

# Deliverable 2.1 Interventions to test in the pilots

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## Responsibility

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#### 1. Introduction

#### 1.1 Overview

This report is D2.1 of the OPUS project on Interventions to Test in the Pilots. It proposes a first draft framework of interventions that has been designed to support and accompany the OPUS Research Assessment Framework (RAF) which offers a comprehensive suite of indicators and metrics for research-performing organisations (RPOs) and research-funding organisations (RFOs) to assess researchers for career progression and grant applications. It will also support a specific framework of indicators and metrics to incentivise and reward Open Science career practice, the Open Science Career Assessment Matrix (OSCAM). Detailed description of the framework can be found in D3.1 Indicators/Metrics to Test in the **Pilots** which should be read in partnership with this document.

This is intended to be a draft framework which will then be tested in two ways during the OPUS project. Firstly, it will be open to wider sector consultation which we intend will be credible and robust to align and build on existing similar initiatives that are in progress for example, the Coalition for Advancing Research Assessment (COARA) and another Horizon Europe project GRASP OS. Secondly it will be tested as part of the OPUS project in our threepilot RPOs and two RFOs. Feedback will then be incorporated and considered in detail to inform the final versions of the two complementary frameworks – D2.4 Interventions for Open Science and D3.4 Indicators for Open Science.

#### 1.2 Methodology

D1.1 State of the Art on Open Science Initiatives and D1.2 State of the Art on Open Science literature provided a comprehensive basis for developing both the indicators and the interventions, highlighting key themes and essential frameworks that would form the basis for development. Alongside this a meeting with proposed pilot organisations explored further the development of the frameworks and how interventions might work practically in the pilot organisations. It also helped the project to gain an understanding of work already underway in each institution, highlighting where practice could be shared but also the different contexts, languages, approaches, and level to which open science is embedded. This informed our approach and highlighted the need to ensure that both frameworks are both wide ranging but equally able to be tailored to the needs of individual organisations. It also validated that the interventions must support the indicators.

The RAF builds on key policy developments in research assessment and Open Science as identified in deliverable D1.2 of OPUS on State-of-the-Art on an Open Science Ecosystem [1]:

- San Francisco Declaration on Research Assessment (DORA) [2]
- Leiden Manifesto for Research Metrics [3]
- Hong Kong Principles [4]



- Recommendations by the Open Science Policy Platform (OSSP) [5] [6]
- Recommendations on Science and Scientific Researchers [7] and Open Science [8]
- Agreement on Reforming Research Assessment [9]
- Research Evaluation in a Context of Open Science and Gender Equality [10]
- Conclusions on Research Assessment and Implementation of Open Science [11]
- European Framework for Research Careers including European Charter for Researchers [12]

The RAF also builds on key frameworks in research assessment and Open Science with a focus on developing new indicators and metrics and supporting Open Science as identified in D1.2:

- Researcher Development Framework (RDF) [13]
- Evaluation of Research Careers Fully Acknowledging Open Science Practices [14]
- Next-generation Metrics [15]
- Recommendations of the OSPP on Next-Generation Metrics [16]
- Mutual Learning Exercise on Open Science on Altmetrics and Rewards [17]
- Open Science Monitor [18]
- Indicator Frameworks for Fostering Open Knowledge Practices in Science and Scholarship [19]
- A Pathway towards Multidimensional Academic Careers [20]

The OPUS project decided to approach the development of the two frameworks by first establishing the indicators and metrics frameworks (RAF and OSCAM) and then in turn developing sets of interventions to support them.

#### 1.3 **Principles**

The RAF has been developed and should be implemented according to 10 guiding principles:

- 1. Provide a comprehensive framework of indicators and metrics for RPOs and RFOs
- 2. Provide a framework which applies across countries, disciplines, and organisations
- 3. Provide a framework which combines both quantitative and qualitative assessment
- 4. Focus on the assessment of individual researchers and not teams, groups, or units
- 5. Cover the full spectrum of activities by researchers and not just research activities
- 6. Offer a generic framework which allows open and non-open activities by researchers
- 7. Offer a specific framework which focuses on Open Science activities by researchers
- 8. Distinguish process, output, and outcome indicators to capture the lifecycle of activities
- 9. Formulate indicators and metrics at a high level of description for universal application



10. Leave selection, refinement and prioritisation of indicators and metrics to RPOs and



1.4 Structure

The OPUS RAF interventions are structured around the dimensions of the main RAF. There are five main assessment categories with Subcategories.

The interventions are divided by the indicator that they support and then are subdivided into the following categories:

#### OPUS FRAMEWORK

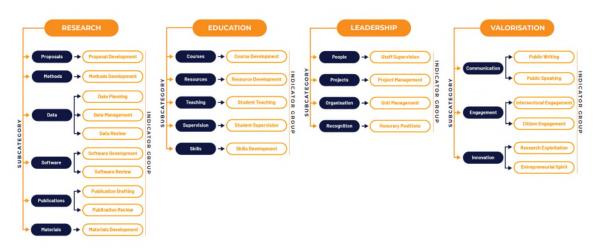


Figure 1 Categories, Subcategories and Indicator Groups of Researcher Assessment Framework

Each indicator group further consists of 3 types of indicators with associated quantitative metrics:

- **Process**: Activity which is in development or is ongoing
- Output: Clear endpoint or tangible product of a process
- Outcome: Immediate or short-term result of an output

They are supported by five categories of interventions:

- Policy Senior management support for the collection of the data and evidence required for the indicator with clear strategies and procedure to do this.
- Resource Adequate resource (financial, people and time) to support the collection of data and evidence required for the indicator.
- Repository An easily accessible and suitable repository or database to support the collection of data and evidence required for the indicator.
- Awareness Raising Researchers know how and why they should be collecting the data and evidence required in the indicator and understand the link to researcher assessment.
- **Training** Training provided to support the collection of the data and evidence required in the indicator and that researchers have the knowledge and skills to do this.



This is shown below:

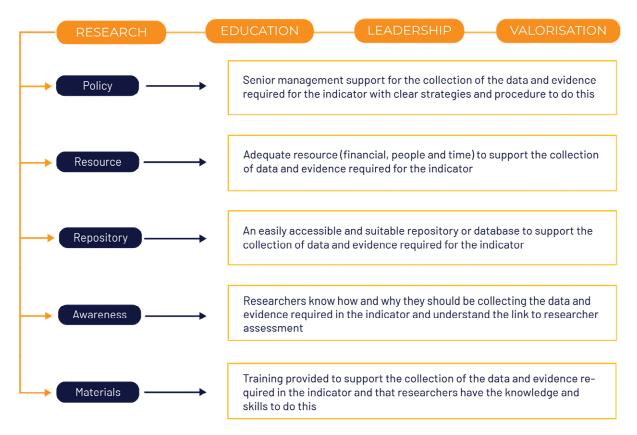


Figure 2 - Intervention Categories to Support RAF and OSCAM

#### 2. Meta-Interventions

This set of meta-interventions has been developed as an overarching set of interventions for any RPO or RFO that wishes to implement the RAF or OSCAM Framework. They are intended as a starting point for consideration and implementation at a the top level of an organisation.

Table 1 – Research Assessment Framework and Open Science Career Assessment Matrix – Meta Interventions

Category	Research Assessment Framework	Open Science Career Assessment Matrix
Policy	<ul> <li>Senior management decision and approval to use the framework at their institution.</li> <li>Senior management decision on the set of indicators they wish to use in their institution.</li> <li>Senior management develop policies and procedures that support the collection of metrics and data relevant to the indicators with clear guidelines and expectations.</li> </ul>	<ul> <li>Senior management approval and decision, involving all relevant parties to collect and make open metrics and data that are specific to the selected indicator.</li> <li>Senior management decision on which indicators they wish to use in their institution.</li> <li>Senior management develop policies and procedures that support collection of metrics and data relevant to the specific indicators and advocate making open access with clear guidelines and explanation.</li> </ul>



Resources	<ul> <li>Allow researchers time (and supporting budget) to record the relevant metrics and upload the relevant evidence for the selected indicators.</li> <li>Ensure there is a member (or members) of staff responsible for monitoring, assisting and understanding any ethical queries that arise form collection of data relevant to the selected indicators.</li> <li>Provide expertise and support relevant to the topic of the selected indicators.</li> </ul>	<ul> <li>Allow researchers time (and supporting budget) to record, upload and make open metrics and data relevant to the selected indicators.</li> <li>Ensure there is a member (or members of staff responsible for monitoring upload of metrics and data relevant to the selected indicator are open with aunderstanding of any ethical issues this may create.</li> <li>Provide expertise and support relevant to the topic of the selected indicators and how to make the topic open.</li> </ul>
Repository	<ul> <li>Ensure there is an appropriate and easily accessible database or repository to record the metrics and data relevant to the selected indicators.</li> </ul>	<ul> <li>Ensure there is a suitable and easily accessible database or repository to record data and metrics relevant to the selected indicators and that this is open access.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers are aware of what they should be recording for the selected indicators and where they can get training in how to do this and who they should go to for help.</li> </ul>	<ul> <li>Ensure researchers know that they should record and ensure open acces for all documents relevant to the selected indicators and where they can receive training in how to do this and who they should go to for help.</li> </ul>
	<ul> <li>Ensure researchers understand the benefit to them as individuals and the institution of recording the metrics and data relevant to the indicators and that they understand the link to researcher assessment.</li> </ul>	<ul> <li>Explain to researchers the benefit of making the selected indicators open to them as individuals and the institutio and that they understand the link to researcher assessment.</li> </ul>
Training	<ul> <li>Train researchers in where and how to log metrics and data relevant to the selected indicators.</li> <li>Train researchers in the skills relevant to the topic of the selected indicators</li> </ul>	<ul> <li>Train researchers in where and how to log and ensure open access documents relevant to selected indicators.</li> </ul>
		<ul> <li>Train researchers and develop skills relevant to specific indicators.</li> </ul>
	<ul> <li>Ensure there are a range of best practice proposal examples that researchers can access and draw upon relevant to the selected indicators.</li> </ul>	<ul> <li>Train researchers in how to make documents relevant to specific indicators open access including issues specific to academic discipline and any ethical concerns.</li> </ul>
		<ul> <li>Ensure there are best practice open access examples relevant to the specific indicators selected.</li> </ul>



# 3. OPUS Researcher Assessment Framework (RAF)

This set of interventions should be used in partnership with the overarching framework shown in Appendix A – Tables of Researcher Assessment Framework with Indicators and Metrics and D3.1 Indicators and Metrics to test in the pilots.

#### 3.1. Research

#### 3.1.1. Proposals

Table 2: Generic Interventions for Research – Subcategory Proposals

Indicator Group		Indicator Type	Quantitative Metric	
Proposal Development		Process	# of Project Proposals being developed	
		Output	# of Project Proposals Submitted	
		Outcome	# of Project Proposals Granted	
Category	<b>RAF</b> Proposa	l Development Interv	entions	
proposa • Senior r the num		Is being developed, s nanagement develop ber of proposals beir	I and decision to collect the number of project submitted, and granted across the institution.  policies and procedures to support the collection of a developed, submitted and granted across the delines and explanations.	
Resources • Allow res		searchers time (and supporting budget) to record the number of project is being developed, submitted and granted and upload the relevant		
	assisting the num	here is a member (or members) of staff responsible for monitoring, and understanding any ethical queries that arise from the collection of ber of project proposals being developed, submitted and granted.		
			rt in proposal writing and development	
			e and easily accessible database or repository to proposals being developed, submitted and granted.	
Raising develop		esearchers know that they should record all project proposals being ed, submitted, and granted and where they can get training in how to do who they should go to for help.		
institu submi		researchers understand the benefit to them as individuals and the on of recording the number of project proposals being developed, ed, and granted, that they have trust in the process and that there is a clear esearcher assessment.		
Training		searchers in where and how to log project proposals being developed, ed, and granted.		
			searchers in proposal writing and development.	
		here are a range of band draw upon.	pest practice proposal examples that researchers can	

#### 3.1.2. Methods

Table 3: Generic Interventions for Research – Subcategory Methods

Indicator Group	Indicator Type	Quantitative Metric
Methods Development	Process	# of Method Sets Being Developed
	Output	# of Method Sets Finalised
	Outcome	# of Method Sets Implemented
		# of Method Sets Accessed
		# of Method Sets Cited



Category	RAF Methods Development Interventions
Policy	<ul> <li>Senior management approval and decision to collect number of methods sets being developed, finalised and implemented across the institution.</li> </ul>
	<ul> <li>Senior management approval and decision to collect the number of method sets accessed and cited across the institution.</li> </ul>
	<ul> <li>Senior management develop policies and procedures to support the collection of method sets being developed, finalised and implemented across the institution including clear guidelines and explanations.</li> </ul>
	<ul> <li>Senior management develop policies and procedures to support the collection of method sets access and cited across the institution including clear guidelines and explanations.</li> </ul>
Resources	<ul> <li>Allow researchers time (and supporting budget) to record the number of methods sets, being developed, finalised and implemented across the institution and upload the relevant evidence.</li> </ul>
	<ul> <li>Allow researchers time (and supporting budget) to record the number of methods sets accessed and cited across the institution and upload the relevant evidence.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring, assisting, and understanding any ethical queries with the recording of the number of method sets being developed and finalised.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring, assisting and understanding any ethical queries with the recording of the number of methods sets accessed and cited across the institution.</li> </ul>
	<ul> <li>Provide expertise and support in development and management of method sets.</li> </ul>
Repository	<ul> <li>Ensure there is a suitable and easily accessible database or repository to record method sets being developed, finalised and implemented across the institution.</li> </ul>
	<ul> <li>Ensure there is an appropriate and easily accessible database or repository to record method sets accessed and cited across the institution.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record all method sets, being developed, finalised, and implemented and where they can receive training in how to do this and who they should go to for help.</li> </ul>
	<ul> <li>Ensure researchers know that they should record all method sets accessed and cited and where they can receive training in how to do this and who they should go to for help.</li> </ul>
	<ul> <li>Ensure researchers understand the benefit of recording the number of methods sets being developed and utilised to them as individuals and the institution, that they trust the process and that there is a clear link to research assessment.</li> </ul>
Training	<ul> <li>Train researchers in where and how to log the number of methods sets developed and finalised across the institution.</li> </ul>
	<ul> <li>Train researchers in where and how to log the number of methods sets accessed and cited across the institution.</li> </ul>
	Train researchers in the development of method sets.
	<ul> <li>Ensure there are a range of best practice examples of method sets that researchers can access and draw upon.</li> </ul>

#### 3.1.3. Data

#### **Data Planning Interventions**

#### Table 3:

Table 4; Generic Interventions for Research – Subcategory Data

Indicator Group	Indicator Type	Quantitative Metric
Data Planning	Process	# of (FAIR) Data Management Plans Being Developed
	Output	# of (FAIR) Data Management Plans Finalised
	Outcome	# of (FAIR) Data Management Plans Implemented
Data Management	Process	# of (FAIR) Data Sets Being Developed
	Output	# of (FAIR) Data Sets Finalised



			# of (FAIR) Data Sets Archived		
		Outcome	# of (FAIR) Data Sets Accessed		
		Gutcome	# of (FAIR) Data Sets Necessed		
Data Daview		Dragon	` '		
Data Review		Process	# of (FAIR) Data Set Peer Reviews Being Drafted		
		Output	# of (FAIR) Data Set Peer Reviews Submitted		
		Outcome	# of (FAIR) Data Set Peer Reviews Accepted		
Category Policy	<ul> <li>Senior r</li> </ul>		Data Planning Interventions  Il and decision to collect the number of data		
. 55,	manage institutio • Senior r	ement plans being de on. management develop	veloped, finalised, and implemented across the policies and procedures to support the collection of		
D	impleme	ented including clear	nent plans being developed, finalised and guidelines and explanations.		
Resource	manage institutio Ensure i assisting number the insti	Allow researchers time (and supporting budget) to record the number of data management plans being developed, finalised and implemented across the institution and upload the relevant evidence for the selected indicators.  Ensure there is a member (or members) of staff responsible for monitoring, assisting and understanding any ethical queries with that arise from monitoring the number of data management plans developed, finalised and implemented across the institution.			
	<ul><li>Provide plans.</li></ul>	expertise and suppo	rt in the development of quality data management		
Repository	record t		te and easily accessible database or repository to anagement plans being developed, finalised and tution.		
Awareness Raising	manage can rece	Ensure researchers know that they should record the number of data management plans being developed, finalised, and implemented and where they can receive training in how to do this and who they should go to for help.			
	institutio	Ensure researchers understand the benefit of them as individuals and the institution of recording the number of data management plan, that they trust the process and that there is a link to researcher assessment.			
Training	plans be	Train researchers in where and how to record the number of data management plans being developed, finalised, and implemented.			
		·	ment of quality data management plans.		
		Ensure there are best practice examples of data management plans that researchers can access and draw upon.			
Category			a Management Interventions		
Policy	manage • Senior r	ment plans being de management approva	al and decision to collect the number of FAIR data veloped, finalised and archived across the institution. If and decision to collect the number of FAIR data and cited across the institution.		
	the num archived	Senior management develop policies and procedures to support the collection of the number of FAIR data management plans being developed, finalised and archived across the institution with clear guidelines and expectations.			
	the num institutio	nior management develop policies and procedures to support the collection of a number of FAIR data management plans accessed and cited across the titution with clear guidelines and expectations.			
Resource	manage	ment plans being de	supporting budget) to record the number of FAIR data veloped, finalised, and archived across the institution.		
	manage • Ensure	ement plans accessed there is a member (or	supporting budget) to record the number of FAIR data d and cited across the institution. members) of staff responsible for monitoring,		
	data ma institutio	nagement plans beir on.	ding any ethical queries that arise for the number of ng developed, finalised, and archived across the		
	assisting FAIR da	g with and understand ta management plans	members) of staff responsible for monitoring, ding any ethical queries that arise for the number of s accessed and cited across the institution.		
	<ul><li>Provide plans.</li></ul>	expertise and suppo	rt in the development of FAIR data management		



