# DANSKE UNIVERSITETER

UNIVERSITIES DENMARK

# Principles and recommendations for research-based collaboration and consultancy

# Contents

# Foreword

The universities' collaboration with companies, organisations and government agencies benefits all parties. Research-based collaboration and consultancy strengthens the basis for sustainable growth, welfare and development. It upgrades and enriches the universities' research and study programmes, provides new opportunities and perspectives and ensures access to facilities and data that can enhance the international impact of research.

Free and independent research is crucial for the universities' ability to provide new knowledge and insights to society and to the citizens. It is through impartial research and external collaboration with private and public clients that the universities can create value for society as a whole. It is important that there is clarity about the terms and conditions for research-based collaboration, so that the integrity and impartiality of scientific research are not compromised or questioned.

The responsibility for safeguarding the integrity and impartiality of research in external collaboration cannot be taken on by the university alone. Responsible research collaboration requires that all parties involved, both internal and external, understand and respect the importance of free and independent research and research-based consultancy, and that all parties contribute to safeguarding the impartiality of the research.

In collaboration with the Ministry of Higher Education and Science, Universities Denmark[1] have therefore drawn up these fundamental principles and recommendations that can clarify and strengthen the common understanding of conditions, roles and responsibilities in research-based collaboration and consultancy. The purpose of these principles and recommendations is to support the production, utilisation and dissemination of impartial knowledge for the benefit of the entire society.

The principles and recommendations of this paper can be usefully translated into institutional guidelines with a view toward supporting responsible practice in local environments.

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1   Universities Denmark is the organisation of the eight Danish universities to enhance their cooperation, visibility and impact.

# Reading guide

This paper outlines key principles and recommendations for good practice relevant to the universities' research-based collaboration with and consultancy for external parties.

The paper highlights a number of key principles for the universities' external collaboration. These principles are presented in Chapter 2. This is followed by a discussion of key issues and recommendations for good practice within a typical project process. These recommendations, listed in Chapter 3, are aimed specifically at the researcher, the university and the collaborating partner.

It should be noted that a number of the descriptions in this paper focus particularly on projects within research-based consultancy to public and private stakeholders. However, the basic principles and recommendations described here also apply to co-funded research projects. The different categories of cooperation are introduced in Chapter 1.
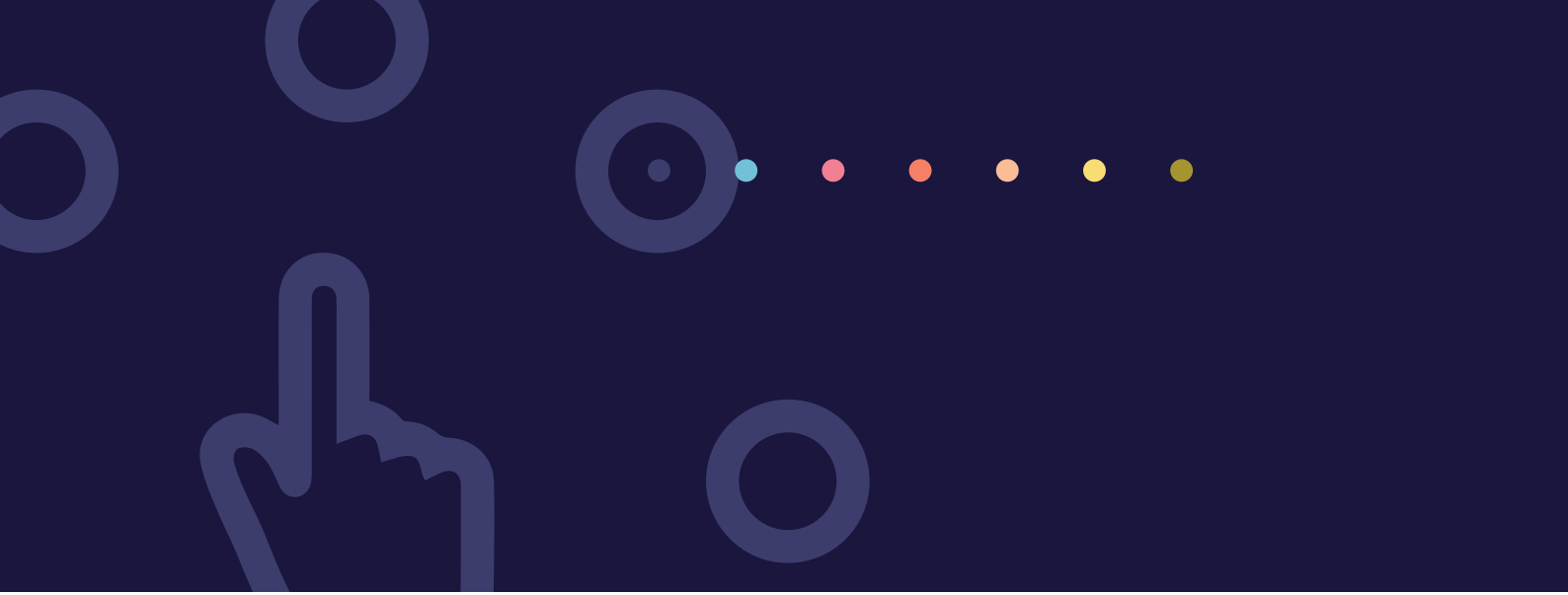
## Target group and purpose

This paper is aimed at everyone who actively participates in research-based collaboration, contract research or consultancy. The purpose is to clarify how the contracting parties can better understand their roles and responsibilities and thereby jointly ensure that the research is conducted responsibly, freely and impartially.

This paper is intended to serve as a general guideline for external collaboration – regardless of institutional affiliation, research area or research tradition. However, it should be read and interpreted in the context of the established practice within the individual research areas.

This paper is a continuation of a number of important documents and rules in the field, including the University Act, the Danish Code of Conduct for Research Integrity and the EU General Data Protection Regulation, and it is supplemented by the universities' institutional guidelines and various international rules and guidelines. The principles and recommendations of this paper should be read and interpreted in accordance with current legislation.

The principles and recommendations of the paper can be usefully developed and refined into more detailed institutional guidelines in order to support responsible practice in the local environments.

# 1 | Types of collaboration

The principles and recommendations presented in this paper apply to all university activities within the two broad types of scientific activities (research and consultancy) and the three main categories for collaboration with companies, organisations and government agencies: 1) *co-funded research,* 2) *research-based public sector-consultancy,* and 3) *commissioned research and consultancy services.*

The categories vary in relation to the nature of the collaboration and its design, but for all forms of cooperation, it is important to have a clear division of the roles and responsibilities of the various parties, and that these be specified in accordance with both the existing rules and regulations and in the actual contract.

Not all collaborative projects can be clearly placed within one of the three categories. The categories should therefore be understood as types of collaboration that can accommodate very diverse activities. These could be 1:1 collaborations, broader partnerships, donated positions, drafting of a research report, evaluations and analyses, or external financing of entire units and projects by an outside funder.

The two types of scientific activities categories, research and consultancy, must also be understood as types of services in a collaboration, although the distinction between the two is not always clear in the particular project.

The paper does not cover research projects based on donations and unconditional grants. However, the principles presented in Chapter 2 would also cover research activities of this kind as well.

Table 1 presents an overview of the three categories of collaboration covered by the principles and recommendations contained in this document.

