Western Norway University of Applied Sciences

RCN applications – How to write «Excellence»

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15.11.2023

Disclaimer

Researcher Project

- “Researcher Project for Scientific Renewal (Thematic Priority Call)”
- “Researcher Project for Early Career Scientists (Thematic Priority Call)”
- “Researcher Project for Experienced Scientists (FRIPRO)”
- “Researcher Project for Early Career Scientists (FRIPRO)”
- “Three-year Researcher Project with International Mobility (FRIPRO)”

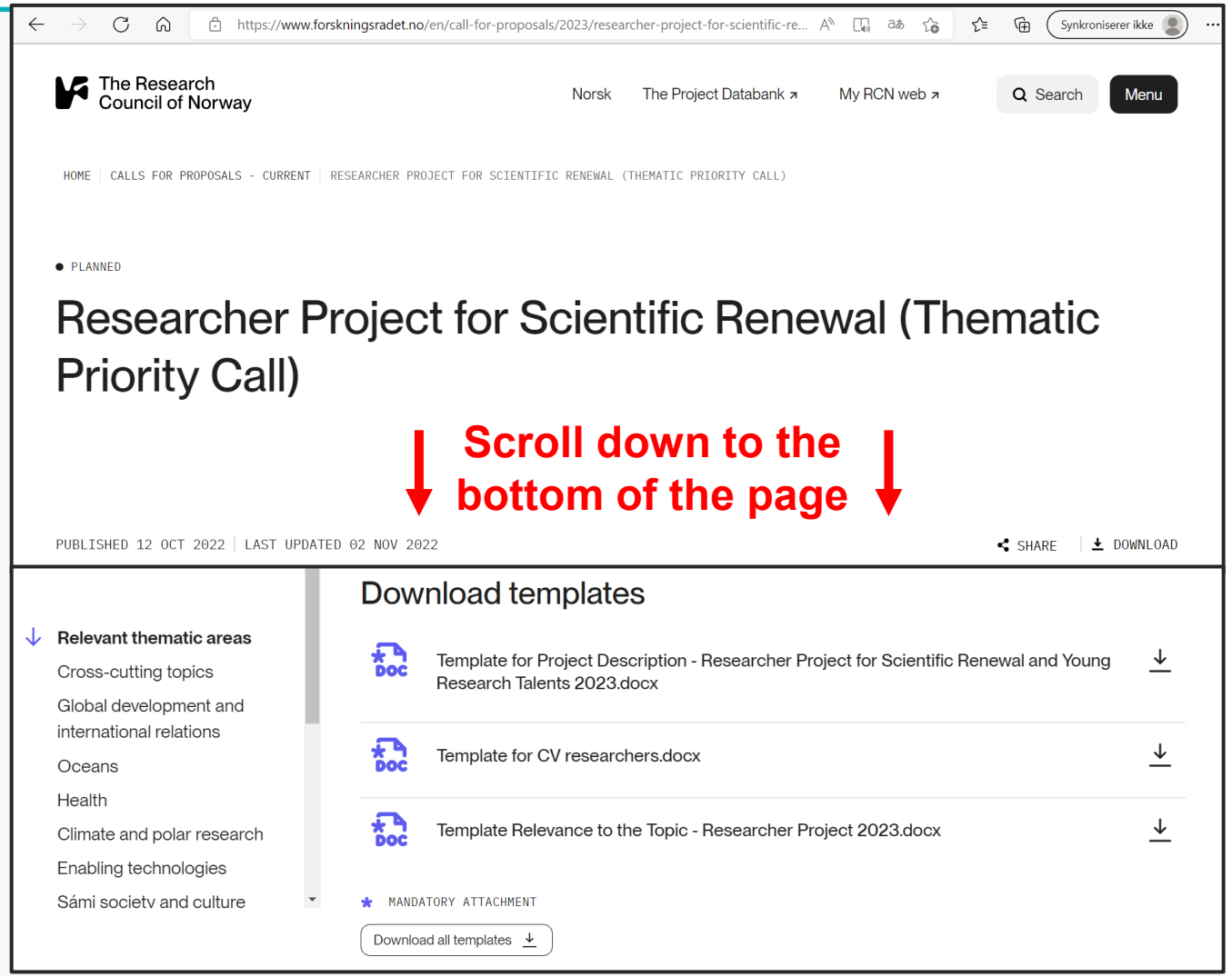
Collaborative and Knowledge-building Project

- “Collaborative Project to Meet Societal and Industry-related Challenges”

Project description template

You must use the template from the RCN!

Can be downloaded from the RCN homepage.



Layout instructions

Please follow the layout instructions (this might save you some space)!

The project description will be read by the peer reviewers. Together with the application form and CVs, the project description will be the basis for the reviewer's assessment. The proposed research should be presented clearly, using language that is also understandable to individuals with a general scientific understanding of the field. Please note that the referees in the panel where your application is reviewed do not necessarily work in precisely the same area as you.

Complete the chapters and sections in the template, following the order of the items as given in part A, and delete the guidance (part B and C). The template is designed to address all the elements of the assessment criteria. Nevertheless, the applicant is strongly advised to read the evaluation criteria and the call text carefully.