Repository	<ul> <li>Ensure there is a suitable and easily accessible database or repository to record the number of FAIR data management plans being developed, finalised and archived across the institution.</li> <li>Ensure there is an suitable and easily accessible database or repository to record the number of FAIR data management plans accessed and cited across the</li> </ul>
	institution.
Awareness Raising	<ul> <li>Ensure researchers know that they should record the number of FAIR data management plans being developed, finalised, and archived and where they can receive training in how to do this and who they should go to for help.</li> </ul>
	<ul> <li>Ensure researchers know that they should record the number of FAIR data management plans accessed and cited and where they can receive training in how to do this and who they should go to for help.</li> </ul>
	<ul> <li>Ensure researchers understand the benefit of recording the number of FAIR data plans in these ways and that they understand the benefit to them as individuals and the institution, that the trust the process and the link to researcher assessment.</li> </ul>
Training	<ul> <li>Train researchers in where and how to record the number of FAIR data management plans being developed, finalised, and implemented.</li> </ul>
	<ul> <li>Train researchers in where and how to record the number of FAIR data management plans developed accessed and cited.</li> </ul>
	<ul> <li>Train researchers in the development of FAIR data management plans.</li> </ul>
	<ul> <li>Ensure there are a range of best practice examples of FAIR data management plans that researchers can access and draw upon.</li> </ul>
Category	RAF Data Review Interventions
Policy	<ul> <li>Senior management approval and decision to collect the number of peer reviews being drafted, submitted, and accepted across the institution.</li> </ul>
	<ul> <li>Senior management develop policies and procedures to support the collection of the number of peer reviews being drafted, submitted and accepted across the institution, with clear guidelines and expectations.</li> </ul>
Resource	<ul> <li>Allow researchers time (and supporting budget) to record the number of peer reviews being drafted submitted and accepted across the institution.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring, assisting with and understanding any ethical queries for collecting the number of peer reviews being drafted, submitted and accepted.</li> </ul>
	Provide expertise and support in the development of peer reviews
Repository	<ul> <li>Ensure there is an appropriate and easily accessible database or repository to record the number of peer reviews being drafted, submitted and accepted.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record all peer reviews being drafted, submitted, and accepted and where they can receive training in how to do this and who they should go to for help.</li> </ul>
	<ul> <li>Ensure researchers understand the benefit to them as individuals and to the institution of collecting the number of peer reviews being drafted, submitted and accepted that the trust the process and understand the link to researcher assessment.</li> </ul>
Training	<ul> <li>Train researchers in where and how to record peer reviews being drafted, submitted, and accepted.</li> </ul>
	Train researchers in the peer review process.
	<ul> <li>Ensure there are best practice examples of peer reviews that researchers can access and draw upon.</li> </ul>



#### 3.1.4. Software

Table 5: Generic Interventions for Research – Subcategory Software

Software Develo	opment	Process Output	# of Software Sets Being Developed	
		Output		
		1	# of Software Sets Finalised	
			# of Software Sets Archived	
		Outcome	# of Software Sets Accessed	
			# of Software Sets Cited	
Software Review	V	Process	# of Software Set Peer Reviews Being Drafted	
		Output	# of Software Set Peer Reviews Submitted	
		Outcome	# of Software Set Peer Reviews Accepted	
Category		RAF softwa	are Development Interventions	
Policy	<ul><li>being de</li><li>Senior maccesse</li></ul>	eveloped, finalised, a nanagement approva d and cited across th		
	the num		policies and procedures to support the collection of being developed, finalised and archived across the es and explanation.	
	the num		policies and procedures to support the collection of accessed and cited across the institution with clear	
Resource	evidence across th Allow red evidence institutio Ensure t assisting software Ensure t assisting software Provide	evidence for the number of software sets being developed, finalised, and archived across the institution.  Allow researchers time (and supporting budget) to record and upload the relevant evidence for the number of software sets accessed and cited across the institution.  Ensure there is a member (or members) of staff responsible for monitoring, assisting with and understanding any ethical queries for recording the number of software sets developing, finalised and archived.  Ensure there is a member (or members) of staff responsible for monitoring, assisting with and understand any ethical queries with recording the number of software sets accessed and cited.		
Repository	<ul><li>software</li><li>Ensure t</li></ul>	Ensure there is an appropriate database or repository to record the number of software sets being developed, finalised and archived across the institution.  Ensure that there is an appropriate database to record the number of software sets accessed and cited across the institution.		
Awareness Raising	<ul> <li>Ensure researchers know that they should record all software sets being developed, finalised, and implemented and where they can receive training to do this and who they should go to for help and support.</li> <li>Ensure researchers know that that they should record all software sets access</li> </ul>		It they should record all software sets being blemented and where they can receive training in how Id go to for help and support. It that they should record all software sets accessed	
	<ul> <li>and cited and where they can receive training in how to do this and who they should go to for help and support.</li> <li>Ensure researchers understand the benefit to them as individuals and to the institution of recording the number of software sets utilised, that the trust the process and understand the link to researcher assessment.</li> </ul>			
Training	<ul> <li>Train researchers in where ar finalised, and implemented.</li> <li>Train researchers in where ar</li> <li>Train researchers in develop</li> </ul>		nd how to record software sets being developed, nd how to record software sets cited and accessed. ment of software sets. e examples of software sets that researchers can	



Category	RAF Software Review Interventions
Policy	<ul> <li>Senior management approval and decision to collect the number of software set peer reviews being drafted, submitted and accepted.</li> </ul>
	<ul> <li>Senior management develop policies and procedures to support the collection of software set peer reviews that are being drafted, submitted and accepted including guidelines and explanation</li> </ul>
Resource	<ul> <li>Allow researchers time (and supporting budget) to record the number of software set peer reviews being drafted, submitted, and accepted across the institution and upload relevant supporting evidence.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring, assisting with and understanding any ethical queries for the recording the number of software set peer reviews being drafted, submitted and accepted.</li> </ul>
	<ul> <li>Provide expertise and support in the development of software set peer reviews</li> </ul>
Repository	<ul> <li>Ensure there is an appropriate and easily accessible database or repository to record the number of software peer reviews being drafted, submitted and accepted.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record all software set peer reviews being drafted, submitted, and accepted and where they can receive training in how to do this and who they should go to for help.</li> </ul>
	<ul> <li>Ensure researchers understand the benefit of recording the number of software sets peer reviews being drafted, submitted and accepted to them as individuals and the institution, that they trust the process and understand the link to researcher assessment.</li> </ul>
Training	<ul> <li>Train researchers in where and how to record software set peer reviews being drafted, submitted, and accepted.</li> </ul>
	<ul> <li>Train researchers in the software set peer review process.</li> </ul>
	<ul> <li>Ensure there are best practice examples of software peer reviews that researcher can access and draw upon.</li> </ul>

#### 3.1.5. Publications

Table 6: Generic Interventions for Research – Subcategory Publications

Indicator Group		Indicator Type	Quantitative Metric	
Publication Drafting		Process	# of Publications Being Drafted	
		Output	# of Publications Submitted	
		Outcome	# of Publications Published	
			# of Publications Accessed	
			# of Publications Cited	
Publication Rev	iew	Process	# of Publication Peer Reviews Being Drafted	
		Output	# of Publication Peer Reviews Submitted	
		Outcome	# of Publication Peer Reviews Accepted	
Category		Resear	ch Assessment Framework	
Policy	<ul> <li>being dr</li> <li>Senior maccesse</li> <li>Senior mathe numinstitutio</li> <li>Senior mathe numinstitutio</li> </ul>	Senior management approval and decision to collect the number of publications being drafted, submitted, and published across the institution.  Senior management approval and decision to collect the number of publications accessed and cited across the institution.  Senior management develop policies and procedures to support the collection of the number of publications being drafted submitted and published across the institution with clear guidelines and explanation.  Senior management develop policies and procedures to support the collection of the number of publications accessed and cited across the institution with clear		
Resource	<ul> <li>Allow re</li> </ul>	guidelines and explanation.  Allow researchers time (and supporting budget) to record the number of publications being drafted, submitted, and published across the institution and		
	publications being drafted, submit upload the relevant evidence.		· · · · · · · · · · · · · · · · · · ·	



	<ul> <li>Allow researchers time (and supporting budget) to record the number of publications, accessed and cited across the institution and upload the relevant evidence.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring, assisting with and understanding any ethical queries for collecting the number of publications being drafted, submitted, and published across the institution.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring, assisting with and understanding any ethical queries with collecting the number of publications accessed and cited across the institution.</li> </ul>
	Provide expertise and support in quality publications.
Repository	<ul> <li>Ensure there is an appropriate and easily accessible database or repository to record the number of publications being drafted, submitted, and published across the institution.</li> </ul>
	<ul> <li>Ensure that there is an appropriate and easily accessible database or repository to record the number of publications accessed and cited across the institution.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record all publications being drafted, submitted, and published and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers know that that they should record all publications accessed and cited and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers understand the benefit of recording the number of publications to both individuals and the institution, that they trust the process and understand the link to researcher assessment.</li> </ul>
Training	<ul> <li>Train researchers in where and how to record publications being drafted, finalised and implemented.</li> </ul>
	Train researchers in where and how to record publications cited and accessed.
	Train researchers in how to publish.
	<ul> <li>Ensure that there are best practice examples of a range of quality publications that</li> </ul>
Category	researchers can access and draw upon.  RAF Publication Review Interventions
Policy	Senior management approval and decision to collect the number of publication
	peer reviews being drafted, submitted, and accepted.
	<ul> <li>Senior management develop policies and procedures to support the collection of the number of publication peer reviews being drafted, submitted, and accepted, with clear guidelines and expectations.</li> </ul>
Resource	<ul> <li>Allow researchers time (and supporting budget) to record the number of publication peer reviews being drafted, submitted, and accepted and to upload the relevant evidence.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for recording, assisting with and understanding any ethical queries for recording the number of publication peer reviews being drafted, submitted, and accepted.</li> </ul>
	<ul> <li>Provide expertise and support in the development of publication peer reviews.</li> </ul>
Repository	<ul> <li>Ensure there is an appropriate and easily accessible database or repository to record the number of publication peer reviews being drafted submitted and accepted.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record all publication peer reviews being drafted, submitted, and accepted and where they can get training in how to do this and who they should go to for help.</li> </ul>
	<ul> <li>Ensure researchers understand the benefit of recording publication peer reviews to them as individuals and the institution, that they trust the process and understand the link to researcher assessment.</li> </ul>
Training	<ul> <li>Train researchers in where and how to record publication peer reviews being drafted, submitted, and accepted.</li> </ul>
	<ul> <li>Train researchers in the publication peer review process.</li> <li>Ensure there are best practice examples of publication peer reviews that</li> </ul>
1	researchers can access and draw upon.



#### 3.1.6. Materials

Table 7: Generic Interventions for Research – Subcategory Materials

Indicator Group		Indicator Type	Quantitative Metric		
Materials Development		Process	# of Material Sets Being Developed		
		Output	# of Material Sets Finalised		
		Outcome	# of Material Sets Implemented		
			# of Material Sets Accessed		
			# of Material Sets Cited		
Category		Research Ass	essment Framework Interventions		
Policy	<ul> <li>being de</li> <li>Senior maccesse</li> <li>Senior mathe number</li> </ul>	eveloped, finalised, a nanagement approva d and cited across th nanagement develop ber of materials bein	policies and procedures to support the collection of g developed, finalised, and implemented across the		
	<ul> <li>Senior m</li> <li>the num</li> </ul>	nanagement develop	delines and explanation.  policies and procedures to support the collection of essed and cited across the institution including clear		
Resource	Allow results     being de	searchers time (and s	supporting budget) to record the number of materials nd implemented across the institution and upload the		
	being de	Allow researchers time (and supporting budget) to record the number of materials being developed, accessed, and cited across the institution and upload the relevant evidence.			
assisting with and und			members) of staff responsible for monitoring, ding any ethical queries for recording the number of ad and implemented across the institution.		
	assisting	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring, assisting with and understanding any ethical queries for recording the number materials accessed and cited across the institution.</li> </ul>			
	<ul> <li>Provide</li> </ul>	Provide expertise and support in materials development.			
Repository	<ul> <li>Ensure there is an appropriate and easily accessible database or repositor record the number of materials being developed, finalised, and implement across the institution.</li> </ul>		als being developed, finalised, and implemented		
			priate and easily accessible database to record the dand cited across the institution.		
Awareness Raising	Elisare researchers know tha		at they should record all materials being developed, nd where they can receive training in how to do this or help and support.		
	cited and	Ensure researchers know that that they should record all materials accessed and cited and where they can receive training in how to do this and who they should go to for help and support.			
	being de	eveloped, finalised arn, that they trust the	nd the benefit of recording the number of materials nd implemented to both them as individuals and the process and understand the link to researcher		
Training	and impl	emented.	nd how to record materials being developed, finalised		
			nd how to record materials cited and accessed.		
	<ul><li>Ensure t</li></ul>	searchers in materials here are a range of b ters can access and s	pest practice examples of quality materials that		



3.2. Education

#### **3.2.1. Courses**

Table 8: Generic Indicators for Education – Subcategory Courses

Indicator Group		Indicator Type	Quantitative Metric	
Course Development		Process	# of Courses Being Developed	
		Output	# of Courses Finalised	
		Outcome	# of Courses Implemented	
Category		Resear	ch Assessment Framework	
Policy	<ul><li>courses</li><li>Senior n informat</li></ul>	courses being developed, finalised and implemented across the institution.		
Resource	being de relevant • Ensure t assisting	Allow researchers time (and supporting budget) to record the number of courses being developed, finalised and implemented across the institution and upload the relevant evidence.  Ensure there is a member (or members) of staff responsible for monitoring, assisting with and understanding any ethical issues the collection of the number of courses being developed, finalised and implemented across the institution.		
		Provide expertise and support in course development,		
Repository	<ul> <li>Ensure t record tl</li> </ul>	Ensure there is an appropriate and easily accessible database or repository to record the number of courses being developed, finalised, and implemented acros the institution.		
Awareness Raising	finalised	Ensure researchers know that they should record all courses being developed, finalised, and implemented and where they can receive training in how to do this and who they should go to for help and support.		
	recordin	Ensure researchers understand the benefit to individuals and the institution of recording this information about courses, that they trust the process and understand the link to researcher assessment.		
Training	and imp	lemented.	nd how to record courses being developed, finalised,	
	1	searchers in course o	•	
		here are a range of b ners could access an	pest practice examples of courses developed that draw upon.	

#### 3.2.2. Resources

Table 9: Generic Interventions for Education – Subcategory Resources

Indicator Group		Indicator Type	Quantitative Metric
Resource Development		Process	# of Resources Being Developed
		Output	# of Resources Finalised
		Outcome	# of Resources Implemented
			# of Resources Accessed
			# of Resources Cited
Category		RAF Resou	rce Development Interventions
Policy		Senior management approval and decision to collect information on the numbe resources being developed, finalised, and implemented.	
		Senior management approval and decision to collect information on the number resources accessed and cited.	
			policies and procedures to collect information on the eveloped, finalised, and implemented with clear



	<ul> <li>Senior management develop policies and procedures to collect information on the number of resources accessed and cited with clear guidelines and explanation.</li> </ul>
Resource	<ul> <li>Allow researchers time (and supporting budget) to record the number of resources being developed, finalised, and implemented across the institution and upload the relevant evidence.</li> </ul>
	<ul> <li>Allow researchers time (and supporting budget) to record the number of resources accessed and cited across the institution.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring, assisting with and understanding any ethical issues for the collection of the number of resources being developed, finalised, and implemented across the institution.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring, assisting with and understanding any ethical issues for the collection of the number of resources accessed and cited across the institution.</li> </ul>
	<ul> <li>Provide expertise and support in resource development.</li> </ul>
Repository	<ul> <li>Ensure there is an appropriate and easily accessible database or repository to record the number of resources being developed, finalised and implemented across the institution.</li> </ul>
	<ul> <li>Ensure there is an appropriate and easily accessible database or repository to record the number of resources accessed and cited across the institution</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record all resources, being developed finalised and implemented and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers know that they should record all resources that have been accessed and cited and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers understand the benefit of recording the number of resources being developed, finalised and implemented to both themselves as individuals, that they trust the process and understand the institution and the link to researcher assessment.</li> </ul>
Training	<ul> <li>Train researchers in where and how to record resources being developed, finalised and implemented.</li> </ul>
	Train researchers in resource development.
	<ul> <li>Ensure there are a range of best practice examples of resources developed that researchers can access and draw upon.</li> </ul>

#### 3.2.3. Teaching

Table 10: Generic Indicators for Education – Subcategory Teaching

Indicator Group		Indicator Type	Quantitative Metric
Student Teaching		Process	# of Course Hours Assigned
		Output	# of Course Hours Taught
		Outcome	# of Students Passed in Courses
Category		RAF stı	udent Teaching Interventions
Policy	<ul> <li>Senior management approval and decision to collect information on the of course hours assigned and taught across the institution.</li> <li>Senior management approval and decision to collect number of student in relevant courses across the institution.</li> <li>Senior management develop policies and procedures to support the colof the number of course hours assigned and taught across the institution clear guidelines and explanation.</li> </ul>		nd taught across the institution.  val and decision to collect number of students passed the institution.  op policies and procedures to support the collection urs assigned and taught across the institution with
	<ul> <li>Senior management develop policies and procedures to support the collecti of the number of students that have passed these courses with clear guideli and explanation.</li> </ul>		
Resource	<ul> <li>Allow researchers time (and supporting budget) to record the number of contract that are being currently taught and have been taught across the institution upload relevant evidence.</li> </ul>		



	Allow researchers or others time (and supporting budget) to record the number of students that have passed these courses across the institution and upload relevant evidence.
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring, assisting with and understanding any ethical issues for the collection of the number of course hours assigned and taught across the institution.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring, assisting with and understanding any ethical issues for the recording of the number of students that have passed these courses across the institution.</li> </ul>
	Provide expertise and support in teaching.
Repository	<ul> <li>Ensure there is an appropriate and easily accessible database or repository to record the number of course hours assigned and taught across the institution.</li> </ul>
	<ul> <li>Ensure there is an appropriate and easily accessible method or database for recording the number of students that achieve a pass in relevant courses.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record all course hours assigned and taught and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers know that they should record number of students who achieve a pass in relevant courses taught.</li> </ul>
	<ul> <li>Ensure researchers understand the benefits to them as individuals and the institution of recording this data on course hours assigned, taught and student pass rates and that they trust the process and understand the link to researcher assessment</li> </ul>
Training	<ul> <li>Train researchers in where and how to record course hours assigned and taught.</li> </ul>
	<ul> <li>Train researchers in where and how to record the number of students who achieve a pass in relevant courses taught.</li> </ul>
	Train researchers in teaching methods.
	Ensure there are a range of best practice courses available that researchers can access and draw upon.