## Table 1.
## Categories of collaboration between universities and external actors

|  | Co-funded research | Research-based public-sector consultancy | Commissioned Research and other income-generating activities |
|---|---|---|---|
| **The nature of the project** | Co-funded research is a collaboration between the university and at least one external party. The parties jointly define the scope of the collaboration project and both con-tribute to its completion.<br><br>The category covers a wide range of activities of research interest to the university. | Research-based public-sector consultancy is a generic term for various research, advisory, contingency and monitoring services performed by the university at the request of public authorities. | The universities can carry out income-generating activities within domains that are natural offshoots of the university's general activities.<br><br>The activities may include contract research, development tasks and research-based consultancy for both private companies and public-sector organisations. |
| **Financing** | Both the university and the partner contribute to the financing of the project's costs, such that the project is co-funded. Contributions may also take the form of in-kind services.<br><br>Co-funded research may also contain funding from an external donor. | Tasks related to research-based public-sector consultancy are often carried out within a framework agreement with a grant or as an add-on to an existing framework agreement. | For these activities, the price of the individual service must be determined in such a way that there is no distortion of competition with other private or public-sector competitors, and that the university's total costs are covered by the client. |
| **Publication*** | The university's research results can be published freely. | The university's research results can be published freely. The research and consultancy 'products' can be published immediately after submission to the client, unless otherwise stipulated in the contract. | In special cases, con-fidentiality stipulations may be applied to research findings. However, any confidentiality agreement must be well-founded and clearly stated in the contract and agreed upon prior to the start of the project. |

\* University staff is subject to the general rules of confidentiality as they are described in the Danish public administration act.

# 2 | Key principles for external cooperation

The general principles and norms for responsible research conduct and research integrity apply to all types of research-based collaboration and consultancy.

The Danish Code of Conduct for Research Integrity highlights three fundamental principles that should permeate all phases of research: honesty, transparency and responsibility. These principles should also apply to external collaboration.

In addition, there are three additional principles that should be in focus when one is involved in research-based collaboration and consultancy with external parties: freedom of research, impartiality and non-interference (or 'arm's length').

Common to these principles is that they support the credibility and value creation in the universities' knowledge base, so that research-based collaboration and consultancy can benefit society as a whole.

## Freedom of scientific research

Freedom to pursue research according to scientific principles is a fundamental pre-requisite for the university's activities and for the independence and legitimacy of researchers and research. According to section 2 (2) of the University Act, the university enjoys freedom of research, and the university is obliged to safeguard this freedom of research and scientific ethics for both the university as a whole and for the individual researcher.

The researchers have freedom of research within the framework of the university's established research strategy with respect to section 14 (6) of the University Act. The individual researcher has the right to freely define their research problems, select and develop theories, collect empirical data, apply relevant methods and present hypotheses, findings and conclusions publicly. In special cases, agreements may be concluded regarding the confidentiality of individual research results in the case of commissioned research. Any confidentiality issues, however, must be made explicit and be well-founded in the contract with the external party.

External collaboration must necessarily be based on an initial clarification of the purpose of the cooperation and the problems to be studied or assessed. This clarification process must be carried out in dialogue between the parties. The researcher is thereafter responsible for

making decisions about the organisation, implementation and conclusions of the research or consultancy project, including the choice of methodology and analytical strategy, for delimitations of the study and eventual options.

In certain cases, there may be fixed protocols and standards, which must be complied with in order for any results to be useful in a national or international context. However, the researcher must always be able to vouch for the choice of methodology to comply with scientific standards for the production, synthesis and analysis of research-based evidence.

## Impartiality

It is a key principle that the Danish universities conduct impartial research and consultancy. The university and the university's researchers must be independent of any special interests that might influence the researchers' choice of methodology, presentation of results or conclusions. This is a prerequisite for ensuring the value of research.

### Impartiality and conflicts of interest

A researcher must be able to carry out and disseminate research findings and knowledge to the public on a neutral and honest basis. The personal, financial or professional interests of the researcher or others who are involved must not affect the research or consultancy.

Responsible conduct of research covers the management of all potential conflicts of interest, including transparency about possible conflicts of interests. In this way, financial or other interests may be assessed by both the university's management, the collaborating partner and the outside world on the most informed basis.

Danish university researchers are covered by section 3 of the Danish Public Administration Act covering potential conflicts of interest (*habilitet*), which stipulates when an employee is disqualified due to personal or financial interests, family/personal relations or affiliation with other companies/organisations.

Individual researchers should always assess their own possible conflicts of interest and declare any potential conflicts before they enter into a collaboration with an external party. In accordance with section 6 of the Danish Public Administration Act, they must inform the management of their unit if they believe that there may be elements that might create any doubts about the researcher's impartiality. According to section 6 (2) of the Danish Public Administration Act, it is the management who decides whether a researcher must be disqualified due to possible conflict of interest.

The researcher's own attitudes, perspectives or experiences do not in themselves constitute a problem in relation to impartiality or potential conflict of interest. However, it strengthens confidence in the researcher's work and findings if the individual researcher openly declares all aspects or relationships that others might perceive as affecting the impartiality of their work.

External conditions – e.g. political priorities, external funding or the partners' need for research-based knowledge – may have an impact on the research area that is the project focus. However, the actual research process and the research results must be impartial. It must not be possible to cast doubt on the integrity and impartiality of the researcher or the research process.

In some cases, external collaboration can have a major impact on the economy and activities; for example, when a collaboration takes the form of financing entire research units or centres. All things being equal, this will have an impact on the unit or centre's choice of research themes or direction. However, these priorities must not influence the integrity of the research, its impartiality or the institution's activities in other contexts. As an institution, the university must be able to accommodate many different and often contradictory scientific paradigms and perspectives on the same issue.

## Arm's length

Respect and understanding of roles, responsibilities and decision-making authority are crucial to the arm's length principle. Arm's length can therefore be defined as a clear and unambiguous delineation of which tasks are incumbent on each party in a collaboration. This principle of non-interference is relevant when each party assumes full responsibility for carrying out their respective tasks.

The arm's length principle is crucial to ensuring the quality of the universities' research and consultancy. Respecting the principle ensures that the researcher is able to make independent decisions and can deliver impartial research and advice without any interference or consideration of the cooperating partner's financial or political interests. The arm's length principle thus strengthens the quality of and confidence in the universities' research and consultancy.

### Mechanisms that can support the arm's length principle

The arm's length principle is supported by organisational, procedural and contractual initiatives that serve to ensure that all parties involved know and respect their role in all phases of the collaboration.

The arm's length principle can be promoted by focusing on the following points prior to entering into an agreement, in the design of a possible contract and during the project itself:

- Organisational independence between the collaborating parties;
- Clear definition and acceptance of roles, responsibilities and division of tasks;
- Clarification of and respect for the decision-making authority of the involved parties;
- Agreements about and mechanisms for dealing with disagreements and conflicts;
- Clear agreements and transparency regarding the involvement of collaborating partners and third parties in the project;
- Documentation and transparency concerning decisions made during the project.

## Transparency

Transparency promotes trust. As emphasised in the Danish Code of Conduct for Research Integrity, all phases of a research or consultancy project must be subject to transparency in order to promote the credibility of scientific findings and ensure that academic considerations are consistent with the practice within the relevant research area.