The project description cannot exceed **11 pages,** including the list of references. It is not possible to upload an attachment that exceeds this page total. The page format must be **A4 with 2 cm margins, single spacing and Arial, Calibri, Times New Roman or similar 11-point font**. You are permitted to use 9-point font for the list of references and figure captions. Links that are listed in the project description will not be included in the assessment.

1. Excellence

1.1 State of the art, knowledge needs and project objectives

1.2 Research questions and hypotheses, theoretical approach and methodology

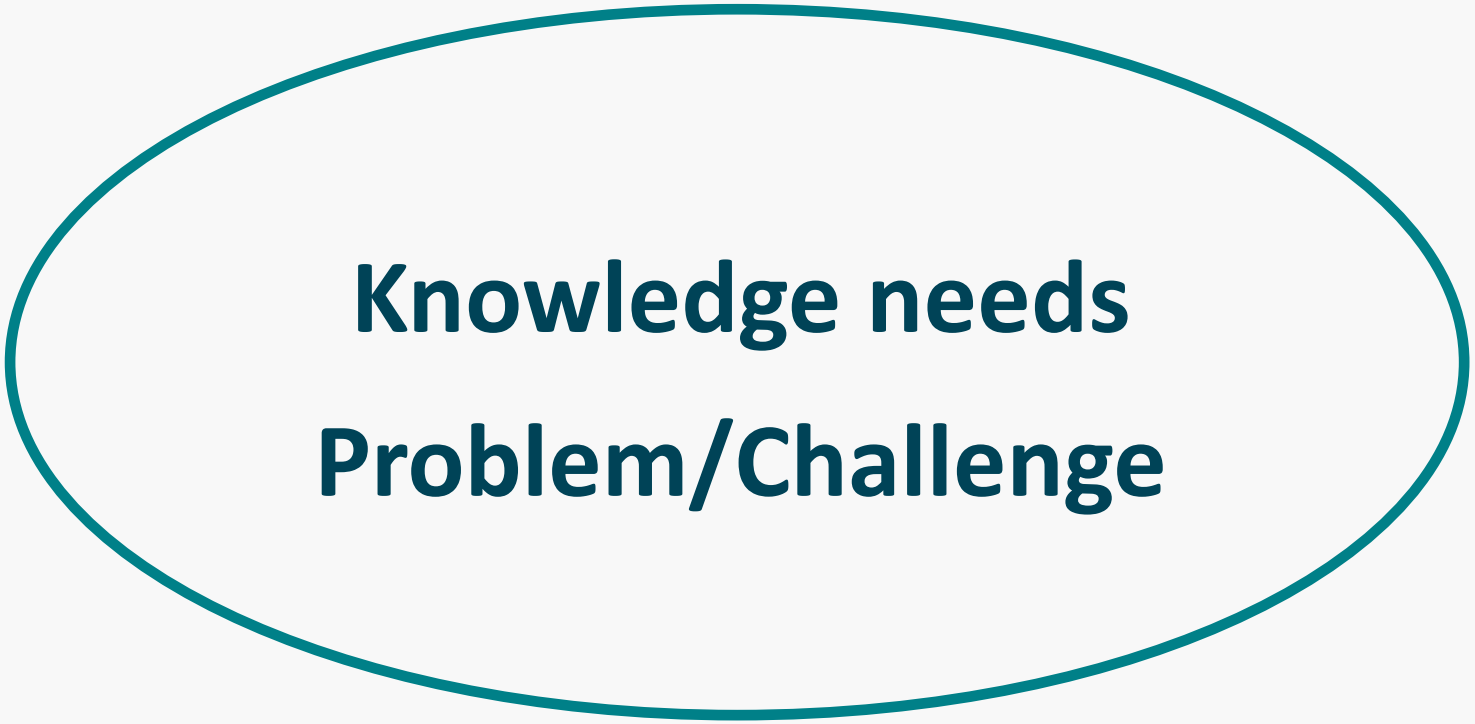
1.3 Novelty and ambition

1.1 State of the art, knowledge needs and project objectives

- **Summarise the state of the art of the research area/field the project aims to contribute to and describe the knowledge needs and challenges that justify the initiation of the project.**

- **State the overall project objectives and aims in the context of the state of the art and knowledge needs.**

Why is your research needed?



Clear description of why your research is needed!

State of the art & knowledge needs (1-1.5 pages*)

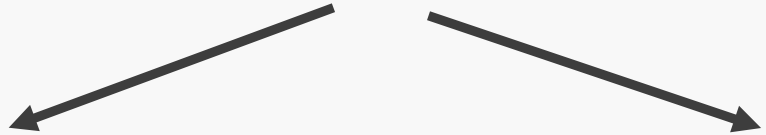
- Comparable with introduction in a scientific publication with focus on knowledge needs.
- Describe the current knowledge about the research field/discipline your project is related to based on published work (citations!).
- Stress the urgency by citing/referencing governmental/municipal reports or intergovernmental organizations/panels (mainly Collaboration projects).
- Elaborate/Highlight that your research field is important (especially in the years to come).
- There should be an international dimension (make clear that your topic/research also matters outside of Norway).
- Indicate the negative consequences of the knowledge needs and challenges (make it less abstract) and use examples.