## 3.2.4. Supervision

Table 11: Generic Interventions for Education – Subcategory Supervision

Indicator Group		Indicator Type	Quantitative Metric
Student Supervision		Process	# of Students Being Supervised
		Output	# of Students Supervised
		Outcome	# of Supervised Student Theses
			# of Supervised Students Graduated
Category		RAF	Supervision Interventions
Policy	currently Senior m theses o institutio Senior m the numl supervis Senior m	being supervised or nanagement approva of those supervised a n. nanagement develop ber of students that r ed including clear gunanagement develop ber of students who	all and decision to collect the number of students of that have been supervised across the institution. If and decision to collect the number of student and number of students graduated across the expedicional procedures to support the collection of researchers are currently supervising or have uidelines and explanation.  In policies and procedures to support the collection of publish a theses or graduate with clear guidelines
Resource	that are institutio	being currently supe n.	supporting budget) to record the number of courses rvised or have been supervised in the past across the cord the number of students theses and the number
		nts graduated across	



	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring and assisting with the collection of the number of students that are currently or have been supervised.</li> <li>Ensure there is a member (or members) of staff responsible for monitoring and assisting with the recording number of students graduated and theses.</li> </ul>
	Provide expertise and support in supervision.
Repository	<ul> <li>Ensure there is an appropriate database to record the number of students currently being supervised or that have been supervised.</li> </ul>
	<ul> <li>Ensure there is an appropriate method or database for recording the number of students that have completed their theses and graduated.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record all students currently being supervised and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers know that they should record and monitor the number of students they have supervised who have completed their thesis or graduated.</li> </ul>
	<ul> <li>Ensure researchers understand the benefits to them as individuals and the institution of recording this data on students they are or have supervised and the resulting number who have produced a theses or graduated that they trust the process and understand the link to researcher assessment</li> </ul>
Training	<ul> <li>Train researchers in where and how to record students that are currently being or that have been supervised.</li> </ul>
	<ul> <li>Train researchers in where and how to record the number of students they have supervised who have completed their thesis or graduated.</li> </ul>
	Train researchers in supervision.
	<ul> <li>Ensure researchers know where to go to receive support in supervision.</li> </ul>
	<ul> <li>Try to find best practice examples of supervision that researchers can access and draw upon.</li> </ul>

#### 3.2.5 Skills

Table 12 Generic Interventions for Education – Subcategory Skills

Indicator Grou	Indicator Group		Quantitative Metric	
Skills Development		Process	# of Skills Courses Being Followed	
		Output	# of Skills Courses Completed	
		Outcome	# of Skills Certificates Obtained	
Category		R	AF Skills Interventions	
Policy	skills cou institutio	urses researchers are n.	I and decision to collect information on the number of e following, have completed, and obtained across the policies and procedures to support the collection of	
	informati	ion on the number of	f courses researchers are following, have completed guidelines and explanation.	
Resource	they are Ensure t assisting following	Allow researchers time (and supporting budget) to record the number of courses they are following, have completed and obtained by them individually.  Ensure there is a member (or members) of staff responsible for monitoring and assisting with the collection of the number of skills courses researchers are following, have completed and obtained across the institution.  Provide a comprehensive programme of skills courses for researchers		
Repository	record th	Ensure there is an appropriate and easily accessible database for researchers to record the number of skills courses they are following, have completed and obtained.		
Awareness Raising	they are	Ensure researchers know that they should record the number of skills courses, they are following, have completed and obtained and where they can receive training in how to do this and who they should go to for help and support.		
	recordin	Ensure researchers understand the benefit to individuals and the institution of recording this information about skills courses, that they trust the process and understand the link to researcher assessment.		



Training	<ul> <li>Train researchers in where and how to record the number of skills courses they are following, have completed and obtained.</li> </ul>
	<ul> <li>Train researchers in the programme of skills courses for researchers that are offered by the institution.</li> </ul>
	<ul> <li>Ensure there is clear advice and guidance on attending skills courses with a clear link to career development and academic success.</li> </ul>

## 3.3. Leadership

## 3.3.1 People

Table 13: Generic Interventions for Leadership – Subcategory People

Indicator Group			Indicator Type	Quantitative Metric	
Staff Supervision	on		Process	# of Staff Being Supervised	
			Output	# of Staff Supervised	
			Outcome	# of Supervised Staff Theses	
				# of Supervised Staff Projects	
Category			RAF Sta	off Supervision Interventions	
Policy		research	er is supervising or h	Il and decision to collect the number of staff that a nas supervised across the institution. Il and decision to collect the number of theses and	
		projects supervis	that have been prod ed.	uced by staff that a researcher is supervising or has	
		the numl	nanagement develop ber of staff that resea delines and explana	policies and procedures to support the collection of archers are supervising or have supervised including tion.	
	•	Senior m	nanagement develop ber of theses written	policies and procedures to support the collection of or projects completed by staff a researcher has ncluding clear guidelines and explanation.	
Resource				supporting budget) to record the number of staff they have supervised across the institution.	
		Allow researchers time (and supporting budget) to record the number of theses written and projects completed by staff that have supervised or are supervising across the institution.			
		assisting	nsure there is a member (or members) of staff responsible for monitoring and sisting with the collection of the number of staff that a researcher is currently spervising or has supervised.		
		assisting	with the collection of	members) of staff responsible for monitoring and of the number of these written or projects completed upervising or has supervised.	
	•	Provide	expertise and suppo	rt in supervision of staff.	
Repository		Ensure there is an easily accessible and suitable database or repository to record the number of staff currently being supervised or that have been supervised by the researcher.			
		Ensure there is an easily accessible database or repository for recording the number of theses written or projects completed by staff supervised by the researcher.			
Awareness Raising		currently training i	insure researchers know that they should record number of staff they are urrently supervising or that they have supervised and where they can receive raining in how to do this and who they should go to for help and support.		
		and proje where the help and	e researchers know that they should record the number of theses written rojects completed by staff that have supervised or are supervising and they can receive training in how to do this and who they should go to for nd support.		
		recordin		nd the benefit to individuals and the institution of out staff supervision, that they trust the process and cher assessment	



Training	•	Train researchers in where and how to record the number of staff they have supervised or are supervising.
	•	Train researchers in where and how to record the number of theses written or projects completed by staff they have supervised or are supervising.
	•	Train researchers in supervision of staff.
	•	Ensure researchers know where to go to receive support in supervision of staff.
	•	Try to find best practice examples of supervision of staff that researchers can access and draw upon.

## 3.3.2 Projects

Table 14: Generic Interventions for Leadership – Subcategory Projects

Indicator Group		Indicator Type	Quantitative Metric		
Project Manage	ement	Process	# of Projects Being Managed		
		Output	# of Projects Completed		
		Outcome	# of Projects Successfully Evaluated		
Category		Project	Management Interventions		
Policy	research evaluate	ner is managing, has ed.	I and decision to collect the number of projects that a completed and that have been successfully		
	the num	ber of projects that a	policies and procedures to support the collection of researcher is managing, has completed and that lated including clear guidelines and explanation.		
Resource	they are		supporting budget) to record the number projects appleted and that have been successfully evaluated		
	assisting managir	assisting with the collection of the number of projects that a researcher is managing, has completed and that have been successfully evaluated.			
Repository			rt in project management.		
Repository	research	Ensure there is an appropriate database to record the number of projects researchers are managing, have completed and that have been successfully evaluated.			
Awareness Raising	currently and whe	Ensure researchers know that they should record the number of projects they are currently managing, have completed and that have been successfully evaluated and where they can receive training in how to do this and who they should go to for help and support.			
	recordin	Ensure researchers understand the benefit to individuals and the institution of recording this information about project management, that they trust the process and understand the link to researcher assessment			
Training	currently	Train researchers in where and how to record the number of projects they are currently managing, have completed and that have been successfully evaluated Train researchers in project management.			
	<ul><li>Try to fir</li></ul>		ere to go to receive support in project management.  nples of project managment that researchers can		

#### 3.3.3 Organisation

Table 15: Generic Interventions for Leadership – Subcategory Organisation

Indicator Group	Indicator Type	Quantitative Metric
Unit Management	Process	# of Unit Management Positions Assigned
	Output	# of Unit Management Positions Completed
		# of Agreed Unit Management Outputs



			Outcome		# of Agreed U	Init Managem	ent Outcomes	
Category			R/	AF Uni	t Management	Interventions		
Policy	•	Senior m Manage institutio	ment Positions	prova assig	ll and decision t ned and comple	to collect the reted by a rese	number of Unit earcher across	the
	•	Senior moutputs	nanagement ap and outcomes t	prova for the	ll and decision to unit across the	to collect the residual institution.	number of agre	ed
	•	the num	Senior management develop policies and procedures to support the collection of the number of unit management positions assigned and completed by a researcher including clear guidelines and explanation.					
	•	agreed o	nanagement de outputs and out es and explana	tcome	policies and press for the unit ac	rocedures to c cross the instit	collect the num tution including	ber of clear
Resource	•				supporting buden assigned and			
	•	outputs	and outcomes	from ι	supporting budg units across the	institution.		J
	•	Ensure to assisting complete	with the collect	er (or ction o	members) of store the number o	taff responsibl f unit position	le for monitorin s assigned and	g and I that have
	•		Ensure there is a member (or members) of staff responsible for monitor and assisting with the collection of the number of agreed outputs and outcomes from units.					
	•	Provide	expertise and s	suppo	rt in Unit (team	or departmen	t) management	.•
Repository	•	Ensure there is an appropriate database to record the number of unit management positions that have been assigned and completed.						
	•		here is an appr comes for units.		e database to r	ecord the nur	nber of agreed	outputs
Awareness Raising	•	complete		hey c	nt they should re an receive train oport.			
	•	and outo	comes for units	and v	it they should re where they can Ip and support.	receive trainir		
	•	recordin	g this informati	on ab	nd the benefit t out unit manag cher assessme	ement, that th		
Training	•		searchers in wh en assigned an		nd how to recoi e completed.	rd the number	of unit position	ns they
	•		searchers in whes for units.	iere a	nd how to reco	rd the number	of agreed out	outs and
	•	Train res	searchers in uni	it (tea	m or departmer	nt) manageme	nt	
	•				ere to go to red aples of Unit Ma		•	
		and drav			•			

## 4.3.4 Recognition

Table 16: Generic Interventions for Leadership – Subcategory Recognition

Indicator Group	Indicator Type	Quantitative Metric
Expert Positions	Process	# of Expert Positions Assigned
	Output	# of Expert Positions Completed
		# of Expert Position Outputs
	Outcome	# of Expert Position Outcomes
		# of Expert Achievement Awards



Category	RAF ExpertPositions Interventions
Policy	<ul> <li>Senior management approval and decision to collect the number of expert positions assigned and completed by a researcher across the institution.</li> </ul>
	<ul> <li>Senior management approval and decision to collect the number of expert position outputs, outcomes and achievement awards across the institution.</li> </ul>
	<ul> <li>Senior management develop policies and procedures to support the collection of expert positions assigned and completed by a researcher including clear guidelines and explanation.</li> </ul>
	<ul> <li>Senior management develop policies and procedures to collect the number of expert position outputs, outcomes and achievement awards for the unit across the institution including clear guidelines and explanation.</li> </ul>
Resource	<ul> <li>Allow researchers time (and supporting budget) to record the number of expert positions assigned and completed across the institution.</li> </ul>
	<ul> <li>Allow researchers time (and supporting budget) to record the number of expert positions outputs, outcomes, and achievement awards across the institution.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring and assisting with the collection of the number of expert positions assigned and that have completed.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitor and assisting with the collection of the number of expert positions outputs, outcomes and achievement awards.</li> </ul>
	<ul> <li>Provide expertise and supporting in achieving expert positions.</li> </ul>
Repository	<ul> <li>Ensure there is an appropriate database to record the number of expert positions that have been assigned and completed.</li> </ul>
	<ul> <li>Ensure there is an appropriate database to record the number of expert positions outputs, outcomes and achievement awards.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record any expert positions assigned and completed and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers know that they should record the number of expert positions outputs, outcomes and achievement awards where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers understand the benefit to individuals and the institution of recording this information about expert positions, that they trust the process and understand the link to researcher assessment</li> </ul>
Training	<ul> <li>Train researchers in where and how to record the number of expert positions they have been assigned and have completed.</li> </ul>
	<ul> <li>Train researchers in where and how to record the number of expert positions outputs, outcomes and achievements awards.</li> </ul>
	<ul> <li>Train researchers in how to find expert position opportunities.</li> </ul>
	<ul> <li>Ensure researchers know where to go to receive support in expert positions.</li> </ul>
	<ul> <li>Provide best practice examples and case studies of expert positions that researchers can access and draw upon.</li> </ul>

#### 3.4. Valorisation

#### 3.4.1 Communication

Table 17: Generic Interventions for Valorisation – Subcategory Communication

Indicator Group	Indicator Type	Quantitative Metric
Public Writing	Process	# of Publications Being Drafted
	Output	# of Publications Published
	Outcome	# of Publications Accessed
		# of Publications Cited
Public Speaking	Process	# of Appearances Planned
	Output	# of Appearances Made



			Outcome	# of Appearances Accessed			
				# of Appearances Cited			
Category			DAE	Public Writing Interventions			
Policy	•	Senior m		val and decision to collect the number of publications			
		being dr	afted and published	d across the institution.			
	<ul> <li>Senior management approval and decision to collect the number of paccessed and cited across the institution.</li> </ul>						
	•	Senior m	nanagement develo	p policies and procedures to support the collection of			
			ons being drafted a es and explanation.	and published by a researcher including clear			
	•	Senior m	nanagement develo	p policies and procedures to collect the number of			
		publications accessed and cited by a researcher including clear guidelines and explanation.					
Resource	•	Allow re:	searchers time (and	supporting budget) to record the number of			
		•	•	and published across the institution.			
	•			I supporting budget) to record the number of cited across the institution.			
	•			or members) of staff responsible for monitoring and of the number of publications drafting and published			
			ne institution.	of the number of publications drafting and published			
	•			or members) of staff responsible for monitor and of the number of publications accessed and cited			
			ne institution.	of the number of publications accessed and cited			
D	•			orting in public writing.			
Repository	•			ate database to record the number of publications d across the institution.			
	•	Ensure there is an appropriate database to record the number of publications					
Awareness		accessed and cited across the institution.  Ensure researchers know that they should record any publications being drafted					
Raising		and have published and where they can receive training in how to do this they should go to for help and support.					
	•			nat they should record the number of publications			
	accessed and cited and where they can receive training in how to do the they should go to for help and support.						
	•			and the benefit to individuals and the institution of			
			g this information a and the link to resea	bout public writing, that they trust the process and archer assessment			
Training	•		searchers in where afted and have pub	and how to record the number publications they are plished.			
	•		searchers in where cessed and cited.	and how to record the number of publications they			
	•	Train researchers in public writing.					
	•			where to go to receive support in public writing.			
	•		ia dest practice exa iers can access and	amples and case studies of public writing that I draw upon.			
Category			RAF F	Public Speaking Interventions			
Policy	•			val and decision to collect the number of public ned and made across the institution.			
	•	Senior m	nanagement approv	val and decision to collect the number of public essed and cited across the institution.			
	•	Senior m	nanagement develo	p policies and procedures to support the collection of			
		guidelin	es and explanation.				
	•	public sp	nanagement develo beaking appearance es and explanation.	p policies and procedures to collect the number of es accessed and cited by a researcher including clear			
Resource	•			I supporting budget) to record the number of public ned and made across the institution.			
	<ul> <li>Allow researchers time (and supporting budget) to record the number public speaking appearances accessed and cited across the institution.</li> </ul>						



	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring and assisting with the collection of the number of public speaking appearances planned and made across the institution.</li> <li>Ensure there is a member (or members) of staff responsible for monitor and assisting with the collection of the number of public speaking appearances accessed and cited across the institution.</li> <li>Provide expertise and supporting in public writing.</li> </ul>
Repository	<ul> <li>Ensure there is an appropriate database to record the number of public speaking appearances planned and made across the institution.</li> </ul>
	<ul> <li>Ensure there is an appropriate database to record the number of public speaking appearances accessed and cited across the institution.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record any public speaking appearances they have planned or have made and where they can receive training in how to do this and who they should go to for help and support.</li> <li>Ensure researchers know that they should record the number of public speaking appearances and cited and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers understand the benefit to individuals and the institution of recording this information about public speaking, that they trust the process and understand the link to researcher assessment</li> </ul>
Training	<ul> <li>Train researchers in where and how to record the number public speaking appearances they have planned or have made.</li> </ul>
	<ul> <li>Train researchers in where and how to record the number of public speaking appearances they have accessed and cited.</li> </ul>
	Train researchers in public speaking.
	<ul> <li>Ensure researchers know where to go to receive support in public speaking.</li> <li>Provide best practice examples and case studies of public speaking that researchers can access and draw upon.</li> </ul>

#### 3.4.2 Engagement

Table 18: Generic Interventions for Valorisation – Subcategory Engagement

Indicator Group		Indicator Type	Quantitative Metric
Intersectoral Engagement		Process	# of Intersectoral Engagements
		Output	# of Intersectoral Outputs
		Outcome	# of Intersectoral Outcomes
			# of Organisations Engaged
Citizen Engage	ement	Process	# of Citizen Science Activities Ongoing
		Output	# of Citizen Science Activities Completed
			# of Citizen Science Outputs
		Outcome	# of Citizen Science Outcomes
			# of Citizen Scientists Engaged
Category			ctoral Engagement Interventions
		nanagement approval and decision to collect the number of intersectoral ments and outputs by a researcher across the institution.	
	<ul> <li>Senior management approval and decision to collect the number of intersecto outcomes and organisations engaged across the institution.</li> <li>Senior management develop policies and procedures to support the collection intersectoral engagements and outputs by a researcher including clear guideliand explanation.</li> </ul>		Il and decision to collect the number of intersectoral
	intersect	<ul> <li>Senior management develop policies and procedures to collect the number of intersectoral outcomes and organisations engaged across the institution included clear guidelines and explanation.</li> </ul>	
Resource		Allow researchers time (and supporting budget) to record the number of intersectoral engagements and outputs across the institution.	



