

# ARC21 – Evaluation Package

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## Introduction

The following document describes the research and collaboration of defined units of assessment (UoA) at the university. The document includes indicators on research activities, research initiatives and collaboration in research in relation to academic, business, or public partners. The document also includes a qualitative self-assessment of the strengths, weaknesses, opportunities and challenges (SWOT) of the UoA. The indicators aim to describe research activities in specific areas as well as in multi-disciplinary fields. They also include elements such as a description of contributions to the research field, research environment and infrastructure, research output, impact, engagement and co-operation with and for the society (organizations within business and the public sector, non-governmental organizations and the public) and opportunities for renewal and actions for successful development.

The document is structured in following parts:

- Part A** Strategic information about the UoA and example (general description and SWOT analysis)
- Part B** Quantitative data describing the UoA (general information, research output and co-operation with society)

When applicable

- Part C** Strategic information about the third-cycle courses and study programmes
- Part D** Quantitative data describing the third-cycle courses and study programmes

The parts are complementary. Information provided in any of the parts should be used to support and deepen the information presented in the others. If a specific indicator is not commonly used in the UoA; make a comment in the report.

The ARC21 assessment is carried out in two stages. The first stage was implemented in 2021 and included the university's eight research centers and the associated subject research. The second stage will take place in 2022/23 and includes only subject research.

ARC21 assesses the period January 2017 to the end of December 2021 (the second stage), although some of the indicators cover a shorter period of time. The expert panels are asked to assess the quality of research (and collaboration) at the UoA in an international perspective based on separate instructions. In particular, the panels are asked to identify strong research activities, strong collaboration with society and potentially interesting opportunities for development. The evaluation report will not be used in comparison with other UoAs.

## Part A: Strategic information from the unit of assessment (UoA)

In this part of the evaluation package, the UoA communicates information on organization, co-operation and strategies chosen to ensure that relevant, high-quality research is conducted. The total maximum number of pages for Part A is 25.

<b>Table 0 – Name of the UoA</b>	
Name of UoA	
Coordinator of UoA	

### A1. Description of the research in the UoA

This is an overview of the current research areas, including primary missions and goals, within the UoA.

### A2. Summary of the scientific results

This qualitative summary of the most important scientific results of the UoA should reflect the breadth of the research and make reference to no more than 40 publications (Table A2.1) and other research outputs (Table A2.2). The summary should include comments to the publication and a citation profile as presented in section B1.2, including the coverage of output from staff no longer affiliated to the UoA.

<b>Table A2.1. Selected publications <sup>1)</sup></b>

<sup>1)</sup> Publications should be listed in Vancouver format. DOI =The Digital Object identifier system. Scientific publications are added in the following format: DOI: 10.1016/j. tibtech.2007.05.002. To assist the expert panel, the listed publications should be made available as PDF documents. Where the publication takes the form of a book, two copies should be provided.

Type of output	Main person responsible	Description	Date when became publicly available

<sup>1)</sup> There is a maximum number of research output submissions allowed. The number of key research outputs, whether publication or other research output, is limited to the total number of professors within a UoA multiplied by four. The amount should be four in case the UoA does not have a professor. Internationally acknowledged research outputs include new materials, products and processes, patents, software, computer code, standards documents, evidence synthesis including systematic reviews, analyses, meta-analyses, research-based clinical case studies that add new knowledge, physical artefacts such as images, materials products and processes, prototypes, digital artefacts such as datasets, software, film and other non-print media etc.

### **A3. Research environment and infrastructure**

In this section, the UoA presents the research environment that constitutes the context and development of its research.

#### **A3.1 Organization of the UoA**

A description of how the UoA is organized; how research is managed and quality-secured; a presentation of research groups; how fund-raising efforts are structured.

#### **A3.2 Personnel**

Present a general analysis of staff related to personnel tables in section B1.1. The analysis will also show how the UoA works with the provision of skills and career support to researchers.

#### **A3.3 Infrastructure, facilities and funding**

Provide a description of the infrastructure of the UoA (not the general infrastructure of the university) that is used to carry out research (such as laboratories, specific ICT support, infrastructure for fund raising, collaboration with society, etc.).

#### **A3.4 Good research practice**

Provide a description of how the UoA works to promote good research practice in all research.

#### **A3.5 Freedom of research**

Provide a description of how the UoA works to promote freedom of research in all research.

### **A3.6 The link between research and education:**

Provide a description of how the UoA works to strengthen the connection between research and education in its operations. Describe the working method in general and give some examples where the research has been linked to the education.

### **A3.7 Diversity and gender equality with regard to research conditions and implementation:**

Provide a description of how the UoA works to promote diversity in general and gender equality in particular, in research.

## **A4. The impact of engagement and co-operation with society**

In this section, the UoA describes its efforts to collaborate with society to ensure that research conducted has an impact on or for the society. The section aims to provide the basis for a more holistic and situated evaluation of research impact.

### **A4.1. Collaboration with society in the UoA**

Give an overview of the most promising current collaboration, including primary missions and goals. Describe how current collaboration affects the quality of research. Include evidence and specific details/examples relevant to the UoA rather than broad and vague statements.

### **A4.2 External collaborations and contributions that support the research within the UoA**

Describe supporting key external research collaborations and contributions from actors outside the UoA. Describe facilities and advanced equipment at partner organizations that are used by the UoA.

### **A4.3 Impact activities**

The UoA describes the most significant impacts on society during 2017-2021 (second stages).

Examples of impacts are innovations, products, designs, processes, methods, new paradigms etc. The impacts can be realized within the university or by a partner.

The description of the impact could include:

- an explanation of the nature of the impact,
- how far-reaching the impact is/who the beneficiaries are,
- how significant the benefits are.

Explain how the UoA research activity contributed or led to the impact, including:

- an outline of what the underpinning research was, when this was undertaken and by whom,
- what efforts were made by staff in the unit to exploit or apply the findings or secure the impact through its research expertise,
- acknowledgement of any other significant factors or contributions to the impact.

Provide references to:

- key research outputs evidencing the impact (list of publications, patents etc.),
- other external reports or documents, or contact details of a user that could corroborate the impact and contribution of the UoA.

## **A5. Self-assessment and future development**

In this section, the UoA should provide a self-assessment of its present opportunities for improvements. What does the UoA aim to achieve, e.g. in terms of activities within the UoA, external networking, interdisciplinary activities, joint publications and funding?

### **A5.1 Self-assessment of the UoA**

Based on the quantitative data (Part B) and the qualitative assessment above; list strengths, weaknesses, opportunities and challenges of the UoA and of the research conducted. Strengths and weaknesses refer to properties of the UoA, whereas opportunities and challenges normally refer to external factors. Propose actions that would improve the quality of the research. Consider both purely academic factors and factors related to co-operation with external partners.

The UoA must motivate their opportunities and ability for:

- recruiting qualified staff and PhD students,
- attracting external research funding,
- the international positioning of the UoA.

Apply a long-term perspective of the strategic planning of the UoA and what priorities will be made regarding future research.