*The number of pages is just a ball-park estimate and can vary from project to project.

Negative consequences - Example

Let`s assume your project is about potential upcoming teacher shortage in Scandinavia and for the state of the art / knowledge needs you mention that a shortage of 10,000 school teachers is expected by 2050.*

The number itself remains abstract – provide context (negative consequences)



Recruitement of unqualified staff and therefore the quality of eduction worsens.

Maybe rural areas are even more affected and a teacher shortage results in closing/merging of schools. This translates to longer ways to schools.

*This is just an example and completely made up!

Project aim(s) and objectives

- Always formulate clear project aims and objectives and present them in clear manner (numbered, bullet-point style etc.).
- Should be connected to the problem / research gap / research question you plan to solve / adress / answer.
- Aim(s) = What is the (overall) aim/goal of the project? Which problem will be solved?
- Objectives = Concrete steps necessary to achieve project aim(s). **Should describe the target of your work**, not the work itself
- For objectives use «**SMART**» acronym (S = Specific, M = Measurable, A = Achievable, R = Realistic, T = Time-bound).
- Avoid verbs/formulations that are hard to “measure” (to investigate, to gain knoweldge, to gain deeper insights, to learn about etc.)

Objectives - Example

Objectives example:

Let`s assume your project is about investigating early drop-outs at Norwegian education facilities. This may also include an assessment of early drop-outs at high-school level. Thus, an objective could be:

Too vague:

Investigate the reasons for early drop-outs at Norwegian high-schools.

Better:

Identify the main factors contributing to early drop-outs at Norwegian high-schools.

Recommendations for 1.1

- Use clear transitions (also visually) between the different parts of 1.1 (state of the art, knowledge needs, and aims & objectives).
- Words like «*However*» or introductory sentences (“*The main challenge is…*” or “*Another challenge is…*”) can help.
- Highlight important sentences visually (the main challenge, the overall aim etc.) by using «bold» font.
- Rigth at the beginning you can provide a short summery of the project with focus on the main knowledge need, overall aim, and main impact (makes it easier to understand what is about to come).

1.2 Research questions and hypotheses, theoretical approach and methodology (≈ 3.5 - 4 pages*)

*

- Describe in detail the research questions and/or hypotheses.
- Describe thoroughly the theoretical approach and/or methodology chosen to address the project objectives, research questions and/or hypotheses. Use a structure of work packages (NB Provide enough detail to enable reviewers to understand what you are proposing, how it will be carried out and whether it is feasible.).
- Give a brief account of possible risks that might endanger achievement of project objectives and describe how to manage these risks.
- If relevant, specify why an interdisciplinary approach has been chosen.
- If there are ethical issues to consider, describe how these will be dealt with.
- If relevant, describe how gender perspectives are taken into account in the research content.
- If relevant, describe how potentially undesirable effects from carrying out the project, on human and animal health, climate and the environment and society at large, can be avoided.
- If relevant, describe how stakeholder/user knowledge will be used.

*Note that these are the instructions for “Researcher Projects”. Instructions for “Collaborative Projects” slightly differ (see slide 24)

Research questions and/or hypotheses

- You have to be able to answer your research questions and verify/discard your hypotheses at the end of the project.
- Your project results/outcomes should be able to answer your research question or verify/discard your hypothesis.
- The research question/hypothesis should be connected to the knowledge needs and aims and objectives.
- Avoid to formulate your research question in a very general manner (e.g. do not write: “How can the Norwegian school system be improved?”).

Theoretical approach and/or methodology

- Add information about why you are using a certain approach/methodology (advantages, appropriateness etc.)
- The methodologies/approaches you are proposing have to contribute to achieving your aims and your objectives.
- Make clear whether you are using quantitative or qualitative methods/data (or both).
- Use Work Packages (WPs).
- **Provide details !!!** (especially for methods/tools/analyses)

Provide details - Examples

Example 1: Questionnaire

- Purpose
- Content
- Who
- Number of participants
- Where
- When
- How is it analyzed
- Qualitative and/or quantitative

Example 2: Workshop

- Purpose
- Content
- Who
- Expected outcomes
- Number of participants
- Where
- When

Example 3: Data analysis

- Purpose
- What kind of data
- How much data
- Qualitative and/or quantitative
- What kind of analysis
- Software/Program
- Significance levels (if applicable)

Work Packages (WPs)

Make sure your WPs have the following:

- A title
- A description of what is addressed in the WP (WP specific objectives/research questions)
- Tasks/activities (the concrete steps of your theoretical approach /methodology)
- Expected results/findings/outcomes (tangible = software, database etc. or intangible = new knowledge)
- Deliverables
- Milestones
- A WP leader (can be described/defined in chapter 3. “Implementation”).