	T - 20
	<ul> <li>Allow researchers time (and supporting budget) to record the number of intersectoral outcomes and organisations engaged across the institution.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring and assisting with the collection of intersectoral collaborations and outputs across the institution.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitor and assisting with the collection of the number of intersectoral outcomes and organisations engaged with across the institution.</li> </ul>
Danasitani	Provide expertise and supporting in intersectoral collaborations.
Repository	<ul> <li>Ensure there is an appropriate database to record the number of intersectoral collaborations and outputs across the institution.</li> </ul>
	<ul> <li>Ensure there is an appropriate database to record the number of intersectoral outcomes and organisations engaged with across the institution.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record any intersectoral collaborations and outputs developed and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers know that they should record the number of outcomes and organisations engaged with and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers understand the benefit to individuals and the institution of recording this information about intersectoral engagement and that they trust the process and understand the link to researcher assessment</li> </ul>
Training	<ul> <li>Train researchers in where and how to record the number of intersectoral collaborations and outputs developed.</li> </ul>
	<ul> <li>Train researchers in where and how to record the number of intersectoral outcomes and organisations engaged with.</li> </ul>
	<ul> <li>Train researchers in how to find intersectoral collaborations.</li> </ul>
	<ul> <li>Ensure researchers know where to go to receive support in finding and achieving intersectoral collaborations.</li> </ul>
	<ul> <li>Provide best practice examples and case studies of intersectoral collaborations that researchers can access and draw upon.</li> </ul>
Category	RAF Citizen Engagement Interventions
Policy	<ul> <li>Senior management approval and decision to collect the number of citizen science activities that are ongoing and completed researchers across the institution.</li> </ul>
	<ul> <li>Senior management approval and decision to collect the number of citizen science outputs, outcomes and citizen scientists engaged across the institution.</li> </ul>
	<ul> <li>Senior management develop policies and procedures to support the collection of citizen science activities that are ongoing or completed by a researcher including clear guidelines and explanation.</li> </ul>
	<ul> <li>Senior management develop policies and procedures to collect the number of citizen science outputs, outcomes and number of citizen scientists engaged by individual researchers across the institution including clear guidelines and explanation.</li> </ul>
Resource	<ul> <li>Allow researchers time (and supporting budget) to record the number of citizen science activities that are ongoing and completed across the institution.</li> </ul>
	<ul> <li>Allow researchers time (and supporting budget) to record the number of citizen science outputs, outcomes and the number of citizen scientists engaged across the institution.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring and assisting with the collection of the number of citizen scientist activities ongoing and completed across the institution.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitor and assisting with the collection of the number of citizen science, outputs and outcomes and the number of citizen scientists engaged with across the institution.</li> </ul>
Damas#	Provide expertise and supporting in citizen science.
Repository	<ul> <li>Ensure there is an appropriate database to record the number of citizen science activities ongoing and completed across the institution.</li> </ul>
	Ensure there is an appropriate database to record the number of citizen science



Awareness Raising	<ul> <li>Ensure researchers know that they should record any intersectoral citizen science activities that are ongoing and completed and where they can receive training in how to do this and who they should go to for help and support.</li> <li>Ensure researchers know that they should record the number of citizen science outputs, outcomes and the number of citizen scientists engaged with and where they can receive training in how to do this and who they should go to for help and support.</li> <li>Ensure researchers understand the benefit to individuals and the institution of recording this information about citizen science and that they trust the process and understand the link to researcher assessment</li> </ul>
Training	<ul> <li>Train researchers in where and how to record the number of citizen scientists activities ongoing and completed.</li> <li>Train researchers in where and how to record the number of citizen science outputs, outcomes and the number of citizen scientists engaged with.</li> <li>Train researchers in citizen science.</li> <li>Ensure researchers know where to go to receive support in citizen science.</li> <li>Provide best practice examples and case studies of citizen science that researchers can access and draw upon.</li> </ul>

#### 3.4.3 Innovation

Table 19: Generic Interventions for Valorisation – Subcategory Innovation

Indicator Group		Indicator Type	Quantitative Metric	
Research Exploitation		Process	# of Research Outputs Being Legalised	
		Output	# of Research Outputs with Defined IPR	
			# of Research Outputs Patented	
		Outcome	# of Research Outputs with Licenses	
Entrepreneuria	l Spirit	Process	# of Spin-offs/Start-ups Being Created	
		Output	# of Spin-offs/Start-ups Created	
		Outcome	# of Spin-off/Start-up Employees	
			# of Spin-off/Start-up Products	
			# of Spin-off/Start-up Services	
Category Policy		RAF Rese	arch Exploitation Interventions	
	<ul> <li>Senior m outputs v institutio</li> <li>Senior m the numl research</li> <li>Senior m research</li> </ul>	outputs that are in the process of being legalised across the institution.  Senior management approval and decision to collect the number of research outputs with defined IPR, patented and with licenses by researchers across the institution.  Senior management develop policies and procedures to support the collection of the number of research outputs that are in the process of being legalised by a researcher including clear guidelines and explanation.  Senior management develop policies and procedures to collect the number of research outputs with defined IPR, patents or licenses by individual researchers across the institution including clear guidelines and explanation.		
Resource	<ul> <li>Allow resolves</li> <li>Allow resolves</li> <li>Ensure that assisting being lessent</li> <li>Ensure that number across the provide</li> </ul>	Allow researchers time (and supporting budget) to record the number of researc outputs that are currently in the process of being legalised across the institution. Allow researchers time (and supporting budget) to record the number the number of research outputs with defined IPR, patents awarded and licensed. Ensure there is a member (or members) of staff responsible for monitoring and assisting with the collection of the number of research outputs in the process of being legalised across the institution.  Ensure there is a member (or members) of staff responsible for monitoring the number or research outputs with defined IPR, patents awarded and licensed across the institution.  Provide expertise and supporting in legalisation of research outputs including defined IPR, patents and licensing		



Repository	<ul> <li>Ensure there is an appropriate database to record the number of research outputs in the process of being legalised across the institution.</li> </ul>
	<ul> <li>Ensure there is an appropriate database to record the number of research outputs with defined IPR, patents awarded and licensed across the institution.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record any research outputs in the process of being legalised and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers know that they should record the number of research outputs with defined IPR, patents awarded and licensed and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers understand the benefit to individuals and the institution of recording this information about research exploitation and that they trust the process and understand the link to researcher assessment</li> </ul>
Training	<ul> <li>Train researchers in where and how to record the number of research outputs that are in the process of being legalised.</li> </ul>
	<ul> <li>Train researchers in where and how to record the number of research outputs with defined IPR, patents awarded, and licenses granted.</li> </ul>
	<ul> <li>Train researchers in legalisation of research outputs including IPR, patents and licensing.</li> </ul>
	<ul> <li>Ensure researchers know where to go to receive support in legalisation of research outputs including defined IPR, patents and licensing.</li> </ul>
	<ul> <li>Provide best practice examples and legalisation of research outputs including defined IPR, patents and licensing that researchers can access and draw upon.</li> </ul>
Category	RAF Entrepreneurial Spirit Interventions
Policy	<ul> <li>Senior management approval and decision to collect the number of Spin- offs/Start-ups that are in the process currently being created or that have been</li> </ul>
	<ul> <li>created across the institution.</li> <li>Senior management approval and decision to collect the number of Spin-off/Start-</li> </ul>
	<ul><li>up employees, products and services across the institution.</li><li>Senior management develop policies and procedures to support the collection of</li></ul>
	the number of Spin-offs/Start-ups that are in the process currently being created her including clear guidelines and explanation.
	<ul> <li>Senior management develop policies and procedures to collect the number of Spin-off/Start-up employees, products and services across the institution including clear guidelines and explanation.</li> </ul>
Resource	<ul> <li>Allow researchers time (and supporting budget) to record the number of Spin- offs/Start-ups that are in the process currently being created or that have been created across the institution.</li> </ul>
	<ul> <li>Allow researchers time (and supporting budget) to record the number the number of Spin-off/Start-up employees, products and services across the institution.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring and assisting with the collection of the number of of Spin-offs/Start-ups that are in the process currently being created or that have been created across the institution.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring the number of Spin-off/Start-up employees, products and services across the institution.</li> </ul>
	<ul> <li>Provide expertise and support in Spin-offs and Start-ups</li> </ul>
Repository	<ul> <li>Ensure there is an appropriate database to record the number of research outputs in the process of being legalised across the institution.</li> </ul>
	<ul> <li>Ensure there is an appropriate database to record the number of research outputs with IPR, patents awarded and licensed across the institution.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record Spin-offs/Start-ups that are in the process currently being created or that have been created across the institution. and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers know that they should record the number of Spin-off/Start-up employees, products and services across the institution and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers understand the benefit to individuals and the institution of</li> </ul>
	recording this information about entrepreneurial spirit, that they trust the process and understand the link to researcher assessment



- Train researchers in where and how to record the number of Spin-off/Start-up employees, products and services.
- Train researchers in how to establish a Spin-offs/Start-ups
- Ensure researchers know where to go to receive support in Spin-offs/Start-ups
- Try to find best practice examples and legalisation of Spin-offs/Start-ups that researchers can access and draw upon.

## 4. OPUS Open Science Career Assessment Matrix (OS-CAM)

#### 4.1. Research

#### 4.1.1. Proposals

Table 20: Open Science Interventions for Research – Subcategory Proposals

Indicator Group		Indicator Type	Quantitative Metric		
Proposal Development		Process	# of Developing Project Proposals Openly Available		
			Output	# of Submitted Project Proposals Openly Available	
			Outcome	# of Granted Project Proposals Openly Available	
				€ of Granted Project Proposals Involving Open Science	
Category			OSCAM Prop	posal Development Interventions	
Policy		proposa	nanagement approva ls being developed, : ing received.	Il and decision to collect and make open project submitted, granted across the institution, and record	
				policies and procedures to make project proposals ible) with clear guidelines and explanation.	
Resource		Allow researchers time (and supporting budget) to record, upload and make op- project proposals being developed, submitted and granted across the institution and to record the funding received.			
		Ensure there is a member (or members) of staff responsible for monitoring uploand ensuring openly available project proposals being developed, submitted a granted are open with an understanding of any ethical issues this may create, that they record the funding received.			
	•	Provide expertise and support in proposal writing and development.		rt in proposal writing and development.	
Repository		Ensure there is suitable and easily accessible database or repository to record project proposals, developed, submitted and granted and that this is open access and can record the funding received.			
Awareness Raising		project p	Ensure researchers know that they should record and ensure open access for all project proposals, developed, submitted, granted and the funding received and where they can receive training in how to do this and who they should go to for nelp.		
		Ensure researchers understand the benefit to individuals and the institution of recording this information about project proposals that are openly available, that they trust the process and understand the link to researcher assessment			
Training		Train researchers in where and how to log and ensure open access of project proposals being developed, submitted, granted and the funding received.		submitted, granted and the funding received.	
				l writing and development.	
			earchers in how to make proposals openly available including issues to academic discipline and any ethical concerns.		
	•	Ensure t	here are best practice examples of open access proposals developed.		



#### 4.1.2. Methods

Table 21: Open Science Interventions for Research – Subcategory Methods

Indicator Group		Indicator Type	Quantitative Metric		
Methods Development		Process	# of Developing Method Sets Openly Available		
		Output	# of Finalised Method Sets Openly Available		
		Outcome	# of Openly Available Method Sets Implemented		
			# of Openly Available Method Sets Accessed		
			# of Openly Available Method Sets Cited		
Category		OSCAM Met	hods Development Interventions		
Policy	being	Senior management approval and decision to collect the number of method being developed, finalised, and implemented across the institution.  Senior management approval and decision to collect the number of method			
		sed and cited across th			
	develo clear g	pped, finalised, and imp guidelines and explana			
	openly		o policies and procedures to record the number of s accessed and cited (where possible) with clear		
Resource	<ul> <li>Allow access institute</li> </ul>	s method sets, being d	supporting budget) to record, upload and make open eveloped, finalised, and implemented across the		
			supporting budget) to record, upload and make open d and cited across the institution.		
	of met ensuri	Ensure there is a member (or members) of staff responsible for monitoring uplo of method sets developed, finalised, and implemented across the institution an ensuring they are open access, with an understanding of any ethical issues this may create.			
	of met	Ensure there is a member (or members) of staff responsible for monitoring uploa of method sets accessed and cited across the institution and ensuring they are open access; with an understanding of any ethical issues this may create.			
		Provide expertise and support in development and management of method sets and ensuring they are open access,			
Repository			d easily accessible database or repository to record lised, and implemented and that this is open access.		
		Ensure there is a suitable and easily accessible database or repository to recomethod sets accessed and cited and that this is open access.			
Awareness Raising	<ul> <li>Ensure researchers know that they should record and make open accommethod sets, developed, finalised, and implemented and where they calculated training in how to do this and who they should go to for help.</li> </ul>		alised, and implemented and where they can receive I who they should go to for help.		
	<ul> <li>Ensure researchers know that they should record and make open access method sets accessed and cited and where they can receive training in h this and who they should go to for help.</li> </ul>				
	them a	Explain to researchers the benefit of making method sets open access to both them as individuals and the institution, that they trust the process and understathe link to research assessment.			
Training		esearchers in where a pped, finalised and imp	nd how to log openly available method sets being lemented.		
	<ul> <li>Train r and ci</li> </ul>		nd how to log openly available method sets accessed		
			ment of openly available method sets.		
	specifi	c to academic disciplir	searchers in how to ensure method sets are open access including issues to academic discipline and any ethical concerns.		
	• Ensure	there are a range of t	pest practice examples of open access method sets.		



#### 4.1.3. Data

Table 22: Open Science Interventions for Research – Subcategory Data

Indicator Group		Indicator Type	Quantitative Metric		
Data Planning		Process	# of (FAIR) Developing Data Management Plans Openly Available		
		Output	# of (FAIR) Finalised Data Management Plans Openly Available		
			Outcome	# of (FAIR) Implemented Data Management Plans Openly Available	
Data Manager	nent		Process	# of (FAIR) Data Set Peer Reviews Being Drafted	
			Output	# of Finalised (FAIR) Data Sets Openly Available	
				# of Archived (FAIR) Data Sets Openly Available	
			Outcome	# of Openly Available (FAIR) Data Sets Accessed	
				# of Openly Available (FAIR) Data Sets Cited	
Data Review			Process	# of (FAIR) Data Set Peer Reviews Being Drafted	
			Output	# of Submitted (FAIR) Data Set Peer Reviews Openly Available	
			Outcome	# of Accepted (FAIR) Data Set Peer Reviews Openly Available	
Category	_			Data Planning Interventions	
Policy	•	available across th	e data management pre institution.	al and decision to collect the number of openly plans being developed, finalised, and implemented	
	•	openly a	vailable (where poss	and procedures to make data management plans sible) with clear guidelines and explanation.	
Resource	access data across the Ensure the and ensuring implemented.		searchers time (and supporting budget) to record, upload and make open data management plans being developed, finalised, and implemented ne institution.		
			there is a member (or members) of staff responsible for monitoring upload uring data management plans being developed, finalised, and ented are open access (where possible) with an understanding of any success this may create.		
	•	Provide expertise and support in the development of openly available data management plans.			
Repository	•	Ensure there is a suitable and easily accessible database or repository to record project proposals being developed, finalised and implemented and that this is open access.			
Awareness Raising	•	Ensure researchers know that they should record and ensure open access for data management plans being developed, finalised and implemented and who they can receive training in how to do this and who they should go to for help		ng developed, finalised and implemented and where	
	•	Explain to researchers the benefit of making data management plans open accest to both them as individuals and the institution and the link to researcher assessment.			
Training	<ul> <li>Train researchers in where and how to share openly av plans being developed, finalised, and implemented.</li> </ul>				
	•	ram recearches in and development of opening aramabile data management plane.			
			searchers in how to make data management plans open access including les specific to the relevant academic discipline and any ethical concerns.		
	•			pest practice examples of openly available data	
Category			OSCAM D	ata Management Interventions	
Policy	•	available		al and decision to collect the number of openly ment sets being developed, finalised, and archived	
	•			al and decision to collect the number of openly ment sets accessed and cited across the institution.	