This means that there should be transparency about the scientific processes and methods, about who has contributed to, commissioned and, if relevant, financed the research and/or the consultancy, as well as the declaration of possible conflicts of interests. These measures can create confidence that external interests have not compromised or affected the scientific judgements.

Good administrative practice and clear administrative processes promote transparency in relation to contract agreements and in the content of the universities' external collaboration. The university's employees are subject to standard public law rules on, for example, filing, obligations to write memoranda and impartiality. The rules on the obligation to maintain minutes means that written notes must be prepared in connection with oral conversations with external parties, in so far as the content contributes to the development and/or decision-making within the collaborative projects.

## Honesty

Honesty is another principle that is also emphasised in the Danish Code of Conduct for Research Integrity. Researchers must be honest when reporting objectives, methods, data, analyses, findings, conclusions, etc.

Honesty includes, among other things, an objective and non-selective approach to existing knowledge, and a transparent account of known scientific viewpoints and paradigms. This principle is supported by a number of international guidelines regarding diversity which describes the need to prevent scientific 'tunnel vision' and to promote the diversity of scientific perspectives and interpretations that form part of the consultancy and research activity.

In addition, honesty includes a thorough account of uncertainty and/or the strength of research-based knowledge, regardless of whether this knowledge is new and produced in connection with a specific research project, or whether it has been acquired through a synthesis or analysis of existing research-based knowledge.

## Accountability

Accountability is the third principle that is emphasised in the Danish Code of Conduct for Research Integrity. Here, it is stipulated that all parties involved should be accountable for the research that is carried out. It is therefore a joint responsibility to maintain the integrity of research in a research or consultancy process.

The research management will always stay with the university. The responsibility for project management typically rests with the principal investigator, but the other involved parties can have different roles and responsibilities during the project.

The allocation of roles and responsibilities is determined in connection with the project description, which must also clarify and describe how the partner and any third parties are to be involved during the project.

# 3 | Key issues and recommendations for collaboration

Whereas the previous chapter described the fundamental principles for research-based collaboration and consultancy, this chapter will focus on key issues that might arise and recommendations that would be relevant during a typical project process.

Each section concludes with recommendations specifically aimed at researchers, university management and partners with a view toward strengthening the understanding of roles and responsibilities during the collaboration.

The chapter therefore provides a number of recommendations for how the fundamental principles can be implemented in practice.

- Contact and clarification of possible collaboration
- Project description
- Contract
- Data collection and project implementation
- Involvement of partners and stakeholders
- Quality assurance
- Publication and communication

# Contact and clarification of possible collaboration

New avenues of collaboration can start in many ways, but prior to the start of the project, the parties should carry out a thorough assessment of mutual expectations, including assessing whether the problem is a natural continuation of the university's (or universities') purpose and academic expertise, as well as the type of collaboration that may be relevant in relation to the external party's wishes and expectations. This discussion may also involve an initial assessment of potential conflicts of interest that might influence the impartiality of the research or consultancy project.

It is important that the project be anchored institutionally in order to ensure that the management can support the academic competence and to ensure clarity about the frameworks and conditions for the collaboration. It is the university that determines which researchers should be involved in the project, taking into account research-related competencies, interdisciplinary needs and the other tasks in the portfolio.

## Recommendations for the researcher

- Together with the relevant management at the university and the partner, the researcher must take responsibility for ensuring that the cooperation follows responsible conduct of research and the principles of freedom of research, impartiality and arm's length (non-interference).
- Together with the relevant management at the university, the researcher should initiate an early alignment of mutual expectations with the potential partner about how the research can contribute to the partner's questions and needs.
- Together with the relevant management and partner, the researcher must consider potential conflicts of interest and establish mechanisms that can support the arm's length principle.
- The researcher and the relevant management must assess whether the wishes and expectations for the project are in alignment with the university's purpose and academic expertise.
- Together with the relevant management, the researcher must identify researchers who can be usefully involved in the staffing of the project.
- Together with the relevant management, the researcher must clarify quality-assurance procedures for the project.

## Recommendations for the university

- The senior management team must safeguard the principles of freedom of research, impartiality and arm's length, and must ensure that the interaction with external actors takes place in accordance with responsible research practice.
- The senior management team must ensure openness about conditions and limitations in external cooperation, as well as ensuring institutional procedures and processes that support freedom of research, impartiality and arm's length.
- Together with the researcher, the relevant management should initiate an early alignment of mutual expectations with the partner about how the research can contribute to the partner's questions and needs.
- The relevant management, together with the involved researchers and the partner, must consider potential conflicts of interest and establish mechanisms that can safeguard the arm's length principle.
- The relevant management, along with the researchers involved, must clarify whether the wishes and expectations for the project are in alignment with the university's purpose and academic expertise.
- The relevant management must consider the project's research or consultancy relevance as well as the project's finances.
- The relevant management must take responsibility for the university's staffing of the project, taking into account the academic expertise, diversity and other institutional tasks.

## Recommendations to the collaborating partner

- Together with the university and the researcher, the collaborating partner must take responsibility for ensuring that the cooperation adheres to responsible conduct of research, as well as the principles of freedom of research, impartiality and arm's length.
- Together with the university and the researcher, the collaborating partner must consider potential conflicts of interest and establish mechanisms that can support the arm's length principle.
- The collaborating partner must be clear about the tasks that are to be carried out and how the partner expects to use the result.
- The collaborating partner must respect the university's internal business procedures, and that it is the university that determines the university's staffing of the project.

# Project description

A clear project description is crucial for a good and transparent process. A clear project description also enhances the credibility and replicability of the final results.

The project description should include, among other things, the research question; project management, roles and division of responsibilities; budget and funding; schedule of deliverables; involvement of the partner and third parties; methodology and design; management of data and background knowledge; risk and quality management; commenting and approval; submission and reporting; and communication and dissemination.

Requirements for the content of the project description can to a varying extent be determined in projects funded by national or international councils and foundations.

It must be clearly stated in the project description and/or the subsequent written agreement as to how one wishes to involve the partner and any third parties during the project.

It is always the researcher who must vouch for the choice of scientific methodology and design. However, collaborating partners can provide input and advice on the choice of methodology and design, just as there can be fixed protocols or standards that must be followed in order to implement the project.

It may be useful to draw up a joint risk and quality management plan for the project. Such a plan can address questions of research ethics as well as the management of any potential conflicts of interest.

## Research question

The research question must reflect the partner's academic needs, the researcher's competencies and the available resources. The right to propose the formulation of research and consultancy questions depends on the type of project, but ultimately both parties must be able to vouch for the project in its entirety.

In co-funded research, the research question is typically an open and exploratory process that emanates from the involved researchers themselves. The parties typically delimit the question together, so that the project has a research-related interest relevant to all the involved parties. Focus is on research projects that are aligned with the university's main tasks and support the university's research and education programmes.

In commissioned research, the external client often makes the initial proposal of research questions that reflect the client's own professional interests and needs. It may be useful to allow the researchers to translate the client's desired research questions into a more suitable research question that does not place inappropriate limitations on the researchers' possible solutions to the problem or task. In addition, researchers should be given the opportunity to elucidate additional issues that they deem relevant to the problem area.

Research-based consultancy takes its point of departure in the client's needs and questions, and the joint clarification focuses on identifying and refining the question so that it meets the scientific and practical needs of the external client, based on accessible, research-based knowledge.