Work Packages (WPs)

Group tasks/steps:

Project: Throw a party

Tasks/activities:

- List people you want to invite.
- Write invitations.
- Send invitations.
- List requirements for a location.
- Search for/book a location.
- Buy drinks
- Buy food.
- Buy decoration.
- Prepare party activities (e.g. quiz)

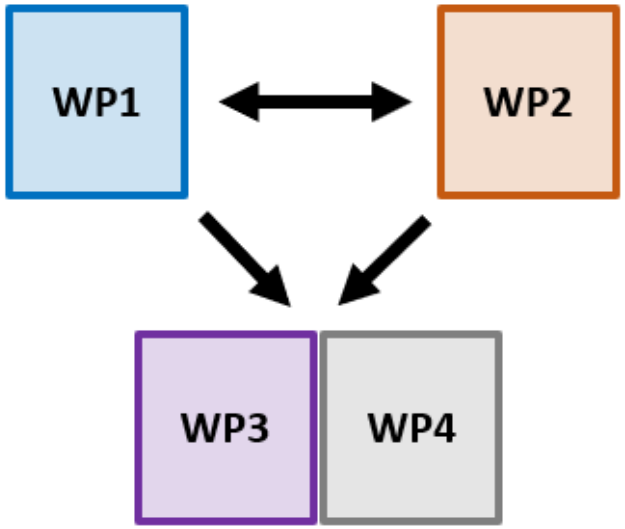
WP1 = Social arrangements

WP2 = Infrastructure

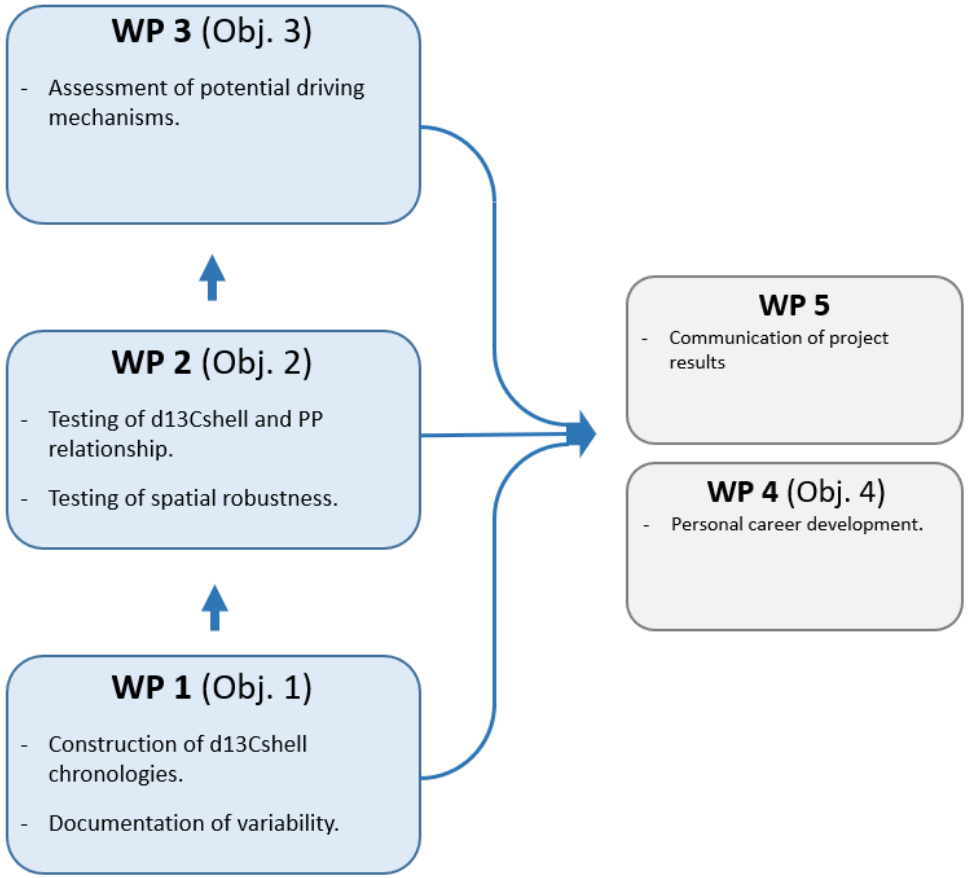
WP3 = Shopping

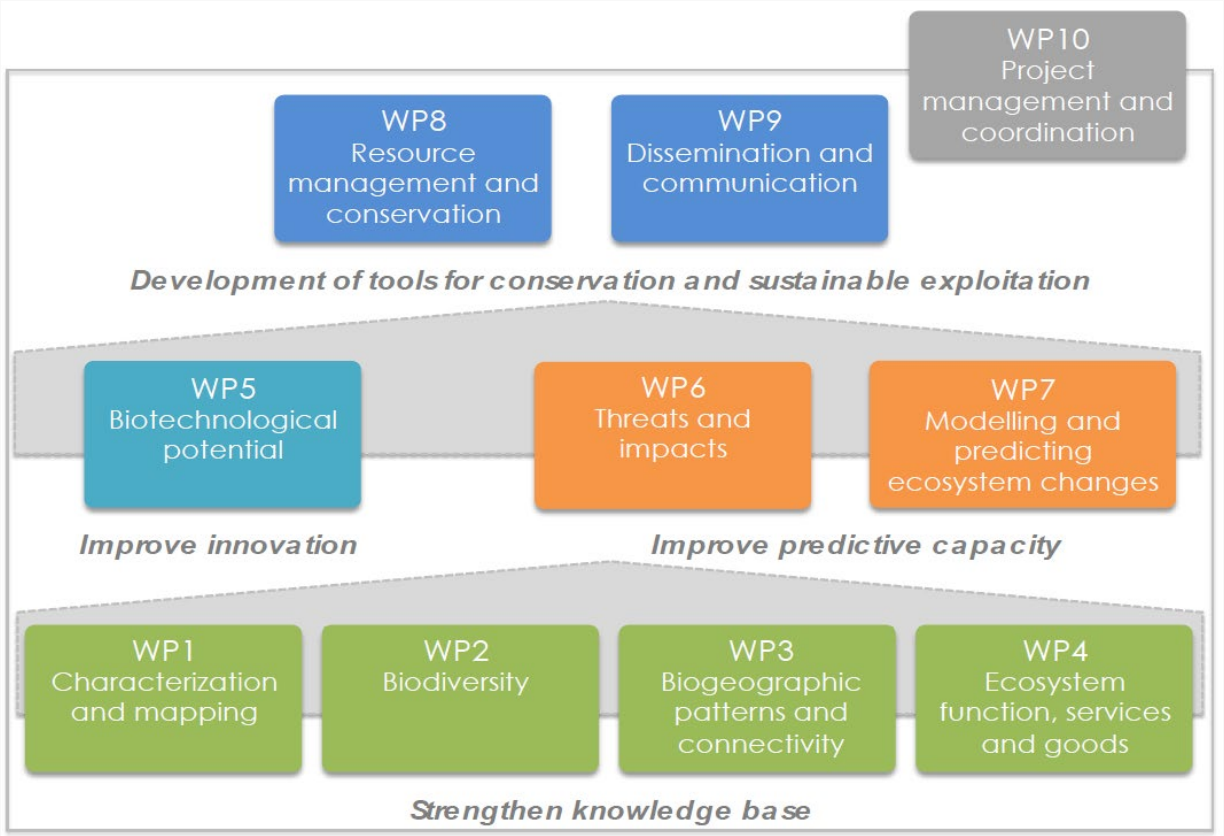
WP4 = Entertainment

Flow-chart:



Work Packages (WPs) – Flow-charts





Example from the "SponGES" project that received funding from the European Union's Horizon 2020 research and innovation programme (grant agreement No 679849). http://www.deepseasponges.org/?page_id=64 (last accessed 13.11.23).

Tasks / Deliverables / Milestones

Tasks / Deliverables / Milestones

Task/activity

- The work leading to a WP's deliverable, milestone and/or objective.
- The concrete steps of your theoretical approach/methodology.

Deliverable

- A result of the project/WP that you can touch, use or present.
- A deliverable is expected to become available at a certain point in time during the project period.
- *"Deliverable means a distinct output of the project, meaningful in terms of the project's overall objectives and constituted by a report, a document, a technical diagram, a software etc."**

Milestone

- A status that a project/WP should have at a given point in time.
- A project achievement, a decision point, or a major transition to a next step.
- A milestone is expected to be achieved at a certain point in time during the project period.