	<ul> <li>Senior management develop policies and procedures to make FAIR data sets openly available (where possible) with clear guidelines and explanations.</li> </ul>
Resource	<ul> <li>Allow researchers time (and supporting budget) to record, upload and make open FAIR data management plans being developed, finalised and archived across the institution.</li> </ul>
	<ul> <li>Allow researchers time (and supporting budget) to record and upload and make open FAIR data management plans accessed and cited across the institution.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring upload of and ensuring FAIR data sets being developed, finalised and archived are open access (where possible) with an understanding of any ethical issues this may create.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring upload of and ensuring FAIR data sets accessed and cited are open access (where possible) with an understanding of any ethical issues this may create</li> </ul>
	<ul> <li>Provide expertise and support in the development of openly available FAIR data sets.</li> </ul>
Repository	• Ensure there is a suitable and easily accessible database or repository to record FAIR datasets developed, finalised and implemented and that this is open access.
	<ul> <li>Ensure there is a suitable and easily accessible database or repository to record FAIR datasets accessed and cited and that this is open access.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record all openly available FAIR datasets developed, finalised and implemented and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers know that they should record all openly available FAIR datasets accessed and cited and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Explain to researchers the benefit of making FAIR datasets openly available to both them as individuals and the institution, that they trust the process and understand the link to research assessment.</li> </ul>
Training	<ul> <li>Train researchers in where and how to log and ensure open access of FAIR datasets developed, finalised, and implemented.</li> </ul>
	<ul> <li>Train researchers in where and how to record open access FAIR datasets cited and accessed.</li> </ul>
	<ul> <li>Train researchers in the development of openly available FAIR datasets</li> <li>Train researchers in how to make FAIR datasets open access including any issues specific to academic disciplines and any ethical concerns.</li> </ul>
	<ul> <li>Ensure there are best practice examples of openly available FAIR datasets developed.</li> </ul>
Category	OSCAM Data Review Interventions
Policy	<ul> <li>Senior management approval and decision to collect and make open (FAIR) Data set peer reviews being drafted, submitted and accepted.</li> </ul>
	<ul> <li>Senior management develop policies and procedures to make (FAIR) data set peer reviews openly available (where possible) with clear guidelines and explanation.</li> </ul>
Resource	<ul> <li>Allow researchers time (and supporting budget) to record, upload and make open (FAIR) data set peer reviews being drafted, submitted and accepted across the institution.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring upload and ensuring (FAIR) data set peer reviews being drafted, submitted and accepted are open with an understanding of any ethical issues this may create.</li> </ul>
	<ul> <li>Provide expertise and support in the development of openly accessible (FAIR) data set peer reviews.</li> </ul>
Repository	<ul> <li>Ensure there is a suitable and easily accessible database or repository to record (FAIR) data set peer reviews drafting, submitted and accepted and that this is oper access.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record and ensure open access for all (FAIR) data set peer reviews being drafted, submitted and accepted and where they can receive training in how to do this and who they should go to for help.</li> </ul>
	<ul> <li>Explain to researchers the benefit of making(FAIR) data set peer reviews open access to both them as individuals and the institution and the link to researcher assessment.</li> </ul>
Training	<ul> <li>Train researchers in where and how to share openly available (FAIR) data set peer reviews being drafted, submitted and accepted.</li> </ul>



- Train researchers in the (FAIR) data set peer review process.
- Train researchers in how to make (FAIR) data set peer review open access including any issues specific to the relevant academic discipline and any ethical concerns.
- Ensure there are a range of best practice examples of (FAIR) data set peer reviews.

#### 4.1.4. Software

Table 23: Open Science Interventions for Research – Subcategory Software

Indicator Group		Indicator Type	Quantitative Metric		
Software Devel	Software Development		# of Developing Software Sets Openly Available		
		Output	# of Finalised Software Sets Openly Available		
			# of Archived Software Sets Openly Available		
		Outcome	# of Openly Available Software Sets Accessed		
			# of Openly Available Software Sets Cited		
Software Review	W	Process	# of Draft Software Set Peer Reviews Openly Available		
		Output	# of Submitted Software Set Peer Reviews Openly Available		
		Outcome	# of Accepted Software Set Peer Reviews Openly Available		
Category		OSCAM Soft	ware Development Interventions		
Policy	<ul> <li>Senior m develope</li> </ul>	nanagement approva ed, finalised and arch	Il and decision to make software sets being nived across the institution openly available,		
	<ul> <li>Senior m</li> </ul>		all and decision to make software sets accessed and		
	<ul> <li>Senior m</li> </ul>	nanagement develop	policies and procedures to make software sets sible) with clear guidelines and explanation.		
Resource			supporting budget) to record, upload and make open		
		software sets being developed, finalised and archived across the institution.  Allow researchers time (and supporting budget) to collect the number of software			
	sets acc	sets accessed and cited across the institution.			
upload a		ind ensuring softwar	members) of staff responsible for monitoring the e sets being developed, finalised and archived are e) with an understanding of any ethical issues this may		
		expertise and suppo	rt in the development of openly available software		
Repository			d easily accessible database to record software sets and archived and that this is open access.		
		here is a suitable and d and cited and that	d easily accessible database to record software sets this is open access.		
Awareness Raising	software	Ensure researchers know that they should record and ensure open access for all software sets being developed, finalised and archived and where they can receive training in how to do this and who they should go to for help.			
	software	esearchers know that sets accessed and ond nd who they should	at they should record and ensure open access for all cited and where they can receive training in how to go to for help.		
			enefit of making software sets open access to both nstitutions and the link to researcher assessment.		
Training		searchers in where a ed, finalised and arch	nd how to share openly available software sets being nived.		
	<ul> <li>Train researchers in where a accessed and cited.</li> </ul>		nd how to share openly available software sets		
	<ul><li>Train res</li></ul>	earchers in develop	ment of openly available software sets.		



	<ul> <li>Train researchers in how to make software sets open access including any issues specific to the relevant academic discipline and any ethical concerns.</li> </ul>
	• Ensure there are a range of best practice examples of open access software sets.
Category	OSCAM Software Review Interventions
Policy	<ul> <li>Senior management approval and decision to collect the number of openly available software set peer reviews being drafted, submitted and accepted across the institution.</li> </ul>
	<ul> <li>Senior management develop policies and procedures to make software set peer reviews openly available (where possible) with clear guidelines and expectations.</li> </ul>
Resource	<ul> <li>Allow researchers time (and supporting budget) to record, upload and make open access software set peer reviews being drafted, submitted and accepted across the institution.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring upload and ensuring software set peer reviews drafting, submitted and accepted are open access (where possible) with an understanding of any ethical issues this may create.</li> </ul>
	<ul> <li>Provide expertise and support in the development of openly available software seper reviews</li> </ul>
Repository	<ul> <li>Ensure there is a suitable and easily accessible database or repository to record software set peer reviews being drafted, submitted, and accepted and that this is open access.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record and ensure open access for all software set peer reviews being drafted, submitted, and accepted and where they can receive training in how to do this and who they should go to for help.</li> </ul>
	<ul> <li>Explain to researchers the benefit of making software set peer reviews open access to both them as individuals and the institution, that they trust the process and understand the link to researcher assessment.</li> </ul>
Training	<ul> <li>Train researchers in where and how to record open software set peer reviews drafted, submitted and accepted.</li> </ul>
	Train researchers in the software set peer review process.
	<ul> <li>Train researchers in how to make software set peer reviews open access including any issues specific to the relevant academic discipline and any ethical concerns.</li> </ul>
	<ul> <li>Ensure there are a range of best practice examples of open access software set peer reviews.</li> </ul>



4.1.5. Publications

Table 24: Open Science Interventions for Research – Subcategory Publications

Indicator Group		Indicator Type	Quantitative Metric		
Publication Drafting		Process	# of Drafting Publications Openly Available		
		Output	# of Submitted Publications Openly Available		
		Outcome	# of Published Publications Openly Available		
			# of Openly Available Publications Accessed		
			# of Openly Available Publications Cited		
Publication Rev	iew	Process	# of Draft Publication Peer Reviews Openly Available		
		Output	# of Submitted Publication Peer Reviews Openly Available		
		Outcome	# of Accepted Publication Peer Reviews Openly Available		
Category	0 .		blication Drafting Interventions		
Policy		nanagement approva ed and published ope	Il and decision to make publications being drafted,		
	<ul> <li>Senior m</li> </ul>		Il and decision to make publications accessed and		
	<ul> <li>Senior n available</li> </ul>	nanagement develop e (where possible) wi	policies and procedures to make publications openly th clear guidelines and explanation.		
Resource	publicati	ons being drafted, su	supporting budget) to record, upload and make open ubmitted and published across the institution.		
		Allow researchers time (and supporting budget) to collect the number of publications accessed and cited across the institution.			
• Ensure t		there is a member (or members) of staff responsible for monitoring upload uring publications are open access (where possible) with an anding of any ethical issues this may create.			
	<u> </u>	•	rt in the development of openly available publications		
Repository		Ensure there is a suitable and easily accessible database or repository to record publications being drafted, submitted and published that this is open access.			
Awareness Raising	publicati	Ensure researchers know that they should record and ensure open access fo publications being drafted, submitted and published and where they can recetraining in how to do this and who they should go to for help.			
	publicati		It they should record and ensure open access for all ted and where they can receive training in how to do to for help.		
	<ul> <li>Explain to researchers the benefit of making publications open acce them as individuals and the institutions that they trust the process ar the link to researcher assessment.</li> </ul>		nstitutions that they trust the process and understand		
Training		searchers in where a submitted and publis	nd how to share openly available publications being shed.		
accesse		searchers in where and how to record openly available publications d and cited.			
		searchers in drafting publications.			
	specific	to the relevant acade	nake publications open access including any issues emic discipline and any ethical concerns.		
	<ul> <li>Ensure t publicati</li> </ul>		pest practice examples of openly available		
Category	pasiicati		CAM Publication Review		
Policy	<ul> <li>Senior management approvation</li> <li>Senior management approvation</li> <li>available peer reviews that a institution.</li> </ul>		Il and decision to make publication peer reviews that and published openly available. Il and decision to collect the number of openly		
			re being drafted, submitted and accepted across the		
	<ul> <li>Senior no reviews</li> </ul>	nanagement develop openly available (wh	policies and procedures to make publication peer ere possible) with clear guidelines and expectations.		



Resource	<ul> <li>Allow researchers time (and supporting budget) to record, upload and make open access publication peer reviews drafting, submitted and accepted across the institution.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring upload and ensuring publication peer reviews drafting, submitted and accepted are open access (where possible) with an understanding of any ethical issues this may create.</li> </ul>
	<ul> <li>Provide expertise and support in the development of openly available publication peer reviews.</li> </ul>
Repository	<ul> <li>Ensure there is a suitable and easily accessible database or repository to record publication peer reviews that are being drafted, submitted and accepted across the institution.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record and ensure open access for all publication peer reviews drafting, submitted and accepted and where they can receive training in how to do this and who they should go to for help.</li> </ul>
	<ul> <li>Explain to researchers the benefit of making publication peer reviews open access to both them as individuals and the institution, that they trust the process and understand the link to researcher assessment.</li> </ul>
Training	<ul> <li>Train researchers in where and how to record openly available publication peer reviews being drafted, submitted and accepted.</li> </ul>
	Train researchers in the publication peer review process.
	<ul> <li>Train researchers in how to develop openly available publication peer reviews including any issues specific to the relevant academic discipline and any ethical concerns.</li> </ul>
	<ul> <li>Ensure there are a range of best practice examples of openly available publication peer reviews.</li> </ul>

#### 4.1.6. Materials

Table 25: Open Science Interventions for Research – Subcategory Materials

Indicator Grou	р	Indicator Type	Quantitative Metric
Materials Development		Process	# of Developing Material Sets Openly Available
		Output	# of Finalised Material Sets Openly Available
		Outcome	# of Implemented Material Sets Openly Available
			# of Openly Available Material Sets Accessed
			# of Openly Available Material Sets Cited
Category		OSCAN	M Material Set Interventions
Policy	<ul><li>material</li><li>Senior material</li><li>Senior material</li></ul>	sets being develope nanagement approva sets accessed and c nanagement develop	all and decision to collect number of openly available and, finalised and implemented across the institution.  If and decision to collect number of openly available ited across the institution.  If policies and procedures to make material sets tible) with clear guidelines and explanation.
Resource	<ul> <li>Allow researces not allow research.</li> <li>Ensure to fand eaccess (create.</li> <li>Ensure to reade.</li> </ul>	searchers time (and s naterial sets develop searchers time (and s sets accessed and c here is a member (or nsuring materials be where possible) with here is a member (or of openly available n cal issues this may cr	supporting budget) to record, upload and make open led, finalised and implemented across the institution. Supporting budget) to record openly available lited across the institution. In members, of staff responsible for monitoring uploading developed, finalised and implemented are open an understanding of any ethical issues this may rembers) of staff responsible for recording the materials accessed and cited with an understanding of



Repository	Ensure there is a suitable and easily accessible database or repository to record material sets being developed, finalised, and accessed and that this is open access.
	<ul> <li>Ensure there is a suitable and easily accessible database to record openly available material sets accessed and cited.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record and ensure open access for all material sets being developed, finalised and implemented and where they can receive training in how to do this and who they should go to for help.</li> </ul>
	<ul> <li>Ensure researchers know that they should record all openly available material sets accessed and cited and where they can receive training in how to do this and who they should go to for help.</li> </ul>
	<ul> <li>Explain to researchers the benefit of making material sets open access to both them as individuals and the institutions, that they trust the process and understand the link to researcher assessment.</li> </ul>
Training	<ul> <li>Train researchers in where and how to share openly accessible material sets being drafted, finalised and implemented.</li> </ul>
	<ul> <li>Train researchers in where and how to record openly available material sets accessed and cited.</li> </ul>
	Train researchers in developing material sets.
	<ul> <li>Train researchers in how to make material sets open access including any issues specific to the relevant academic discipline and any ethical concerns.</li> </ul>
	• Ensure there are a range of best practice examples of open access material sets.