**Please note:** In some cases, it may be desirable to adjust the project description during the course of the project. There may be objective reasons for this, but one should be cautious about making significant changes during the project in order to ensure transparency and credibility regarding the final results. If there is a need to change the project, one should always carefully and clearly document precisely why and how the project has been adjusted. In some cases, it may be necessary to obtain new approvals from the university or other bodies.

## Recommendations for the researcher

- The researcher must vouch for the choice of research question, scientific methodology and design.
- The researcher must ensure clarity about any possibility of modifying the project during the course of the research. If the research question is redefined, changes must be thoroughly described and explained.
- The researcher must ensure clarity about the role of the collaborating partner during the project, including the opportunity to submit input and to comment on preliminary results.

- The researcher must ensure clarity about the possible involvement of third parties during the project.
- The researcher must inform management if the final project description and staffing give rise to potential conflicts of interest that could affect the impartiality of the research or consulting.

## Recommendations for the university

- The senior management team is responsible for drawing up a policy for the management of conflicts of interest, including a description of situations that constitute conflicts of interest as well as issues that the outside world might regard as potential conflicts of interest.
- Depending on the university's policies in this field, the relevant management or support function must approve the project description and consider potential conflicts of interest that might influence the impartiality of the research or consulting process.

## Recommendations for the collaborating partner

- The collaborating partner must be open and clear about the background and purpose of the desired project, as well as expectations for the project and its outputs.
- The partner must support an appropriate solution and the researcher's ability to elucidate issues relevant to the problem area within the agreed-upon budget.
- The partner must respect the researcher's responsibility to vouch for the choice of scientific methodology and design.

# Contract

The contract must ensure clarity about all agreements and important elements of the project description. The contract should also include procedures for the declaration and resolution of conflicts of interest; the handling of disagreements and conflicts; data protection and personally identifiable data; issues of confidentiality and privacy concerns; publication and communication as well as commercialisation and management of any intellectual property rights. These conditions are to a great extent described in Universities Denmark's publication: *Aftaler om forskningssamarbejde – vejen gennem den gode forhandling.*[2]

## Recommendations for the researcher

- The researcher must contact the relevant management in order to draw up a contract covering the project.
- In accordance with the institution's internal guidelines, the researcher must procure the approval and signature of relevant management.
- In accordance with the institution's internal guidelines, the researcher must ensure that the contract and all associated correspondence is properly filed and archived.

## Recommendations for the university

- The senior management team must ensure clarity about knowledge and implementation of procedures for drawing up contracts.
- The senior management team must provide support functions that can advise and assist the researcher in this respect – both for practical manners in connection with, for example, filing and in regard to compliance with rules and policies.
- The relevant management must ensure clarity about the declaration and management of conflicts of interest.
- In accordance with the institution's internal guidelines, the relevant management must approve and sign the final contract.

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2    Only available in Danish.

## Recommendations for the collaborating partner

- The partner must be in agreement with the special conditions of the universities' activities, including the conditions under which they can enter into cooperation agreements, contracts and confidentiality agreements.
- The partner must agree with the universities' obligation to publish research results, regardless of whether the results and publication are contrary to the partner's interests.

### Publication and confidentiality

In co-funded research and research-based public-sector consultancy, the research results must always be published in accordance with the applicable principles for scientific publication.

In agreements on co-funded research, the collaborating partners cannot prevent or delay scientific publishing beyond the specified agreements on short-term postponed publication with a view to assessing and ensuring any intellectual property rights that may have arisen in the project. The duration of this post-ponement should never exceed six months, and the postponement procedure itself must be clearly outlined in the contract.

Publications and deliverables drawn up in connection with research-based public-sector consultancy should generally be published at the same time as submission to the client. However, it is possible to agree on a very limited postponement, which may give the public-sector client the opportunity to prepare for the publication. The postponement must be explained in writing and must not be longer than the purpose dictates. If the client makes use of the report publicly during this period, the researcher should publish the report immediately.

In special cases, agreements on commissioned research may be subject to confidentiality regarding the specific research findings. In such cases, this must be agreed upon and justified in the contract. It is not possible to agree on confidentiality after the project has commenced simply because the results have not been those that were expected or desired.

The university is subject to the Danish Public Administration Act's provisions on confidentiality. This means that confidentiality is required for specific information only when it is necessary to keep it confidential in order to safeguard certain public or private interests, as mentioned in section 27 (1-4) of the Danish Public Administration Act.

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3   As a general rule, up to maximum seven working days, cf. a number of the universities' framework agreements regarding research-based public-sector services.

# Data collection and project implementation

The collection, storage and use of data follow general provisions and norms for responsible conduct of research, including the Danish Code of Conduct for Research Integrity, the General Data Protection Regulation and other regulations governing data management. The practice of data collection depends to a great degree on the individual field of research, and one should therefore always defer to the protocols that exist in the respective field.

Fundamentally, it is the researcher who is responsible for collecting data and implementing the project in accordance with the approved project description and contract. If the project description and contract stipulate that the partner is actively involved in the project, then the partner may participate in the data collection and execution of the research.

In such cases, full transparency must be ensured regarding how the collaborating partner will contribute to the data collection and execution of the project, including whether he or she contributes to an extent that entails co-authorship. If the partner is a co-author, they must be given the opportunity to approve the final publication or deliverable.

Collaborating partners can contribute relevant data that they might possess or with which they are familiar. However, the researcher must ensure clarity about the origins and quality of the data that is included in the project in relation to the approved problem formulation and project description. This also means that the researcher must have a complete understanding of the data that is provided by or obtained from the partner, as long as this data is to be used in the project. Confidential data may be included, but in such cases, the researcher must consider how to deal with the challenge that the confidential data cannot be verified and tested freely by other researchers.

## Recommendations for the researcher

- The researcher must ensure full transparency about how the collaborating partner has contributed to the data collection and implementation of the project.
- In accordance with the Danish Code of Conduct for Research Integrity and Universities Denmark's principles for good research communication, the researcher must ensure clarity about authorship and must specify which parts of any research output have been contributed by the collaborating partner.

## Recommendations to the university

- The university must make available data archives to the researcher, in which any data can be stored in accordance with the rules and policies that apply to research data at national and European levels.
- The university must ensure the preparation and diffusion of knowledge regarding the necessary rules regarding data processing.
- The university must provide support functions to the researcher, so that the researcher receives advice and assistance on data processing, both in practical terms and in relation to compliance with the rules and policies.
- The university must ensure knowledge of authorship rules in accordance with the Danish Code of Conduct for Research Integrity.

## Recommendations for the collaborating partner

- The collaborating partner must provide the researcher with insight into data that must be included and used in the project, including the associated methods of presentation and data protocols.
- The partner should contribute to ensuring the legal framework and the necessary permissions for the use and disclosure of data.

# Involvement of partners and stakeholders

During the course of the project, it may be relevant to involve partners and other external stakeholders in order to elucidate and refine issues and analyses, and to ensure that all relevant data and perspectives are included.

However, it is crucial to ensure transparency about the process. Therefore, in the project description and/or contract, there must be clarity about who is to be involved during the project and for what purpose. This applies, for example, to students, who have a special legal status in this connection.