- *"Milestones means control points in the project that help to chart progress. Milestones may correspond to the completion of a key deliverable, allowing the next phase of the work to begin. They may also be needed at intermediary points so that, if problems have arisen, corrective measures can be taken. A milestone may be a critical decision point in the project…"**

* = H2020 definitions: https://ec.europa.eu/research/participants/data/ref/h2020/other/call_ptef/pt/h2020-call-pt-fch2-ia_en.pdf (last accessed 13.11.23)

Deliverables & Milestones - Examples

Deliverables / Milestones examples

Deliverable

- A dataset
- A plan/concept
- A model
- A report
- A manuscript
- A software
- A code
- A brochure/flyer
- An algorithm
- A device

It is NOT!

Better understanding, increased knowledge, deeper insights etc.

Milestone

- A point in time where a certain information about results becomes available.
- A point in time where field work / lab analysis / interviews is/are completed.
- A starting point of a new project phase (e.g., analysis of questionnaires, statistical analyses of data, next field campaign etc.)
- A point in time where a certain tool is deployed.
- A point in time where a certain technology becomes available.

Tasks (T) / Deliverables (D) / Milestones (M) - Labelling

WP1

T1.1: To conduct…

T1.2: To analyze…

T1.2: To compare...

D1.1: A dataset of…

D1.2: A manual for…

M1.1: Data collection completed

M1.2: Prototype becomes available

WP2

T2.1: To synthesize…

T2.2: To calculate…

D2.1: An algorithm for…

D2.2: A database of…

M2.1: Statistical analysis completed

M2.2: Start of experimental study

WP3

T3.1: To measure…

T3.2: To test…

T3.3: To identify...