#### 4.2. Education

#### **4.2.1.** Courses

Table 26: Open Science Interventions for Education – Subcategory Courses

Indicator Group		Indicator Type	Quantitative Metric	
Course Development		Process	# of Open Science Courses Being Developed	
			# of Developing Courses Openly Available	
		Output	# of Open Science Courses Finalised	
			# of Finalised Courses Openly Available	
		Outcome	# of Open Science Courses Implemented	
			# of Implemented Courses Openly Available	
Category		Open Science Ca	reer Assessment Matrix Interventions	
Policy	courses institutio • Senior m available institutio	that are being develon.  nanagement approvale courses that are being.	and decision to collect the number of open science oped, finalised and implemented across the and decision to collect the number of openly ing developed finalised and implemented across the	
are bein with clea • Senior m		nanagement develop policies and procedures to make open courses that g developed, finalised and implemented open access (where possible) or guidelines and explanation.		
		nanagement develop with clear guidelines	policies and procedures to implement open science and explanation.	
Resource	courses	Allow researchers time (and supporting budget) to record, upload and make open courses that are being developed, finalised and implemented across the institution.		
	open sci		supporting budget) to record, upload and make open, e openly available that are being developed, finalised institution.	
		of open science cou	members) of staff responsible for monitoring the rses developed, finalised and implemented across	



	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring number courses openly available and for assisting with making them open access (where possible) with an understanding of any ethical issues this may create.</li> <li>Provide expertise in design of open science courses</li> <li>Provide expertise in course development</li> </ul>
Repository	<ul> <li>Ensure there is an appropriate database and repository to record the number of open science courses being developed, finalised and implemented across the institution.</li> <li>Ensure there is a suitable and easily accessible database or repository to record and upload courses openly available.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers are aware of the institution policy to make open science courses as open as possible.</li> <li>Ensure researchers know that they should record, upload and share all open science courses being developed, finalised and implemented and where they can receive training in how to do this and who they should go to for help and support.</li> <li>Ensure researchers know that they should record, upload and share all courses developed openly.</li> <li>Explain to researchers the benefit of making open science courses open access to both them as individuals and the institution, that they trust the process and understand the link to researcher assessment</li> </ul>
Training	<ul> <li>Train researchers in where and how to record open science courses being developed, finalised and implemented.</li> <li>Train researchers in where and how to make open science courses openly available.</li> <li>Train researchers in open science course development</li> <li>Train researchers in how to share courses developed, finalised and implemented openly.</li> </ul>

### 4.2.2. Resource Development

Table 27: Open Science Interventions for Education – Subcategory Resources

Indicator Grou	р	Indicator Type	Quantitative Metric
Resource Development F		Process	# of Open Science Resources Being Developed
			# of Developing Resources Openly Available
		Output	# of Open Science Resources Finalised
			# of Finalised Resources Openly Available
		Outcome	# of Open Science Resources Implemented
			# of Implemented Resources Openly Available
Category		OSCAM Reso	ource Development Interventions
Policy	<ul> <li>Senior m resource</li> <li>Senior m informat and impl</li> <li>Senior m informat finalised</li> </ul>	Senior management approval and decision to collect information on the number of open science resources being developed, finalised and implemented.  Senior management approval and decision to collect information on the number of resources openly available being developed, finalised and implemented.  Senior management develop policies and procedures to support the collection of information on the number of open science resources being developed finalised and implemented including clear guidelines and explanation.  Senior management develop policies and procedures to support the collection of information on the number of resources openly available being developed, finalised and implemented including clear guidelines and explanation.	
Resource	<ul><li>open sci</li><li>Allow resource</li><li>Ensure t</li></ul>	ence resources bein searchers time (and ses openly available be here is a member (or of resources being d	supporting budget) to record, upload and make open, ig developed, finalised and implemented. supporting budget) to record upload and make open, eing developed, finalised and implemented. members) of staff responsible for monitoring the leveloped, finalised and implemented across the



materials are open access.  Provide expertise in design of open science resources.  Ensure there is an appropriate database and repository to record the number of open science resources being developed, finalised and implemented across the institution.  Ensure there is an appropriate database and repository to record the number of resources openly available.  Awareness Raising  Ensure researchers are aware of the institution policy to make resources as open as possible.  Ensure researchers know that they should record, upload and share all open science resources being developed, finalised and implemented and where they can receive training in how to do this and who they should go to for help and support.  Ensure researchers know that they should record, upload and share all resources developed openly.  Ensure researchers the benefit of making resources openly available to both them as individuals and the institution, that they trust the process and understand the link to researcher assessment.		
materials are open access. Provide expertise in design of open science resources.  Ensure there is an appropriate database and repository to record the number of open science resources being developed, finalised and implemented across the institution.  Ensure there is an appropriate database and repository to record the number of resources openly available.  Awareness Raising  Ensure researchers are aware of the institution policy to make resources as open as possible.  Ensure researchers know that they should record, upload and share all open science resources being developed, finalised and implemented and where they can receive training in how to do this and who they should go to for help and support.  Ensure researchers know that they should record, upload and share all resources developed openly.  Explain to researchers the benefit of making resources openly available to both them as individuals and the institution, that they trust the process and understand the link to researcher assessment.  Fraining  Train researchers in where and how to record resources being developed, finalised and implemented.  Train researchers in resource development  Train researchers in how to share resources being developed, finalised and implemented openly.  Train researchers in how to incorporate open science in the resources they develop.		number of resources openly available, being developed, finalised and
Ensure there is an appropriate database and repository to record the number of open science resources being developed, finalised and implemented across the institution.  Ensure there is an appropriate database and repository to record the number of resources openly available.  Ensure researchers are aware of the institution policy to make resources as open as possible.  Ensure researchers know that they should record, upload and share all open science resources being developed, finalised and implemented and where they can receive training in how to do this and who they should go to for help and support.  Ensure researchers know that they should record, upload and share all resources developed openly.  Explain to researchers the benefit of making resources openly available to both them as individuals and the institution, that they trust the process and understand the link to researcher assessment.  Fraining  Train researchers in where and how to record resources being developed, finalised and implemented.  Train researchers in how to share resources being developed, finalised and implemented openly.  Train researchers in how to incorporate open science in the resources they develop.		
open science resources being developed, finalised and implemented across the institution.  Ensure there is an appropriate database and repository to record the number of resources openly available.  Ensure researchers are aware of the institution policy to make resources as open as possible.  Ensure researchers know that they should record, upload and share all open science resources being developed, finalised and implemented and where they can receive training in how to do this and who they should go to for help and support.  Ensure researchers know that they should record, upload and share all resources developed openly.  Explain to researchers the benefit of making resources openly available to both them as individuals and the institution, that they trust the process and understand the link to researcher assessment.  Train researchers in where and how to record resources being developed, finalised and implemented.  Train researchers in resource development  Train researchers in how to share resources being developed, finalised and implemented openly.  Train researchers in how to incorporate open science in the resources they develop.		Provide expertise in design of open science resources.
Awareness Raising  Ensure researchers are aware of the institution policy to make resources as open as possible.  Ensure researchers know that they should record, upload and share all open science resources being developed, finalised and implemented and where they can receive training in how to do this and who they should go to for help and support.  Ensure researchers know that they should record, upload and share all resources developed openly.  Explain to researchers the benefit of making resources openly available to both them as individuals and the institution, that they trust the process and understand the link to researcher assessment.  Fraining  Train researchers in where and how to record resources being developed, finalised and implemented.  Train researchers in resource development  Train researchers in how to share resources being developed, finalised and implemented openly.  Train researchers in how to incorporate open science in the resources they develop.	Repository	open science resources being developed, finalised and implemented across the
as possible.  Ensure researchers know that they should record, upload and share all open science resources being developed, finalised and implemented and where they can receive training in how to do this and who they should go to for help and support.  Ensure researchers know that they should record, upload and share all resources developed openly.  Explain to researchers the benefit of making resources openly available to both them as individuals and the institution, that they trust the process and understand the link to researcher assessment.  Fraining  Train researchers in where and how to record resources being developed, finalised and implemented.  Train researchers in how to share resources being developed, finalised and implemented openly.  Train researchers in how to incorporate open science in the resources they develop.		
science resources being developed, finalised and implemented and where they can receive training in how to do this and who they should go to for help and support.  Ensure researchers know that they should record, upload and share all resources developed openly.  Explain to researchers the benefit of making resources openly available to both them as individuals and the institution, that they trust the process and understand the link to researcher assessment.  Train researchers in where and how to record resources being developed, finalised and implemented.  Train researchers in resource development  Train researchers in how to share resources being developed, finalised and implemented openly.  Train researchers in how to incorporate open science in the resources they develop.	Awareness Raising	
developed openly.  Explain to researchers the benefit of making resources openly available to both them as individuals and the institution, that they trust the process and understand the link to researcher assessment.  Train researchers in where and how to record resources being developed, finalised and implemented.  Train researchers in resource development  Train researchers in how to share resources being developed, finalised and implemented openly.  Train researchers in how to incorporate open science in the resources they develop.		science resources being developed, finalised and implemented and where they can receive training in how to do this and who they should go to for help and
them as individuals and the institution, that they trust the process and understand the link to researcher assessment.  Training  Train researchers in where and how to record resources being developed, finalised and implemented.  Train researchers in resource development  Train researchers in how to share resources being developed, finalised and implemented openly.  Train researchers in how to incorporate open science in the resources they develop.		
<ul> <li>finalised and implemented.</li> <li>Train researchers in resource development</li> <li>Train researchers in how to share resources being developed, finalised and implemented openly.</li> <li>Train researchers in how to incorporate open science in the resources they develop.</li> </ul>		them as individuals and the institution, that they trust the process and understand
<ul> <li>Train researchers in how to share resources being developed, finalised and implemented openly.</li> <li>Train researchers in how to incorporate open science in the resources they develop.</li> </ul>	Training	
<ul> <li>implemented openly.</li> <li>Train researchers in how to incorporate open science in the resources they develop.</li> </ul>		Train researchers in resource development
develop.		
<ul> <li>Ensure there are best practice examples of open access resources available.</li> </ul>		
		Ensure there are best practice examples of open access resources available.

### 4.2.3. Teaching

Table 28: Open Science Interventions for Education – Subcategory Teaching

Indicator Group		Indicator Type	Quantitative Metric	
Student Teaching		Process	# of Open Science Course Hours Assigned	
		Output	# of Open Science Course Hours Taught	
		Outcome	# of Students Passed in Open Science Courses	
			# of Students Passed in Openly Available Courses	
Category		OSCAM S	tudent Teaching Interventions	
Policy			I and decision to collect the number of open science ught across the institution.	
	have pas	Senior management approval and decision to collect the number of students the have passed open science courses or courses openly available open science currently being taught or that have been taught across the institution.		
	are curre		nanagement policies and procedures to make open science courses that ently being taught or that have been taught open access (where possible) or guidelines and explanation.	
Resource	of open across th	Allow researchers time (and supporting budget) to record and upload the number of open science courses that are currently being taught or that have been taught across the institution and make materials open access.		
		searchers time to record the number of students who have passed open courses or courses openly available across the institution.		
	<ul> <li>Ensure t number taught a</li> </ul>	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring the number of open science courses that are currently being taught or have been taught across the institution and any ethical issues this might create.</li> </ul>		
			members) of staff responsible for monitoring the e passed open science courses or courses openly	



	available and providing assistance with ensuring materials are open access with an understanding of any ethical issues this may create.
	<ul> <li>Provide expertise and support in teaching and how to ensure course materials are open access.</li> </ul>
	Provide expertise in design of open science courses
Repository	<ul> <li>Ensure there is an appropriate database and repository to record and upload the number of open science courses that are currently being taught or have been taught across the institution.</li> </ul>
	<ul> <li>Ensure there is an appropriate database to record the number of students who have passed open science courses or courses openly available that are currently being taught or have been taught across the institution.</li> </ul>
	<ul> <li>Ensure there is an appropriate database to record the number of students who have passed teaching courses that are openly available both currently or that have been taught across the institution.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers are aware that open science courses are available to them for teaching purposes.</li> </ul>
	<ul> <li>Ensure researchers know that they should record, upload and share all open science courses taught or currently being taught.</li> </ul>
	<ul> <li>Ensure researchers know that they should record, upload and share all open science teaching courses (where possible) and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Explain to researchers the benefit of making courses that are being taught or have been taught openly available to both them as individuals and the institution, that they trust the process and understand the link to researcher assessment.</li> </ul>
Training	<ul> <li>Train researchers in where and how to record and upload courses being currently taught or that have been taught.</li> </ul>
	Train researchers in teaching methods.
	Train researchers in how to share open science courses taught and courses that have been taught openly.
	Train researchers in how to incorporate open science in their course materials.
	<ul> <li>Ensure there are best practice examples of open access teaching courses available.</li> </ul>

### 4.2.4. Supervision

Table 29: Open Science Interventions for Education – Subcategory Supervision

Indicator Group		Indicator Type	Quantitative Metric
Student Supervision		Process	# of Students Being Supervised in Open Science
		Output	# of Students Supervised in Open Science
		Outcome	# of Supervised Student Theses Openly Available
			# of Supervised Students in Open Science Graduated
Category		OSCAM Sti	udent Supervision Interventions
Policy	research Senior m student open sci Senior m of the nu in open m of the nu of the nu	Senior management approval and decision to collect the number of students that researchers are supervising and have supervised in open science.  Senior management approval and decision to collect number of supervised student theses that are openly available and the number of supervised students in open science that have graduated.  Senior management develop policies and procedures that support the collection of the number of researchers that are being supervised or have been supervised in open science (where possible) with clear guidelines and explanation.  Senior management develop policies and procedures that support the collection of the number of researchers supervised student theses that are openly available and the number of supervised students in open science that have graduated	
	(where p	(where possible) with clear guidelines and explanation.	
Resource		Allow researchers time to record the number of students that they are supervising or have supervised in open science.	



	<ul> <li>Allow researchers time to record the number of supervised student theses that are openly available and the number of supervised students in open science that have graduated.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring the number of students that are being supervised or have been supervised in open science across the institution.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring the theses that are openly available and the number of supervised students in open science that have graduated.</li> </ul>
	Provide expertise and support in open science supervision.
Repository	<ul> <li>Ensure there is an appropriate database to record the number of students currently being supervised or that have been supervised in open science.</li> </ul>
	<ul> <li>Ensure there is an appropriate method or database for recording the number of supervised theses that are openly available and the number of supervised students in open science that have graduated</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record all students currently being supervised or that have been supervised in open science and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers know that they should record the number of supervised theses that are openly available and the number of supervised students in open science that have graduated and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Explain to researchers the benefit of collecting data on the number of students that are being or have been supervised in open science to both them as individuals and the institution, that they trust the process and understand the link to researcher assessment.</li> </ul>
Training	<ul> <li>Train researchers in where and how to record the number of students that are currently or that have been supervised.</li> </ul>
	<ul> <li>Train researchers in where and how to record the number of students they have supervised who have completed their thesis or graduated.</li> </ul>
	Train researchers in open science supervision.
	<ul> <li>Ensure researchers know where to go to receive support in supervision.</li> </ul>
	<ul> <li>Ensure there are some best practice examples of open science supervision available.</li> </ul>

### **4,2.5** Skills

Table 30: Open Science Interventions for Education – Subcategory Skills

Indicator Group	)	Indicator Type	Quantitative Metric
Skills Developm	ient	Process	# of Open Science Skills Being Followed
		Output	# of Open Science Skills Courses Completed
		Outcome	# of Open Science Skills Certificates Obtained
Category	OSCAM Skills	Development Interv	ventions
Policy	open sci obtained	Senior management approval and decision to collect information on the number open science skills courses individuals are following, have completed and obtained across the institution.	
informatio		ion on the number o	policies and procedures to support the collection of fopen science skills courses individuals are following, uding clear guidelines and explanation.
Resource		science skills courses individuals are following, have completed and obtained by	
	assisting individu	Ensure there is a member (or members) of staff responsible for monitoring and assisting with the collection of the number of open science skills courses individuals are following, have completed and obtained across the institution, wi an understanding of any ethical issues this may create.	
	-		ogramme of open science skills courses for



Repository	<ul> <li>Ensure there is an appropriate and easily accessible database for researchers to record the number of open science skills courses they are following, have completed, and obtained.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record the number of open science skills courses they are following, have completed, and obtained and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers understand the benefit to individuals and the institution of recording this information about open science skills courses, that they trust the process and understand the link to researcher assessment.</li> </ul>
Training	<ul> <li>Train researchers in where and how to record the number of open science skills courses they are following, have completed and obtained.</li> </ul>
	<ul> <li>Train researchers in the programme of open science skills courses for researchers that are offered by the institution.</li> </ul>
	<ul> <li>Ensure there is clear advice and guidance on attending open science skills courses with a clear link to career development and academic success.</li> </ul>

# 4.3 Leadership

### **4.3.1. People**

Table 31: Open Science Interventions for Leadership – Subcategory People

Indicator Group		Indicator Type	Quantitative Metric
Staff Supervision		Process	# of Staff Being Supervised in Open Science
		Output	# of Staff Supervised in Open Science
		Outcome	# of Supervised Staff Theses Openly Available
			# of Supervised Staff Projects involving Open Science
Category		Open Scie	nce Career Assessment Matrix
Policy	resea Senic stude proje Senic of the scien Senic of the	Senior management approval and decision to collect the number of staff that researchers are supervising and have supervised in open science.  Senior management approval and decision to collect number of supervised student theses that are openly available and the number of supervised staff projects in open science by staff researchers are supervising or have supervised. Senior management develop policies and procedures that support the collection of the number of staff that are being supervised or have been supervised in open science (where possible) by researchers with clear guidelines and explanation. Senior management develop policies and procedures that support the collection of the number of staff theses that are openly available and the number of staff projects involving open science by staff that are currently being supervised or	
Resource	<ul> <li>Allow</li> </ul>	have been supervised by researchers.  Allow researchers time to record the number of staff that they are supervising or have supervised in open science.	
	<ul> <li>Allow open research</li> </ul>	Allow researchers time to record the number of supervised staff theses that are openly available and the number of staff projects in open science by staff researchers are supervising or have been supervised.  Ensure there is a member (or members) of staff responsible for monitoring the	
	number of staff that are being supervised or have been supervised science by researchers across the institution, with an understanding issues this may create.		g supervised or have been supervised in open
	numb involv supei create	number of theses that are openly available and the number of staff projects involving open science by staff that are currently being supervised or have bee supervised by researchers with an understanding of any ethical issues this may create.	
Donositon			rt in open science supervision.
Repository			e database or repository to record the number of ed or that have been supervised in open science.