If it has been agreed upon in the contract, the partner and other stakeholders can be given the opportunity to comment on a draft report or publication. It is up to the researcher to decide which comments would give rise to an eventual revision of the preliminary or final work. This is crucial in relation to the principles of freedom of research, impartiality and arm's length.

It must also be clear to the parties as well as to outsiders how the collaborating partners and external stakeholders have been included in the project, and how their involvement has influenced the work and the final results. This is primarily supported by keeping systematic records of correspondence, but the process can also be supported by using separate comment sheets that promote transparency about input and possible changes.

## Recommendations for the researcher

- The researcher must decide how to handle the comments and is responsible for ensuring that involvement and commenting do not compromise the integrity and impartiality of the research or consultancy.
- The researcher must ensure transparency about how external parties – both collaborating partners and other stakeholders – have been included in the work and must document how their input has been incorporated and re-flected in the final report or publication.

## Recommendations for the university

- The senior management team must promote transparency and clear agreements regarding the involvement of external parties in the project by establishing institutional policies and guidelines as well as providing relevant administrative and legal support.
- The relevant management must safeguard the researcher's right to and responsibility for assessing which comments should be reflected in the project and what should not be included, based on an assessment of professional and objective considerations.

## Recommendations for the collaborating partner

- The collaborating partner must respect the limitations of commenting and the researcher's right to assess which comments should be reflected in the project and what should not be included as a consequence of professional and objective considerations.
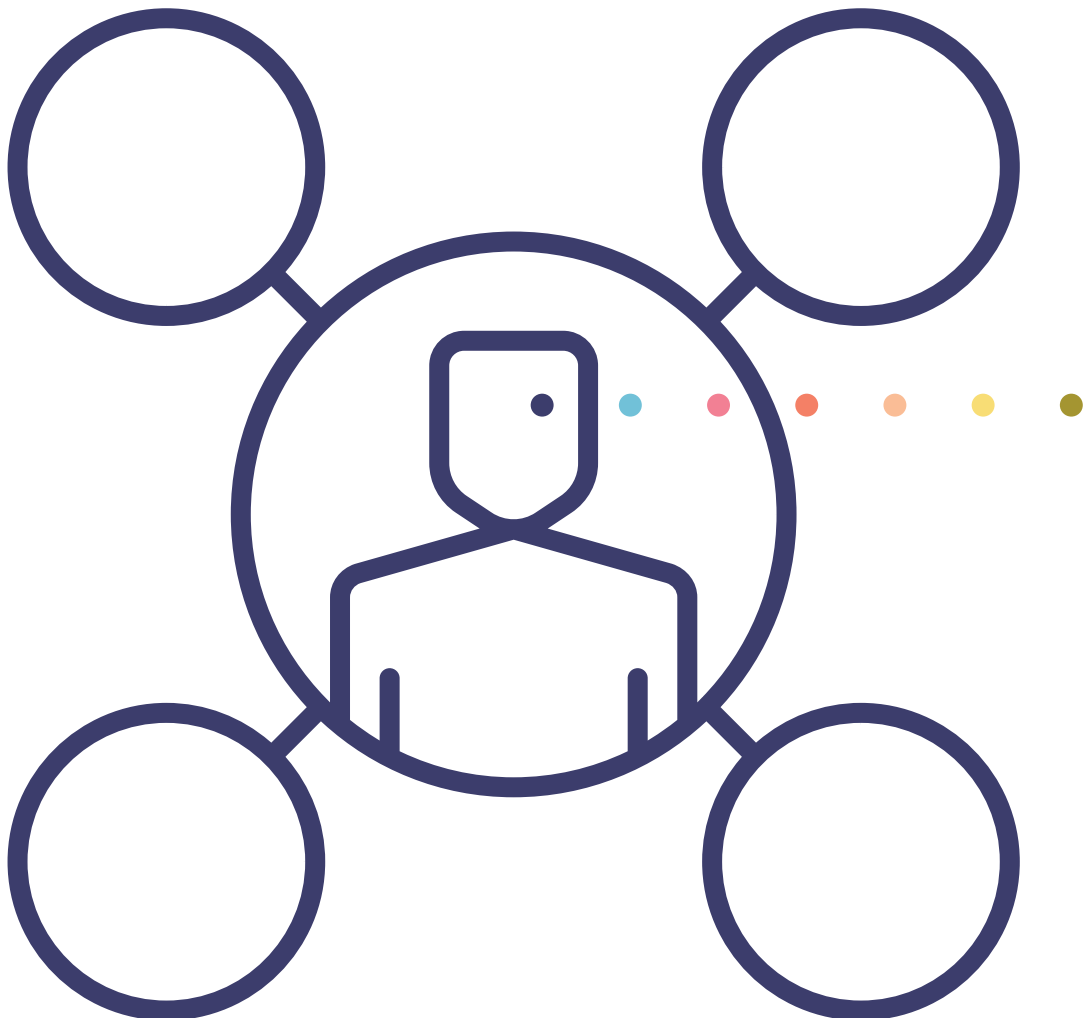
# Quality assurance

Quality is central throughout the process – from the initial contact to the completed project. This involves quality management during the project, as well as quality assurance of the research-related evidence in all of the project's components, results and deliverables. The research must always live up to existing quality standards, and as a general rule, the researcher must seek out external peer review in accordance with responsible research practice within their specific discipline.

The results must be presented without consideration to political or financial interests of the partner or other stakeholders. Here, it is appropriate to shed light on the extent of academic consensus in the area, as well as any scientific uncertainties that may influence the interpretation of data, results and conclusions. It may be a good idea for the researcher to include supplementary academic knowledge from other researchers, opposing perspectives from other research and to include minority opinions where the involved researchers can express their professional disagreement with the conclusions presented.

In certain cases, it is not possible to ensure quality assurance through publication in peer-reviewed journals. This may be the case, for example, with research-based consultancy, where the product or report is not suitable for scientific publication. Quality assurance may also be difficult in cases where the authorities have an urgent need for consultancy services and where the researcher must deliver a response within a very short period of time.

In such cases, the researcher must find other forms of quality assurance, e.g. external or internal peer assessment conducted by researchers not involved in the project. It should always be clearly stated in the consultancy agreement or in the final delivery which conditions apply for the production of the scientific advice, including any limitations that may affect the overall quality of the consultancy.

## Recommendations for the researcher

- The researcher is responsible for assuring the quality of deliverables prior to submission to the collaborating partner and for describing the conditions that may set limits on the overall quality of the consultancy product.
- The researcher is responsible for ensuring that the final deliverable or publication is based exclusively on a scientific foundation, without consideration of any potential political or financial interests of the partner or other stakeholders.

- The researcher must be clear about any scientific uncertainties that may arise when interpreting results and of the degree of scientific consensus in the field, and it may be advisable to include additional scientific knowledge.

## Recommendations for the university

- The senior management team should establish and support appropriate quality management and quality assurance systems for all research-based products, including deliverables that cannot be assessed by conventional peer review.
- The relevant management must ensure that any internal peer review is carried out by researchers with the relevant academic qualifications and without prior involvement in the project.