D3.1: A policy guideline for…

M3.1: Workshop carried out

M3.2: Field work completed

*

* These are just examples and do not make any sense!

Recommendations for 1.2

- Be specific and provide details!
- Make clear how your objectives are connected / correspond to your WPs (you can indicate this in the WP title).
- When starting with your “theoretical approach and/or methodology” you can provide a short overview of how the approach/methodology is structured (how many WPs, how are the WPs connected, different stages if applicable etc.).
- The tasks/activities, deliverables, and milestones should also be summarized in chapter 3. “Implementation” (Gantt chart).

1.2 Research questions and hypotheses, theoretical approach and methodology

*

- Describe in detail the research questions and/or hypotheses.
- Describe thoroughly the theoretical approach and/or methodology chosen to address the project objectives, research questions and/or hypotheses. Use a structure of work packages (NB Provide enough detail to enable reviewers to understand what you are proposing, how it will be carried out and whether it is feasible.).
- Give a brief account of possible risks that might endanger achievement of project objectives and describe how to manage these risks.
- If relevant, specify why an interdisciplinary approach has been chosen.
- If there are ethical issues to consider, describe how these will be dealt with.
- If relevant, describe how gender perspectives are taken into account in the research content.
- If relevant, describe how potentially undesirable effects from carrying out the project, on human and animal health, climate and the environment and society at large, can be avoided.
- If relevant, describe how stakeholder/user knowledge will be used.

*Note that these are the instructions for “Researcher Projects”. Instructions for “Collaborative Projects” slightly differ (see slide 24)

1.2 Research questions and hypotheses, theoretical approach and methodology

Researcher Projects:

- Give a brief account of possible risks that might endanger achievement of project objectives and describe how to manage these risks.
- If relevant, specify why an interdisciplinary approach has been chosen.
- If there are ethical issues to consider, describe how these will be dealt with.
- If relevant, describe how gender perspectives are taken into account in the research content.
- If relevant, describe how potentially undesirable effects from carrying out the project, on human and animal health, climate and the environment and society at large, can be avoided.
- **If relevant, describe how stakeholder/user knowledge will be used.**

Collaborative Projects:

- Give a brief account of possible risks that might endanger achievement of project objectives and describe how to manage these risks.
- **Describe how relevant stakeholder/user knowledge will be used.**
- If relevant, specify why an interdisciplinary approach has been chosen.
- If there are ethical issues to consider, describe how these will be dealt with.
- If relevant, describe how gender perspectives are taken into account in the research content.
- If relevant, describe how potentially undesirable effects from carrying out the project, on human and animal health, climate and the environment and society at large, can be avoided.

Risk assessment – Types of risks

Management/administrative risks:

- Delayed delivery of equipment (e.g. stuck in customs).
- Delay of necessary (formal) approvals.
- Field trips cannot be executed / must be delayed.

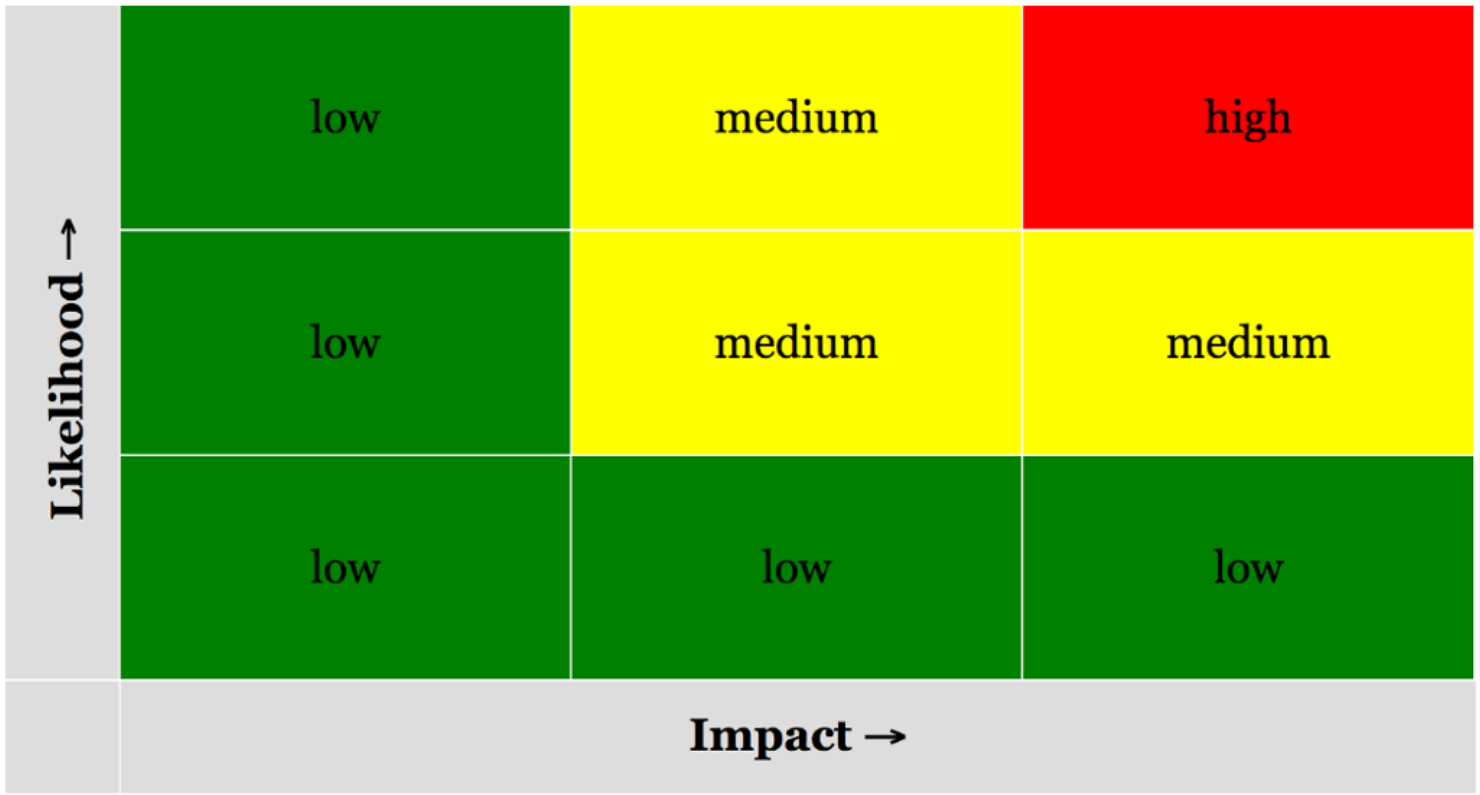
Scientific risks:

- Not enough data (e.g. fewer questionnaire participants as planned).
- Results do not support hypothesis due to high-risk/high-gain nature of proposal.
- Issues related to laboratory equipment.

Risk assessment – Risk matrix

"Give a brief account of possible risks that might endanger achievement of project objectives and describe how to manage these risks."

Risk matrix



Commonly used words for describing the likelihood/impact of a risk:

Low

Moderate / Medium

High

(Extreme)

Risk management – Mitigation & Contigency

Mitigation:

Actions to prevent risks from happening.

Contingency:

Actions performed at the time the risks occurs (reduction to reduce their negative effects).

Risk assessment - Example

Risk	Likelihood	Impact	Classification	Mitigation	Contigency
Not enough participants for interviews or questionnaires.	Medium	High	Medium risk	Schedule several interview rounds,	Reuse older results.
New model version not ready in time.	Low	Medium	Low risk	Pre-developement prior to project start.	Use the old/existing model.
Data collection not possible (field work).	High	High	High risk	Schedule several trips during different seasons.	Cry!

*

Force majeure (extraordinary events or circumstances beyond control) might sometimes be relevant for risk assessment. E.g. post Covid-19 restrictions, war, unstable political situations, weather patterns.

*** The risk assessment in the proposal can also be a written text.**

Interdisciplinary approach

"If relevant, specify why an interdisciplinary approach has been chosen."

- Elaborate why interdisciplinarity is necessary to carry out your research and to complete your project / achieve your goals.
- Highlight the advantages/potentials/strengths of your interdisciplinary approach.
- E.g. interdisciplinarity can make use of different perspectives (can add a different perspective), can make a data analysis stronger, can tackle a problem from different angles, can be more beneficiary for end-users or other target groups, can handle bigger challenges.

Ethical issues

"If there are ethical issues to consider, describe how these will be dealt with.

- Ethical issues are always relevant when you perform research on humans and/or animals (dead or alive!) or when your research involves humans (e.g. interviews & questionnaires) and/or animals (e.g. behavioral studies).
- You have to comply with national standards/regulations and international (EU) ones (in Norway: "The Norwegian Research Ethics Committees" (www.forskningsetikk.no). Mention regulations/guidelines that are relevant for your project.
- In case you work with vulnerable groups (children, people with mental disorders, drug abusers etc.) you have to make sure that you have implemented special measures to protect them.
- Consider issues related to sharing and storing of data, consent as well as responsibilities among project participants.
- Make sure that responsibilities among project participants are clear when it comes to storing/using of personal data, consent, filming/recording. This can also be elaborated in the "Implementation" chapter.
- For more information check HVL´s homepage (https://www.hvl.no/forsking/forskingsetikk/).

Ethical issues – Artificial Intelligence (AI)

"If there are ethical issues to consider, describe how these will be dealt with.

It is encouraged to use/apply AI in research projects. If you do, please add a short description of:

- What kind of AI are you using.
- What do you use AI for.
- Whether the AI can harm individuals, certain groups or the society at large. If so, what are your mitigation measures?

Gender perspectives / Gender dimensions

"If relevant, describe how gender perspectives are taken into account in the research content."

- **NOT to be confused with "gender balance" or "gender equality" in research!** (e.g. how many women are part of the project, female applicants are prioritized when equally qualified, career opportunities). You may include this in the "Implementation" chapter.
- Gender perspectives are related to your topic, research design, and target groups and not to the people working on the project.