	<ul> <li>Ensure there is an appropriate database or repository for recording the number of supervised staff theses that are openly available and the number of staff projects involving open science by staff that have been supervised by researchers or are currently being supervised.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record all staff currently being supervised or that have been supervised in open science and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers know that they should record the number of supervised staff theses that are openly available and the number of supervised staff projects involving open science and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Explain to researchers the benefit of collecting data on the number of staff that are being or have been supervised in open science to both them as individuals and the institution, that they trust the process and understand the link to researcher assessment.</li> </ul>
	<ul> <li>Explain to researchers the benefit of collecting data on staff theses that are openly available and staff projects involving open science in which they have supervised staff to both them as individuals, and the institution, that they trust the process and understand the link to researcher assessment.</li> </ul>
Training	<ul> <li>Train researchers in where and how to record the number of staff that are currently or that have been supervised by researchers.</li> </ul>
	<ul> <li>Train researchers in where and how to record the number of staff theses that have been written and are openly available and the number of open science projects in which staff they have supervised or are supervising are involved.</li> </ul>
	Train researchers in open science supervision.
	• Ensure researchers know where to go to receive support in supervision of staff.
	<ul> <li>Ensure there are some best practice examples of open science staff supervision available.</li> </ul>

### 4.3.2 Projects

Table 32: Open Science Interventions for Leadership – Subcategory Projects

Indicator Grou	p	Indicator Type	Quantitative Metric	
Project Manage	Project Management		# of Projects involving Open Science Being Managed	
		Output	# of Projects involving Open Science Completed	
		Outcome	# of Projects involving Open Science Successfully Evaluated	
Category		OSCAM Pro	ject Management Interventions	
Policy	involving or have • Senior m of the nu have con	Senior management approval and decision to collect the number of projects involving open science that researchers are currently managing, have completed or have been successfully evaluated across the institution.  Senior management develop policies and procedures that support the collection of the number of projects involving open science that researchers are managing, have completed and that have been successfully evaluated (where possible) with		
<b>D</b>		clear guidelines and explanation.		
Resource	they are	Allow researchers time to record the number of projects involving Open Science they are currently managing, have completed and that have been successfully evaluated.		
	number managin institutio	Ensure there is a member (or members) of staff responsible for monitoring the number of projects involving Open Science that researchers are currently managing, have completed and that have been successfully evaluated across the institution with an understanding of any ethical issues this may create.  Provide expertise and support in projects involving Open Science.		
Repository	<ul> <li>Ensure t projects</li> </ul>	Ensure there is an appropriate database or repository to record the number of projects involving open science that researchers are managing, have completed and that have been successfully evaluated.		
Awareness Raising			t they should record the number of projects involving ging, have completed and that have been	



		successfully evaluated and where they can receive training in how to do this and who they should go to for help and support.
	•	Explain to researchers the benefit of collecting data on the number of projects that they are managing, have completed and that have been successfully evaluated to both them as individuals and the institution, that they trust the process and understand the link to researcher assessment.
Training	•	Train researchers in where and how to record the number of projects that they are currently managing, have completed and that have been successfully evaluated. Train researchers in projects involving Open Science.
	•	Ensure researchers know where to go to receive support in projects involving Open Science.
	•	Ensure there are some best practice examples of projects involving Open Science available.

### 4.3.3 Organisation

Table 33: Open Science Interventions for Leadership – Subcategory Organisation

Indicator Group		Indicator Type	Quantitative Metric	
Unit Management		Process	# Unit Management Positions in Open Science Assigned	
		Output	# Unit Management Positions in Open Science Completed	
			# of Agreed Unit Managementt) Outputs involving Open Science	
		Outcome	# of Agreed Unit Management Outputs involving Open Science	
Category		OSCAM U	nit Management Interventions	
Policy		ment positions in ope	l and decision to collect the number of unit en science that researchers have been assigned and	
	<ul> <li>Senior n manage</li> </ul>	nanagement approva ment outputs and ou	I and decision to collect the number of agreed Unit tcomes involving open science.	
	of the nu	umber of unit manage	policies and procedures that support the collection ement positions in open science that are assigned delines and explanation.	
	of the nu	Senior management develop policies and procedures that support the collection of the number of agreed unit management outputs and outcomes involving oper science with clear guidelines and explanation.		
Resource			ord the number of unit management positions in shave been assigned and completed.	
		searchers time to col comes involving oper	lect the number of agreed unit management outputs a science.	
	number assigne	Ensure there is a member (or members) of staff responsible for monitoring the number of unit management positions in open science that researchers have be assigned and completed across the institution with an understanding of any ethical issues this may create.		
	number	Ensure there is a member (or members) of staff responsible for monitoring the number of agreed unit management outputs and outcomes involving open science across the institution, with an understanding of any ethical issues this create.		
		Provide expertise and support in projects involving Unit Management in Open Science.		
Repository			e database to record the number of Unit en science assigned and completed.	
	manage	ment outputs and ou	e database to record the number of agreed unit tcomes involving open science.	
Awareness Raising	position	s in open science ass	t they should record the number of Unit Management signed and completed and where they can receive who they should go to for help and support.	



	<ul> <li>Ensure researchers know that they should record the number agreed unit management outputs and outcomes involving open science and where they can receive training in how to do this and who they should go to for help and support.</li> <li>Explain to researchers the benefit of collecting data on the number of Unit management positions in open science assigned and completed to them as individuals and the institution, that they trust the process and understand the link to researcher assessment.</li> <li>Explain to researchers the benefit of collecting data on the number of unit</li> </ul>
	management outputs and outcomes involving open science to them as individuals and the institution, so that they trust the process and understand the link to researcher assessment.
Training	<ul> <li>Train researchers in where and how to record the number of unit management positions in open science assigned and completed.</li> </ul>
	<ul> <li>Train researchers in where and how to record the number of agreed unit management outputs and outcomes involving open science.</li> </ul>
	<ul> <li>Train researchers in Unit management in open science.</li> </ul>
	<ul> <li>Ensure researchers know where to go to receive support in Open Science Unit Management.</li> </ul>
	<ul> <li>Ensure there are some best practice examples of projects involving Open Science Unit Management.</li> </ul>

### 4.3.4 Recognition

Table 34: Open Science Interventions for Leadership – Subcategory Recognition

Indicator Group		Indicator Type	Quantitative Metric
Expert Position	S	Process	# of Expert Positions in Open Science Assigned
		Output	# of Expert Positions in Open Science Completed
			# of Open Science Expert Position Outputs
			# of Expert Position Outputs Openly Available
Category		OSCAM E	Expert Positions Interventions
Policy	expert p Senior m expert p outcome Senior m of the nu assigned Senior m of the nu openly a	Senior management approval and decision to collect the number of open science expert positions that researchers have been assigned and completed.  Senior management approval and decision to collect the number of open science expert position outputs, expert position outputs openly available, expert position outcomes openly available and expert achievement awards in open science.  Senior management develop policies and procedures that support the collection of the number of open science expert positions that researchers have been assigned and completed with clear guidelines and explanation.  Senior management develop policies and procedures that support the collection of the number of open science expert position outputs, expert position outputs openly available, expert position outcomes openly available and expert	
Resource	<ul> <li>Allow re research</li> <li>Allow re outputs, openly a guideling</li> <li>Ensure t number and com</li> <li>Ensure t number expert popen sci</li> </ul>	achievement awards in open science with clear guidelines and explanation.  Allow researchers time to record the number of open science expert positions the researchers have been assigned and completed.  Allow researchers time to record the number of open science expert position outputs, expert position outputs openly available, expert position outcomes openly available and expert achievement awards in open science with clear guidelines and explanation.  Ensure there is a member (or members) of staff responsible for monitoring the number of open science expert positions that researchers have been assigned and completed across the institution.  Ensure there is a member (or members) of staff responsible for monitoring the number of expert position outputs, expert position outputs openly available, expert position outcomes openly available and expert achievement awards in open science across the institution.  Provide expertise and support in projects involving open science expert positions.	
Repository	<ul> <li>Ensure t</li> </ul>	here is an appropriat	te database to record the number of open science hers have been assigned and completed.



	<ul> <li>Ensure there is an appropriate database to record the number of expert position outputs, expert position outputs openly available, expert position outcomes openly available and expert achievement awards in open science across the institution.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record the number of open science expert positions that researchers have been assigned and completed and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers know that they should record the number of Expert position outputs, expert position outputs openly available, expert position outcomes openly available and expert achievement awards in open science and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Explain to researchers the benefit of collecting data on the number of open science expert positions that researchers have been assigned and completed them as individuals and the institution, that they trust the process and understand the link to researcher assessment.</li> </ul>
	<ul> <li>Explain to researchers the benefit of collecting data on the number of expert position outputs, expert position outputs openly available, expert position outcomes openly available and expert achievement awards in open science to them as individuals and the institution and the link to researcher assessment.</li> </ul>
Training	<ul> <li>Train researchers in where and how to record the open science expert positions that researchers have been assigned and completed.</li> </ul>
	<ul> <li>Train researchers in where and how to record the number of expert position outputs, expert position outputs openly available, expert position outcomes openly available and expert achievement awards in open science,</li> </ul>
	Train researchers in open science expert positions.
	<ul> <li>Ensure researchers know where to go to receive support in open science expert positions.</li> </ul>
	<ul> <li>Ensure there are some best practice examples of projects involving open science expert positions.</li> </ul>

### 4.4 Valorisation

#### 4.4.1 Communication

 ${\bf Table~35:~Open~Science~Interventions~for~Valorisation-Subcategory~Communication}$ 

Indicator Group		Indicator Type Quantitative Metric		
Public Writing		Process	# of Draft Publications Openly Available	
		Output	# of Published Publications Openly Available	
		Outcome	# of Openly Available Publications Accessed	
			# of Openly Available Publications Cited	
Public Speakin	g	Process	# of Appearances on Open Science Planned	
		Output	# of Appearances on Open Science Given	
			# of Appearances on Open Science Accessed	
			# of Appearances on Open Science Cited	
			# of Appearances Openly Available	
Category		OSCAM	Public Writing Interventions	
		nanagement approval and decision to collect the number of openly e publications that are being drafted and published across the institution.		
		nanagement approval and decision to collect the number of openly e publications accessed and cited across the institution.		
			policies and procedures to support the collection ble publications drafting and published by a uidelines and explanation.	



D	<ul> <li>Senior management develop policies and procedures to collect the number of openly available publications accessed and cited by a researcher including clear guidelines and explanation.</li> </ul>
D	galacimes and explanation.
Resource	<ul> <li>Allow researchers time (and supporting budget) to record and upload the number of openly available publications drafting and published across the institution.</li> </ul>
	<ul> <li>Allow researchers time (and supporting budget) to record the number of openly available publications accessed and cited across the institution.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring and assisting with the collection of the number of openly available publications that are being drafted and published across the institution and support to help make them open.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitor and assisting with the collection of the number of openly available publications accessed and cited across the institution.</li> </ul>
<b>.</b>	Provide expertise and supporting in public writing.
Repository	<ul> <li>Ensure there is an appropriate database to record and share the number of openly available publications that are being drafted and published across the institution.</li> </ul>
	<ul> <li>Ensure there is an appropriate database to record the number of openly available publications accessed and cited across the institution.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record and make open (where possible publications they are drafting and have published and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers know that they should record the number of openly available publications accessed and cited and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers understand the benefit to individuals and the institution of recording this information about openly available publications, that they trust the process and understand the link to researcher assessment</li> </ul>
Training	<ul> <li>Train researchers in where and how to record the number and upload the documents for openly available publications they are drafting and have published.</li> </ul>
	<ul> <li>Train researchers in where and how to record the number of openly available publications they have accessed and cited.</li> </ul>
	Train researchers in openly available public writing.
	<ul> <li>Ensure researchers know where to go to receive support in openly available public writing.</li> </ul>
	<ul> <li>Try to find best practice examples and case studies of openly available public writing that researchers can access and draw upon.</li> </ul>
Category	OSCAM Public Speaking Interventions
Policy	• Senior management approval and decision to collect the number of public speaking appearances on open science planned and given across the institution.
	<ul> <li>Senior management approval and decision to collect the number open science public speaking appearances accessed and cited across the institution.</li> </ul>
	<ul> <li>Senior management approval and decision to make as collect and make public speaking appearances openly available (where possible).</li> </ul>
	<ul> <li>Senior management develop policies and procedures to support the collection of open science public speaking appearances planned and given by a researcher including clear guidelines and explanation.</li> </ul>
	<ul> <li>Senior management develop policies and procedures to collect the number of open science public speaking appearances accessed and cited by a researcher including clear guidelines and explanation.</li> </ul>
	<ul> <li>Senior management develop policies and procedures to public speaking appearances openly available (where possible) including clear guidelines and explanation.</li> </ul>
Resource	<ul> <li>Allow researchers time (and supporting budget) to record the number of open science public speaking appearances planned and given across the institution.</li> </ul>
	<ul> <li>Allow researchers time (and supporting budget) to record the number open science public speaking appearances accessed and cited across the institution.</li> </ul>
	<ul> <li>Allow researchers time (and supporting budget) to make public speaking appearances openly available (where possible).</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring and assisting with the collection of the number of open science public speaking appearances planned and made across the institution.</li> </ul>



Ensure there is a member (or members) of staff responsible for monitor and assisting with the collection of the number of open science public speaking appearances accessed and cited across the institution.  Ensure there is a member (or members) of staff responsible for monitoring, assisting and helping to make open public appearances (where possible.)
Provide expertise and supporting in public speaking
Ensure there is an appropriate database to record the number of open science public speaking appearances planned and made across the institution.
Ensure there is an appropriate database to record the number of open science public speaking appearances accessed and cited across the institution.
Ensure there is an appropriate database to record and assist with making open, openly available public appearances.
Ensure researchers know that they should record any open science public speaking appearances they have planned or have made and where they can receive training in how to do this and who they should go to for help and support.
Ensure researchers know that they should record the number of open science public speaking appearances and cited and where they can receive training in how to do this and who they should go to for help and support.
Explain to researchers the benefit of collecting data on the number of openly available public speaking appearances they have planned and make to them as individuals and the institution, that they trust the process and understand the link to researcher assessment.
Explain to researchers the benefit of making public appearances openly available (where possible) to them as individuals and the institution, that they trust the process and understand the link to researcher assessment.
Train researchers in where and how to record the number open science public speaking appearances they have planned or have made.
Train researchers in where and how to record the number of open science public speaking appearances they have accessed and cited
Train researchers in where and how to record and share openly available public speaking appearances.
Train researchers in open science public speaking
Train researchers in public speaking
Ensure researchers know where to go to receive support in public speaking.
Try to find best practice examples and case studies of open science public speaking that researchers can access and draw upon.

# 4.4 Engagement

### 4.4.2 Intersectoral Engagement

Table 36: Open Science Interventions for Valorisation – Subcategory Engagement

Indicator Group	Indicator Type	Quantitative Metric	
Intersectoral Engagement	Process	# of Intersectoral Engagements involving Open Science	
	Output	# of Intersectoral Outputs involving Open Science	
	Outcome	# of Intersectoral Outcomes involving Open Science	
		# of Organisations Engaged for Open Science	
Citizen Engagement	Process	# of Citizen Science Activities involving Open Science Ongoing	
	Output	# of Citizen Science Activities involving Open Science Completed	
		# of Citizen Science Outputs for Open Science	
	Outcome	# of Citizen Science Outcomes for Open Science	
		# of Citizen Scientists Engaged in Open Science	



Category	OSCAM Intersectoral Engagement Interventions	
Policy	Senior management approval and decision to collect the number of intersectora	al
-	engagements and outputs for open science by a researcher across the institution	
	Senior management approval and decision to collect the number of intersectora	
	outcomes for open science and organisations engaged for open science across the institution.	,
	Senior management develop policies and procedures to support the collection of	∩f
	intersectoral collaborations involving open science and outputs for open science	
	by a researcher including clear guidelines and explanation.	
	Senior management develop policies and procedures to collect the number of	
	intersectoral outcomes for open science and organisations engaged for open science across the institution including clear guidelines and explanation.	
Resource	Allow researchers time (and supporting budget) to record the number of	
	intersectoral collaborations involving open science and outputs for open science	е
	across the institution.	
	Allow researchers time (and supporting budget) to record the number of intersectoral outcomes for open science and organisations engaged for open	
	science across the institution.	
	Ensure there is a member (or members) of staff responsible for monitoring and	
	assisting with the collection of intersectoral collaborations for open science and intersectoral outputs for open science across the institution.	
	Ensure there is a member (or members) of staff responsible for monitor and	
	assisting with the collection of the number of intersectoral outcomes for open	
	science and organisations engaged for open science, across the institution.	
	Provide expertise and supporting in intersectoral collaborations involving open science.	
Repository	Ensure there is an appropriate database to record and make open the number of	of
	intersectoral collaborations involving and outputs for open science across the	
	institution.	∍f
	Ensure there is an appropriate database to record and make open the number of intersectoral outcomes for open science and organisations engaged for open	וכ
	science with across the institution.	
Awareness Raising	Ensure researchers know that they should record and make open any	_
Kaising	intersectoral collaborations involving open science and outputs for open science developed and where they can receive training in how to do this and who they	е
	should go to for help and support.	
	Ensure researchers know that they should record and make open the number of	f
	intersectoral outcomes for open science and organisations for open science engaged with and where they can receive training in how to do this and who the	٧٥
	should go to for help and support.	<i>-</i> y
	Explain to researchers the benefit of collecting and making open data on the	
	number of intersectoral engagements involving open science and outputs for open science to both, them as individuals and the institution, that they trust the	
	process and understand the link to researcher assessment.	
	Explain to researchers the benefit of collecting and intersectoral outcomes for	
	open science and organisations engaged for open science both to them as individuals and the institution, that they trust the process and the understand the	2
	link to researcher assessment.	<del>-</del>
Training	Train researchers in where and how to record and make open intersectoral	
	collaborations involving open science and outputs for open science.	
	Train researchers in where and how to record and make open intersectoral outcomes for open science and organisations engaged for open science.	
	Train researchers in how to find open science intersectoral collaborations.	
	Ensure researchers know where to go to receive support in finding and achievin	ıg
	open science intersectoral collaborations.	
	Try to find best practice examples and case studies of open science intersectors collaborations that researchers can access and draw upon.	al
Category	OSCAM Citizen Engagement Interventions	
Policy	Senior management approval and decision to collect the number of citizen	
	science activities involving open science that are ongoing and completed	
	researchers across the institution.	