## Recommendations for the collaborating partner

- The partner must support the quality in their own requisition of services and in their participation in projects and deliverables.
- The partner must support and respect the researcher's responsibility for obtaining quality assurance.
- The partner must acknowledge the scientific uncertainty and loyally include this in the communication of the results.
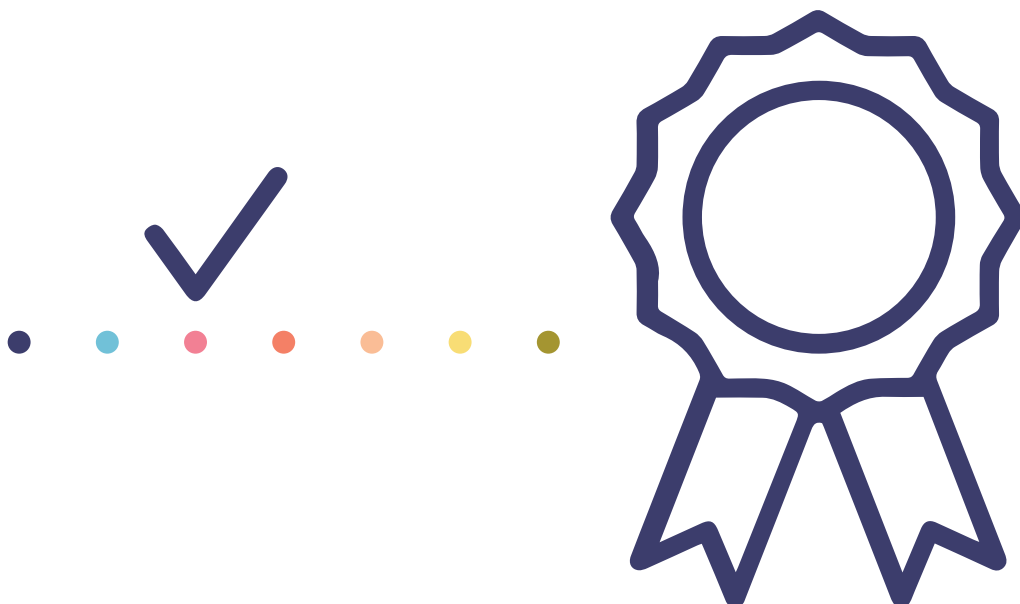
# Publication and communication

Key areas of responsibility regarding publication and communication are stipulated in the Danish Code of Conduct for Research Integrity, where it is emphasized that research results should be published in an honest, transparent and precise manner.

This topic has been addressed in Universities Denmark's Principles of Good Research Communication, which highlight seven benchmarks for research communication (Appendix 2). These benchmarks also apply to publication and dissemination in connection with research-based collaboration and consultancy with external parties.

It is important that the final publication or deliverable lists all the researchers who have contributed to the work. Similarly, it is important to ensure clarity about funding, potential conflicts of interest, authorship, quality assurance and the partners' and stakeholders' contribution to and role within the research project. This should also be pursued in any further press material or other forms of communication that come out of the project.

It may be that in the public debate, other parties make inaccurate presentations of the results or conclusions of the research or consultancy, e.g. by focusing on a subset of the total result. Following Universities Denmark's seven guiding principles for good research communication, the researcher should support a true and fair understanding of the factual conditions in both the results and the research behind them.

The outside world often views 'the university' as a single, unified actor, but internally at the individual university, there may be many opposing opinions and perspectives on a given question. It may therefore happen that a researcher's peers contest published research results or ask critical questions, just as the involved researchers may find themselves subsequently revising their position when confronted with new knowledge or new conditions.

## Recommendations for the researcher

- The researcher must declare all conditions that may contain potential conflicts of interest in relation to the research results.
- The researcher must ensure that any external contributions are clearly declared at an early stage in the final publication or report. This includes both financial contributions and other forms of involvement.

- The researcher should support an accurate understanding of the factual conditions in cases where the results or deliverables may appear imprecise in the public debate.

## Recommendations for the university

- The senior management team must ensure the credibility and impartiality of the research in the preparation of the institution's press material and in the public debate.
- The senior management team must support access to reports, articles and other forms of deliverables, and contribute actively to ensuring compliance with Universities Denmark's Principles of Good Research Communication.

## Recommendations for the collaborating partner

- The partner must safeguard the credibility and impartiality of the research and communicate results and consultancy recommendations in accordance with the factual findings in the research results or consultancy.
- The partner must respect the universities' scientific pluralism, including other researchers' freedom to criticize or contest the published research results.
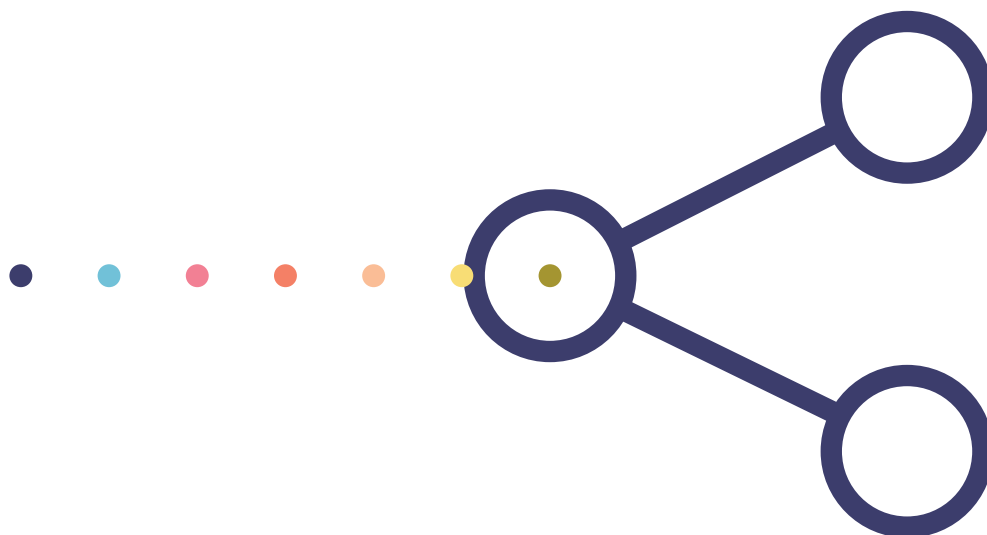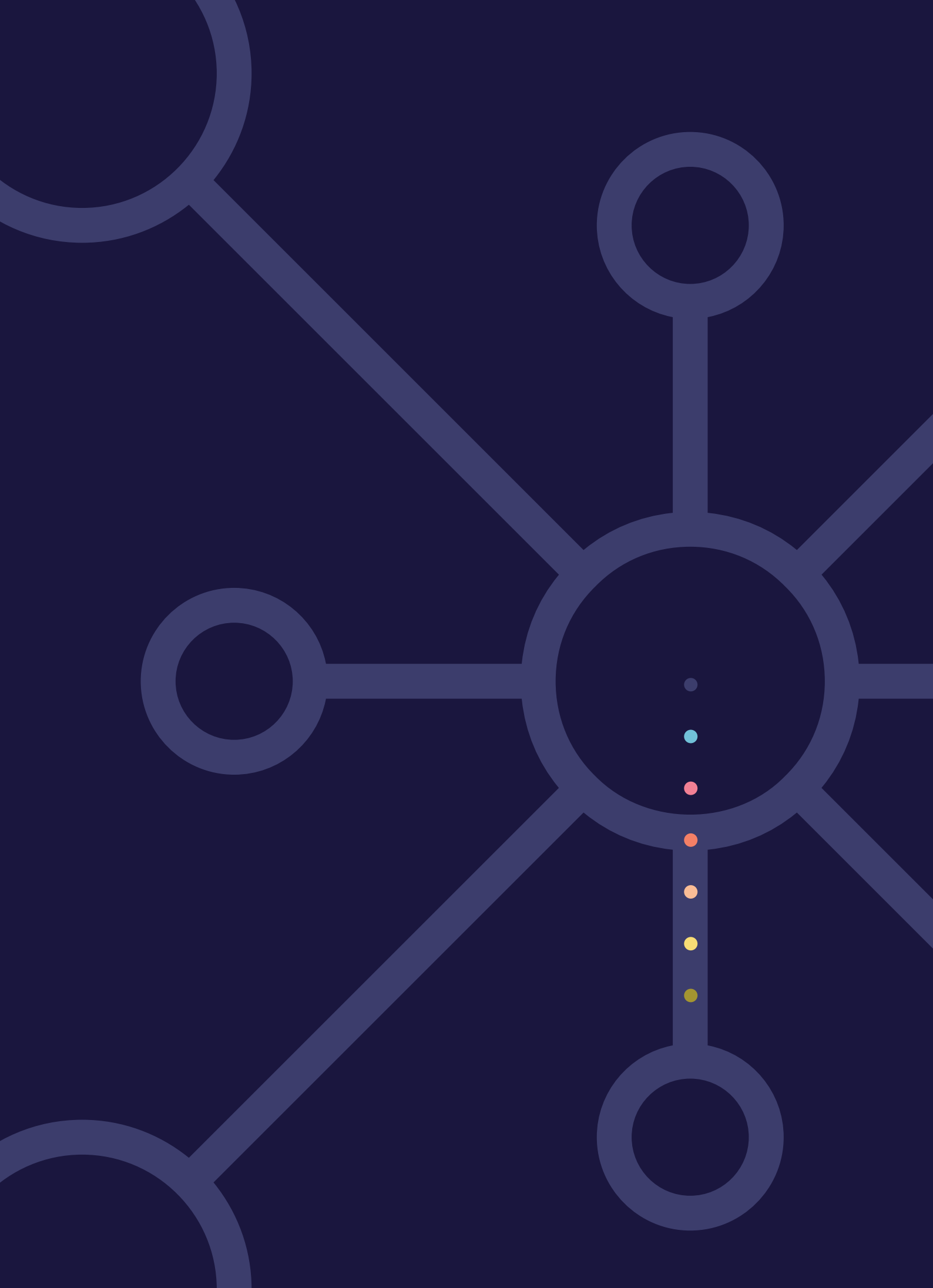
# 4 | Institutional support for good practice in external collaboration