"Gender dimension in research means that gender is part of the research design and systematically controlled for throughout the research process without necessarily being the main focus of analysis."*

*** Korsvik, T.R. and Rustad, L.M., What is Gender Dimension in Research?, Kilden, p. 12. http://kjonnsforskning.no/sites/default/files/what_is_the_gender_dimension_roggkorsvik_kilden_genderresearch.no_.pdf (last accessed 13.11.2023)**

Gender perspectives / Gender dimensions - Examples

Example - Crash test dummies:*

For a long time crash test dummies were designed to mimic the physiology of an average adult man. Test results and research were therefore biased and resulting safety features favored man putting women at risk. Thus, there is a “gender bias” and a gender perspective is urgently required / needs to be considered.

Example – Poverty:

Women are more likely to be affected by poverty. Thus, there is a gender dimension to this topic. Questions that might be of relevance: What are the causes for this gender inequality? What are the sociocultural factors causing this?

Example – Water infrastructures:*

In many areas women/girls are in charge of activities that require water (washing, cooking etc). Acquiring water might be a difficult and time-consuming task (long walking distances, heavy lifting etc.). Thus, there is, for example, less time for them to get educated. Projects that aimed at improving water infrastructures often failed because they did not include the knowledge and expertise of these women/girls meaning a vital perspective was missing.

Worth watching:

https://www.youtube.com/watch?v=Hq4eWo30RfY&feature=youtu.be

***Examples taken from video link.**

Gender perspectives - Seminar

“Gender dimension in research projects”

Wednesday, 10.01.2024, 10:00-11:30

Trine Rogg Korsvik

Undesirable effects

"If relevant, describe how potentially undesirable effects from carrying out the project, on human and animal health, climate and the environment and society at large, can be avoided."

- This might be of particular relevance when you conduct field trips, use chemicals (especially disposal), gather floral or faunal data, build something etc.
- Describe your planned mitigation actions.
- You can also include actions that lower the carbon footprint of your project (e.g. have some meetings online). Climate-friendly research has got more attention lately.

Involvement of stakeholder/user knowledge

*"If relevant, describe how stakeholder/user knowledge will be used.**

*"Describe how relevant stakeholder/user knowledge will be used.***

- Mandatory for "Collaborative Projects". Should be described in and a part of your methodology/approach.
- You can also include it (if relevant) when you have a "Researcher Project".

***Instructions for "Researcher Projects"**
**** Instructions for "Collaborative Projects". Mandatory!**

Involvement of stakeholder/user knowledge - Seminar

“Non-academic partners in KSP and user involvement in all types of NFR projects ”

Wednesday, 29.11.2022, 10:00-11:00

Lilit Mailyan

Recommendations for 1.2

- Risk assessment, Ethical issues, Gender perspectives, Undesirable effects could be smaller sub-sections at the end of “1.2 Research questions and hypotheses, theoretical approach and methodology” with sub-headers. Try to keep the order given in the template. For example:

  1.2.1 Risk assessment

  1.2.2 Ethical issues

  1.2.3 Gender perspectives

  1.2.4 Undesirable effects

- You do not need to write much text. Try to be specific and focused.

- Try to address all points even if they are not relevant for your project (to show the reviewers that you have considered these points).

Example for “Undesirable effects”: *“We have not discovered any potentially undesirable effects from carrying out the project, on human and animal health, climate and the environment and society at large”.*

1.3 Novelty and ambition (0.5 – 1 page)

- **Describe the potential for development of new knowledge beyond the current state of the art, including significant theoretical, methodological, experimental and/or empirical advancements.**

- **Highlight any particularly novel, original or ambitious aspects of the project, e.g. in the objectives, research questions/hypotheses, approaches and/or methodology.**

1.3 Novelty and ambition

Everything that goes beyond the state of the art.

- Not everything about the project has to be novel. Elaborate all aspects that are novel and/or ambitious.
- Not only the development of new knowledge is a novelty. Your approaches and methods, for example, might be novel as well.

Other examples of novelty and ambition:

- For the first time in your field of research, (end)user knowledge or other perspectives are considered.
- For the first time, a comprehensive literature review / a comprehensive gathering of data is conducted.
- For the first time, different concepts, theories or approaches are combined
- You extend a current concept, theory or approach.

General recommendations

- Avoid disctraction.
- Use a structure (e.g. WPs and objectives) that is easy to understand.
- Follow the template (headers, numbering, layout instructions).
- Address all instructions given in the template even when they are not relevant for your project.
- Details matter (Are all abbreviations explained? Does information in the text and figures/tables match? Is color-coding consistent throughout the proposal?).

Experience/Criticism from previous applications

- Try to receive scientific input from colleagues during the drafting stage (disregarding important aspects and previous research findings will result in lower scores)
- Details are important (especially for methods)! Read the draft and just check whether you provide enough details and address all instructions in the template.
- Take the smaller sub-sections (“Risk assessment”, “Gender dimensions”, “Ethical Considerations” etc.) seriously. Reviewers usually comment on them.