET is required by the Horizon 2020 Rules for Participation to assess the Operational capacity of all partners in a proposal to deliver EMPIR projects. This will be part of the evaluation process and carried out by the referees. Section E asks for information on each partner in order to allow the referees to make their judgement on whether each partner has the necessary basic operational capacity to carry out their proposed activities.

Therefore, for each partner, you should write a description, including key roles and contributions (usually half a page per partner) and include:

- A brief curriculum vitae or description of the profile of the organisation and persons who will be primarily responsible for carrying out the proposed research;
- A description of any significant infrastructure and/or any major items of equipment, relevant to the proposed work;
- A list of up to five relevant previous projects or activities;

- A list of up to five relevant publications, and/or products, services (including widely-used datasets or software), or other relevant achievements;
- A description of any third parties that are not represented as project partners, but who will nonetheless be contributing towards the work (e.g. providing facilities, computing resources). This description is only required for third parties which supplement the infrastructure of a partner – it should NOT include collaborators.

For the proposed coordinator please also include evidence of their experience in managing similarly complex and large projects.

Please note that if your project is selected for funding this section will be deleted before the grant agreement is issued.

4.13 Section F: Potential collaborators

You should add details of any potential collaborators to the table in Template 11: JNP protocol., identifying the work packages where they plan to collaborate and their role.

Please note that if your project is selected for funding this section will be deleted before the grant agreement is issued.

4.14 Section G: References

All references, other than those identified under the individual partners in Section E, should be listed in this section. Please only include key references.

5 Evaluation

5.1 Evaluation criteria

The evaluation criteria for proposals are described in Guide 6: Evaluating EMPIR projects. They are:

1. Excellence.
2. Impact.
3. The quality and efficiency of the implementation.

Due to the limited time EURAMET has between announcing the selection of projects and contract signature, opportunities for negotiation will be limited and therefore referees will evaluate each proposal as submitted and not on its potential if certain changes were to be made.

If the referees identify shortcomings (other than minor ones and obvious clerical errors) in the proposal, they will reflect these in a lower score for the relevant criterion.

Proposals with significant weaknesses that prevent the project from achieving its objectives or with resources being seriously over-estimated will not receive above-threshold scores.

5.2 Evaluation meetings

The dates for evaluation meetings will be given on https://msu.euramet.org/. The evaluation of JNP proposals will usually take place at a review conference, although evaluation at a consensus group meeting is possible (see the table of Budget and Features for each Call for details). In the case of a review conference:

- One representative only of each consortium must attend the review conference
- The representative must present a poster and answer referees' questions
- Following this the referees will privately agree consensus marks for each proposal

5.3 Preparing a poster for the review conference

In the case where a JNP proposal is evaluated at a review conference, every consortium must prepare a poster for the event. The poster should not be laminated nor attached to a hardboard backing. The poster should:

- Have a portrait orientation and a maximum size of A0 (841 mm × 1189 mm)

- Present the key aspects of your proposal in a clear and concise manner
- Help the referees evaluate your proposal against the 3 evaluation criteria

You may also wish to include a diagram of how the work packages fit together. At past review conferences, consortia have also provided individual A4 copies of their posters to referees.

Organisations' logos should only be included on review conference posters where (i) the organisation is a project partner or (ii) the organisation has specifically supported the project i.e. through a letter of support.

6 Contractual requirements after selection

The Horizon 2020 Rules for Participation require EURAMET to sign Grant Agreements within 8 months of call close. The dates for the expected announcement of selection and the consequential time-frame for negotiation are given in the table of Budget and Features for the Call. If your proposal is selected for funding you will be invited to take part in grant preparation; this may cover any scientific, legal or financial aspects of the proposal, based on the comments of the referees or other issues.