These principles and recommendations create a basis for a common understanding of good practice in external collaboration. However, their impact depends on researchers, management and collaborating partners translating them into practice in the specific framework of collaboration in either research or research-based consultancy.

This document can form the basis for the development of institutional or discipline-specific policies, procedures or handbooks for external collaboration, in cases where there is a need for further recommendations specifically aimed at various types of collaboration or collaboration-related issues.

The principles must be supplemented by ongoing work in the institutions in relation to supporting researchers and partners' knowledge and awareness of good practice in the area of external collaboration.

In this context, the university's senior management has an institutional responsibility to establish and disseminate norms that will support good practice in the area of external collaboration. In this connection, useful initiatives and tools include:

- On-Boarding orientation for new employees
- Peer Learning/mentoring
- Recurring courses for both younger and more experienced researchers
- Annual workshops across the university
- Establishment of special quality assurance systems and quality management system, that can systematically quality assure, for example, the quality of a consultancy project and successful project implementation.
- Establishing advisory functions that can offer confidential advice to researchers on responsible research practice and freedom of research.
- Institutional-adapted model agreements and contract templates that can facilitate the conclusion of agreements for both researchers and collaborating partners.

# 5 | List of key terms

### Accountability
Following the Danish Code of Conduct for Research Integrity, all contracting parties must take on their allocated responsibility for the research conducted in order to ensure reliable research (or consultancy).

### Arm's length
Arm's length can be defined as a clear and unambiguous delineation of which tasks are incumbent on each party in a collaboration. The arm's length principle applies when each party has full responsibility for carrying out their respective tasks.

### Co-funded research
Co-funded research is a collaboration between the university and at least one external party. The parties jointly define the scope of the collaboration project and both contribute to its implementation.

### Collaborating partner
The collaborating partner is a collective term for a partner or client seeking to cooperate with university researchers. In other words, they are external parties who have a direct role in the project and fully or partially fund project activities. Collaborating partners can be public authorities, private companies, interest organisations, NGOs, private research institutions etc.

### Commissioned research
Commissioned research is a category of research-based cooperation. It may include contract research, development tasks and research-based consultancy without central research interest to the university.

### Conflicts of Interest
Conflicts of interest are situations in which personal or financial interests, family relationships or affiliation with other companies and organisations can compromise or influence the scientific assessment.

### Data
Data is all systematically collected material used for research purposes, including electronic data from registers, questionnaires or interviews, field notes, texts, secondary literature,

images, human biological materials such as blood or tissue, or material from animals, including biobanks.

## Deliverable/product

A deliverable or product is any concrete output of the collaboration, for example a scientific publication, a report or a set of recommendations. It may also include patents, databases, manuals, etc.

## External cooperation

In this paper, the concept covers binding research-based collaboration and consultancy with legal entities outside the university. This definition excludes universities' research collaboration with other Danish or international research institutions. The collaboration will often involve dedicated resources and (full or partial) external funding of activities.

## Freedom of research

The freedom to freely define research problems, select and develop theories, collect empirical data and apply relevant methodologies in order to present hypotheses, results and knowledge in scientific or public forums.

## Honesty

According to the Danish Code of Conduct for Research Integrity, researchers must be honest when reporting objectives, methods, data, analyses, results, conclusions, etc.

## Impartiality

Researchers must perform research and disseminate research based findings and knowledge to the public on a neutral and sound basis. The university and the university's researchers must be independent of interests that may influence the researchers' choice of methodology, presentation of results or conclusions.

## Project

Project is used as a collective term for a research or consultancy activity conducted with one or more external parties under a legally binding contract. The project may encompass co-funded research projects, projects within commissioned research or consultancy, as well as projects within research-based public-sector services. Not all types of collaborations will be designed as a definite project.

## Research

Research is primarily defined as systematic work intended to generate new knowledge about a given issue, problem or area.

## Researcher

The researcher refers to the university's researcher(s) involved in the project. There may also be researchers employed at the external collaborating party, but as used here 'the researcher' will always refer to university research employees responsible for the project, typically principal investigator, project manager, project steering group member or similar roles.

### Research-based consultancy

Research-based consultancy primarily involves the use of existing research-based knowledge to answer the questions at the behest of an external client, often with the purpose of supporting evidence-based decision-making.

### Research-based public-sector consultancy

Research-based public-sector consultancy is a generic term for research, consulting, contingency and evaluation services performed by the university at the behest of public authorities under a legally binding contract.

### Stakeholders

Stakeholders are those who are not directly involved in the research or consultancy project, but who might have a significant interest in the conduct or results of the research.

### Third parties

The concept covers a third party that is not a direct part of the collaboration. These may be, for example, stakeholders who need to be consulted or those with other academic competencies that need to be included in the project in some form.

### Transparency

In accordance with the Danish Code of Conduct for Research Integrity, all phases of a research or consultancy projects must be covered by transparency in order to promote the credibility of scientific reasoning and ensure that academic considerations are consistent with the practice within the relevant research area.

### The university

The university refers to the senior university management or the relevant academic management at the university. Some of the recommendations will be specifically aimed at the senior management team (Rector, prorector and, if applicable, deans), while others will be aimed at the middle management levels (e.g. head of department or centre director).

# 6 | Further reading

## Publications

*Academic freedom and university autonomy.* Parliamentary Assembly of the Council of Europe (2006).

*Aftaler om forskningssamarbejde – vejen gennem den gode forhandling.* Universities Denmark (2015).

*Betænkning om ytringsfrihedens rammer og vilkår i Danmark (kapitel 15).* Ytringsfrihedskommissionen (2020).

*Bonn Declaration on Freedom of Scientific Research.* Adopted at the Ministerial Conference on the European Research Area on 20 October 2020 in Bonn (2020).

*Danske Universiteters principper for god forskningskommunikation.* Universities Denmark (2019).

*Den gode bestilling af forskningsbaseret myndighedsrådgivning.* Miljø- og Fødevareudvalget L68 endeligt svar på spørgsmål 62 (2015-16).

*Guidance on Uncertainty Analysis in Scientific Assessments.* EFSA Scientific Committee (2018).

*Notat om aftaler mellem universiteter og ministerier om myndighedsbetjening.* Ministry of Food, Agriculture and Fisheries, Ministry of Social Affairs and the Interior,- Ministry of Environment, Ministry of Transport, Ministry of Industry, Business and Financial Affairs (2011).

*Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals (Vancouver recommendations).* International Committee of Medical Journal Editors (updated 2019).

*Recommendation concerning the Status of Higher-education Teaching Personnel.* Adopted by The General Conference of the United Nations Educational, Scientific and Cultural Organization (UNESCO), meeting in Paris on 11 November 1997, at its 29th session.

*Retningslinjer for forskningsbaseret myndighedsbetjening.* Ministry of Higher Education and Science (2011).

*Scientific Advice – to European Policy in a Complex World.* European Commission, Group of Chief Scientific Advisors – Scientific Opinion No. 7, September 2019 (2019).

*The Danish Code of Conduct for Resarch Integrity.* Ministry of Higher Education and Science (2014).

*The Magna Charta of the European Universities* (1988).

*Vejledning om offentligt ansattes ytringsfrihed.* The Ministry of Justice (2016).

## Framework agreements (Danish only)

*Rammeaftale om forskningsbaseret myndighedsbetjening – Rammeaftale indgået mellem Miljø- og Fødevareministeriet og Aarhus Universitet om forskningsbaseret myndighedsbetjening af Miljø- og Fødevareministeriet med underliggende styrelser 2020-2023*

*Rammeaftale om forskningsbaseret myndighedsbetjening – Rammeaftale indgået mellem Miljø- og Fødevareministeriet og Danmarks Tekniske Universitet om forskningsbaseret myndighedsbetjening af Miljø- og Fødevareministeriet med underliggende styrelser 2020-2023*

*Rammeaftale om forskningsbaseret myndighedsbetjening – Rammeaftale indgået mellem Miljø- og Fødevareministeriet og Københavns Universitet om forskningsbaseret myndighedsbetjening af Miljø- og Fødevareministeriet med underliggende styrelser 2018-2021*

*Rammeaftale om forskningsbaseret myndighedsbetjening – Rammeaftale mellem Trafik-, Bygge- og Boligstyrelsen og Aalborg Universitet om Forskningsbaseret myndighedsbetjening inden for det byggede miljø for 2020-2021*

## Organisations

*European Commission – Scientific Advice Mechanism*
*European Food and Safety Authority*
*European Research Council*
*European Science Foundation*
*International Network for Government Science Advice*
*OECD Global Science Forum*

# Appendix 1
# Membership composition of the Committee

These principles and recommendations were prepared by a committee established in 2020 by Universities Denmark in collaboration with the Ministry of Higher Education and Science. The Committee consisted of representatives from all eight Danish universities as well as a representative from the Ministry of Higher Education and Science.

## Members

- Rector Henrik C. Wegener, University of Copenhagen (chair)
- Associate Dean Erik Bisgaard Madsen, University of Copenhagen
- Vice-Dean Kurt Nielsen, Aarhus University
- Dean Jens Ringsmose, University of Southern Denmark
- Prorector Peter Kjær, Roskilde University
- Vice-Dean Thorkild Ærø, Aalborg University
- Prorector Rasmus Larsen, Technical University of Denmark
- Professor Svend Erik Hougaard Jensen, Copenhagen Business School
- Associate Professor Gitte Bang Stald, IT University of Copenhagen
- Director Hans Müller Pedersen, Ministry of Higher Education and Science

In drafting these principles and recommendations, an online meeting was held in October 2020 with 120 participants from universities, private business, government agencies and other stakeholders, all of whom had the opportunity to discuss and comment on a first draft.

Subsequently, a consultation process was conducted with universities, companies, government agencies and other stakeholders prior to the final conclusion of the work and approval by the Danish Rectors' Conference on 8 December 2020.

# Appendix 2
# Universities Denmark's principles of good research communication

1) **Accuracy.** When research is communicated, the content must be accurate and give the target group a correct understanding of the relevant factual conditions of both the findings and the underlying research.

(2) **Relevance.** Research communication should include all factors deemed likely to be relevant to the recipient's understanding of the research findings. Relevant information about, for example, the significance, proportions and general context of the findings contributes to providing the full picture of the research and its implications, and this information should be included to the greatest possible extent. As far as possible, reference should be made to underlying research publications and, where appropriate, to other research.

(3) **Uncertainty.** Research communication should clarify the methods and assumptions on which research findings and assessments are based and any associated uncertainties. Scientific findings are always associated with varying degrees of uncertainty related to the methods, research design, data or theoretical suppositions etc. applied. It should be made clear what these uncertainties may entail for the research findings or anything else that is communicated about the research.

(4) **Scientific status.** Research communication should explain the status of the research in question in the relevant scientific community. Is there broad backing for the findings in the scientific community, or do the findings deviate from the general consensus in the area? Are the findings preliminary, or have they been published through approved scientific publication channels, and what is the status of these channels?

(5) **Originator.** Research communication should make it clear who is the originator of the knowledge communicated. Researchers often communicate knowledge originating from other parts of the research community – i.e. knowledge they have not produced themselves. Passing on this knowledge to society plays an important role in research communication, but the originator should appear from the communication in the same way as in the research.

(6)   **Perspective.** Researchers have both the right and a duty to engage in the public debate with perspectives of an ethical, political or scientific nature. It should be clear whether a perspective falls within the researcher's own area of expertise, whether it is based on the researcher's general knowledge of a wider field or whether, for example, it is based on knowledge or an opinion which the researcher has, but which is not related to the researcher's own field of research.

(7)   **Conflicts of interest.** Research communication should describe all matters which may create or give the appearance of conflicts of interest in relation to the research or the individual researcher. These may be, but are not limited to, matters concerning the funding of the research, patent applications, royalties, business partnerships, ineligibility due to personal relations, etc.

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