	<ul> <li>Senior management approval and decision to collect the number of citizen science for open science outputs, outcomes and citizen scientists engaged across the institution.</li> </ul>
	<ul> <li>Senior management develop policies and procedures to support the collection of citizen science activities involving open science that are ongoing or completed by a researcher including clear guidelines and explanation.</li> </ul>
	<ul> <li>Senior management develop policies and procedures to collect the number of citizen science outputs for open science, outcomes for open science and number of citizen scientists engaged by individual researchers across the institution including clear guidelines and explanation.</li> </ul>
Resource	<ul> <li>Allow researchers time (and supporting budget) to record and make open the number of citizen science activities involving open science that are ongoing and completed across the institution.</li> </ul>
	<ul> <li>Allow researchers time (and supporting budget) to record the number of citizen science outputs for open science, outcomes for open science and the number of citizen scientists engaged across the institution and make them open (where possible).</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring and assisting with the collection of the number of citizen scientist activities ongoing and completed across the institution and to support open access (where possible)</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitor and assisting with the collection of the number of citizen science, outputs and outcomes and the number of citizen scientists engaged with across the institution and to support open access (where possible)</li> </ul>
	Provide expertise and supporting in citizen science involving open science
Repository	<ul> <li>Ensure there is an appropriate database to record and make open the number of citizen science activities involving open science ongoing and completed across the institution.</li> </ul>
	<ul> <li>Ensure there is an appropriate database to record and make open the number of citizen science outputs for open science, outcomes for open science and the number of citizen scientists engaged with across the institution.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record and make open any citizen science activities involving open science that are ongoing and completed and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers know that they should record and make open the number of citizen science outputs for open science, outcomes for open science and the number of citizen scientists engaged with and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Explain to researchers the benefit of collecting and making open data on the number of citizen science activities involving open science that are ongoing or completed to both, them as individuals and the institution, that they trust the process and understand the link to researcher assessment.</li> </ul>
	<ul> <li>Explain to researchers the benefit of collecting and making open the number of citizen science outputs for open science, outcomes for open science and the number of citizen scientists engaged to both them as individuals and the institution, that they trust the process and understand the link to research assessment.</li> </ul>
Training	<ul> <li>Train researchers in where and how to record the number of citizen scientist's activities involving open science that are ongoing and completed.</li> </ul>
	<ul> <li>Train researchers in where and how to record the number of citizen science outputs for open science, outcomes for open science and the number of citizen scientists engaged in open science with.</li> </ul>
	Train researchers in citizen science for open science.
	<ul> <li>Ensure researchers know where to go to receive support in citizen science involving open science.</li> </ul>
	<ul> <li>Try to find best practice examples and case studies of citizen science involving open science that researchers can access and draw upon.</li> </ul>



#### 4.4.3 Innovation

Table 37: Open Science Interventions for Valorisation – Subcategory Innovation

Indicator Group		Indicator Type	Quantitative Metric		
Research Exploitation		Process	# of Openly Available Research Outputs Being Legalised		
		Output	# of Openly Available Research Outputs with defined IPR # of Openly Available Research Outputs Patented		
		Outcome	# of Research Outputs with Open Licenses		
Entrepreneuria	ıl Spirit	Process	# of Open Science Spin-offs/Start-ups Creating		
		Output # of Open Science Spin-offs/Start-ups Bein Created			
		Outcome	# of Open Science Spin-off/Start-up Employees		
			# of Open Science Spin-off/Start-up Products		
			# of Open Science Spin-off/Start-up Services		
Category		OSCAM Res	search Exploitation Interventions		
Policy	available institutio • Senior m available granted	e research outputs th n. nanagement approva e research outputs w across the institution			
	<ul> <li>Senior management develop policies and procedures to support the collection the number of openly available research outputs that are in the process of beir legalised across the institution including clear guidelines and explanation.</li> <li>Senior management develop policies and procedures to collect the number of openly available research outputs with defined IPR, patents awarded and licen granted by individual researchers across the institution including clear guidelin and explanation.</li> </ul>				
Resource	number legalised • Allow re available granted	of openly available rod d across the institution searchers time (and searchers time (and search outputs with make them open (wh	supporting budget) to record the number of openly ith defined IPR, patents awarded, and licenses		
	assisting the proc (where p	of the number of openly available research outputs in d across the institution and to support open access			
	assisting with defi to suppo	with the collection of ned IPR, patents awa ort open access (whe			
	<ul> <li>Provide expertise and supporting in openly available research outputs, defining</li> <li>IPR, Patents and Licensing</li> </ul>				
Repository	<ul> <li>Ensure there is an appropriate database to record and make open the number openly available research outputs that are currently in the process of being legalised across the institution.</li> </ul>				
	openly a granted	<ul> <li>Ensure there is an appropriate database to record and make open the number o openly available research outputs with defined IPR, patents awarded and license granted across the institution.</li> </ul>			
Awareness Raising	<ul> <li>Ensure researchers know that they should record and make open openly availaresearch outputs that are currently in the process of being legalised and where they can receive training in how to do this and who they should go to for help a support.</li> </ul>				
	<ul> <li>Ensure researchers know that they should record and make open the number openly available research outputs with defined IPR, patents awarded and lice</li> </ul>				



	granted and where they can receive training in how to do this and who they should go to for help and support.
	<ul> <li>Explain to researchers the benefit of collecting and making openly available research outputs that are in the process of being legalised to both, them as individuals and the institution, that they trust the process and understand the link to researcher assessment.</li> </ul>
	<ul> <li>Explain to researchers the benefit of collecting and making open openly available research outputs with defined IPR, patents awarded, and licenses granted to both them as individuals and the institution, so that they trust the process and understand the link to research assessment.</li> </ul>
Training	<ul> <li>Train researchers in where and how to record the number of openly available research outputs that are in the process of being legalised.</li> </ul>
	<ul> <li>Train researchers in where and how to record the number of openly available research outputs with defined IPR, patents awarded and licenses awarded.</li> </ul>
	<ul> <li>Train researchers in openly available research outputs legalising, defined IPR, patents and licensing.</li> </ul>
	<ul> <li>Ensure researchers know where to go to receive support in legalisation of research outputs, defined IPR, patents and licensing.</li> </ul>
	<ul> <li>Try to find best practice examples and case studies of openly available research outputs defined IPR, patents and licensing citizen science that researchers can access and draw upon.</li> </ul>
Category	OSCAM Entrepreneurial Spirit Interventions
Policy	<ul> <li>Senior management approval and decision to collect the number of open science spin-offs/starts ups that are being created or have been created across the institution.</li> </ul>
	• Senior management approval and decision to collect the number of open science spin-offs/start-ups employees, products and services across the institution.
	<ul> <li>Senior management develop policies and procedures to support the collection of the number of open science spin-offs/starts ups that are being created or have been created across the institution including clear guidelines and explanation.</li> </ul>
	<ul> <li>Senior management develop policies and procedures to collect the number of open science spin-offs/start-ups employees, products and services across the institution including clear guidelines and explanation.</li> </ul>
Resource	<ul> <li>Allow researchers time (and supporting budget) to record and make open the number of open science spin-offs/starts ups that are being created or have been created across the institution.</li> </ul>
	<ul> <li>Allow researchers time (and supporting budget) to record the number of open science spin-offs/start-ups employees, products and services across the institution including clear guidelines and explanation.</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitoring and assisting with the collection of the number of open science spin-offs/starts ups that are being created or have been created and to support open access (where possible)</li> </ul>
	<ul> <li>Ensure there is a member (or members) of staff responsible for monitor and assisting with the collection of the number of open science spin-offs/starts ups that are being created or have been created and to support open access (where possible)</li> </ul>
	Provide expertise and support in all aspects of open science start-ups/spin-offs
Repository	<ul> <li>Ensure there is an appropriate database to record and make open the number of number of open science spin-offs/starts ups that are being created across the institution.</li> </ul>
	<ul> <li>Ensure there is an appropriate database to record and make open the number of number of open science spin-offs/start-ups employees, products and services across the institution.</li> </ul>
Awareness Raising	<ul> <li>Ensure researchers know that they should record and make open, open science spin-offs/starts ups and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Ensure researchers know that they should record and make open the open science spin-offs/starts ups and where they can receive training in how to do this and who they should go to for help and support.</li> </ul>
	<ul> <li>Explain to researchers the benefit of collecting and making openly available open science spin-offs/starts to both, them as individuals and the institution, that they trust the process and understand the link to researcher assessment.</li> </ul>



	<ul> <li>Explain to researchers the benefit of collecting and making open, open science spin-offs/starts ups that are being created or have being created and the number of employees, products and services these created to both them as individuals and the institution, that they trust the process and understand the link to research assessment.</li> </ul>
Training	<ul> <li>Train researchers in where and how to record the number of open science spin- offs/start ups openly available that are being or have been created.</li> </ul>
	<ul> <li>Train researchers in where and how to record the number of open science spin- offs/start-ups employees, products and services.</li> </ul>
	<ul> <li>Train researchers in all aspects of Open Science Spin-off/Start-up.</li> </ul>
	<ul> <li>Ensure researchers know where to go to receive support in Open Science Spin- off/Start-ups</li> </ul>
	<ul> <li>Try to find best practice examples and case studies of Open Science Spin-off/Start ups that researchers can access and draw upon.</li> </ul>

#### 5. Next Steps

This is very much an initial draft of this intervention supporting framework and we anticipate that there will be many further iterations. The next eighteen months will allow the pilot institutions to test the framework thoroughly in their institutions and provide regular feedback on how they are finding both the indicators and the interventions to support them. Alongside this a comprehensive sector wide consultation will take place in addition to ongoing conversations with key organisations, projects and sector partners to ensure that the final OPUS framework output is thoroughly embedded and a practical and usable tool for European RPOs and RFOs. We have already identified several points to consider and ideas for how the final framework could be improved. They are:

- The size and scope of the framework is designed to be comprehensive whilst allowing individual organisations to select their priorities. Are there are areas that we have excluded and have the right categories and indicator groups been selected?
- *The language* is deliberately broad to allow for different interpretations of the framework. Is it informative enough? Do we have the right categories of interventions and again has anything been excluded?
- Practical case studies and examples Should we provide examples of particular types of interventions in order to demonstrate good practice and ensure the framework is user friendly particularly providing more information about the qualified support staff that would help to implement the framework and with the monitoring, teaching and awareness raising. It may also be useful to highlight examples of repositories and databases that would work to incorporate the collection of metrics (cumulatively) and as open research repositories.
- Suitability for RFO's This draft framework is pitched for RPOs and we need to
  explore have this might relate to RFOs including the interplay between the generic
  and open science frameworks. This may mean translating the questions into an easy
  to use questionnaire for RFOs. It is important to consider interventions from
  alternative perspectives.



#### **End Notes**

- [1] There are 5 pilot organisations in OPUS. The 3 pilot RPOs are Nova University of Lisbon, University of Cyprus, and University of Rijeka. The 2 pilot RFOs are Research Council of Lithuania and Executive Agency for Higher Education, Research, Development, and Innovation Funding.
- [2] We would like to thank Amanda Crowfoot, Barend Mons, Cecilia Cabello Valdés, Volker Beckmann, and Wilhelm Widmark for their input and feedback on the framework and deliverables.
- [3] We would like to thank Association of European Research Libraries (LIBER), Coalition for Advancing Research Assessment (CoARA), coalition S, EOSC Steering Board, and European Organisation for Nuclear Research (CERN) for preliminary discussions on the framework.
- [4] We would like to thank Clifford Tatum, Ismael Refols Garcia, Karel Luijben, Ludo Waltman, and Mark van de Sanden for extensive discussions on the framework and research assessment.
- [5] Five types of indicators were originally considered: Input; Process; Output; Outcome; Impact. The input indicator was ruled out as this was not deemed relevant for the activities of researchers. The impact indicator was also ruled out as this typically looks at long-term and societal impact which is difficult to define and causally prove within the scope of individual researcher assessment.



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## 6. Appendix A – Table of Researcher Assessment Framework with Indicators and Metrics

Category	Subcategory	Indicator Group	Dimension	Indicator Type	Quantitative Metric
Research	Proposals	Proposal Development	Generic	Process	# of Project Proposals Being Developed
				Output	# of Project Proposals Submitted
				Outcome	# of Project Proposals Granted
					€ of Project Proposals Granted
			Open	Process	# of Developing Project Proposals Openly Available
				Output	# of Submitted Project Proposals Openly Available
				Outcome	# of Granted Project Proposals Openly Available
					€ of Granted Project Proposals involving Open Science
	Methods	Methods Development	Generic	Process	# of Method Sets Being Developed
				Output	# of Method Sets Finalised
				Outcome	# of Method Sets Implemented
					# of Method Sets Accessed
					# of Method Sets Cited
			Open	Process	# of Developing Method Sets Openly Available
				Output	# of Finalised Method Sets Openly Available
				Outcome	# of Openly Available Method Sets Implemented
					# of Openly Available Method Sets Accessed



				# of Openly Available Method Sets Cited
Data	Data Planning	Generic	Process	# of (FAIR) Data Management Plans Being Developed
			Output	# of (FAIR) Data Management Plans Finalised
			Outcome	# of (FAIR) Data Management Plans Implemented
		Open	Process	# of (FAIR) Developing Data Management Plans Openly Available
			Output	# of (FAIR) Finalised Data Management Plans Openly Available
			Outcome	# of (FAIR) Implemented Data Management Plans Openly Available
	Data Management	Generic	Process	# of (FAIR) Data Sets Being Developed
			Output	# of (FAIR) Data Sets Finalised
				# of (FAIR) Data Sets Archived
			Outcome	# of (FAIR) Data Sets Accessed
				# of (FAIR) Data Sets Cited
		Open	Process	# of Developing (FAIR) Data Sets Openly Available
			Output	# of Finalised (FAIR) Data Sets Openly Available
				# of Archived (FAIR) Data Sets Openly Available
			Outcome	# of Openly Available (FAIR) Data Sets Accessed
				# of Openly Available (FAIR) Data Sets Cited
	Data Review	Generic	Process	# of (FAIR) Data Set Peer Reviews Being Drafted
			Output	# of (FAIR) Data Set Peer Reviews Submitted
			Outcome	# of (FAIR) Data Set Peer Reviews Accepted



		Open	Process	# of Draft (FAIR) Data Set Peer Reviews Openly Available
			Output	# of Submitted (FAIR) Data Set Peer Reviews Openly Available
			Outcome	# of Accepted (FAIR) Data Set Peer Reviews Openly Available
Software	Software Development	Generic	Process	# of Software Sets Being Developed
			Output	# of Software Sets Finalised
				# of Software Sets Archived
			Outcome	# of Software Sets Accessed
				# of Software Sets Cited
		Open	Process	# of Developing Software Sets Openly Available
			Output	# of Finalised Software Sets Openly Available
				# of Archived Software Sets Openly Available
			Outcome	# of Openly Available Software Sets Accessed
				# of Openly Available Software Sets Cited
	Software Review	Generic	Process	# of Software Set Peer Reviews Being Drafted
			Output	# of Software Set Peer Reviews Submitted
			Outcome	# of Software Set Peer Reviews Accepted
		Open	Process	# of Draft Software Set Peer Reviews Openly Available
			Output	# of Submitted Software Set Peer Reviews Openly Available
			Outcome	# of Accepted Software Set Peer Reviews Openly Available
Publications	Publication Drafting	Generic	Process	# of Publications Being Drafted



				Output	# of Publications Submitted
				Outcome	# of Publications Published
					# of Publications Accessed
					# of Publications Cited
			Open	Process	# of Draft Publications Openly Available
				Output	# of Submitted Publications Openly Available
				Outcome	# of Published Publications Openly Available
					# of Openly Available Publications Accessed
					# of Openly Available Publications Cited
		Publication Review	Generic	Process	# of Publication Peer Reviews Being Drafted
				Output	# of Publication Peer Reviews Submitted
				Outcome	# of Publication Peer Reviews Accepted
			Open	Process	# of Draft Publication Peer Reviews Openly Available
			_	Output	# of Submitted Publication Peer Reviews Openly Available
			_	Outcome	# of Accepted Publication Peer Reviews Openly Available
Ma	iterials	Materials Development	Generic	Process	# of Material Sets Being Developed
				Output	# of Material Sets Finalised
				Outcome	# of Material Sets Implemented
					# of Material Sets Accessed
					# of Material Sets Cited



			Open	Process	# of Developing Material Sets Openly Available
				Output	# of Finalised Material Sets Openly Available
				Outcome	# of Implemented Material Sets Openly Available
					# of Openly Available Material Sets Accessed
					# of Openly Available Material Sets Cited
Education	Courses	Course Development	Generic	Process	# of Courses Being Developed
				Output	# of Courses Finalised
				Outcome	# of Courses Implemented
			Open	Process	# of Open Science Courses Being Developed
					# of Developing Courses Openly Available
				Output	# of Open Science Courses Finalised
					# of Finalised Courses Openly Available
				Outcome	# of Open Science Courses Implemented
					# of Implemented Courses Openly Available
	Resources	Resource Development	Generic	Process	# of Resources Being Developed
				Output	# of Resources Finalised
				Outcome	# of Resources Implemented
					# of Resources Accessed
					# of Resources Cited
			Open	Process	# of Open Science Resources Being Developed



					# of Developing Resources Openly Available
				Output	# of Open Science Resources Finalised
					# of Finalised Resources Openly Available
				Outcome	# of Open Science Resources Implemented
					# of Implemented Resources Openly Available
Tea	aching	Student Teaching	Generic	Process	# of Course Hours Assigned
				Output	# of Course Hours Taught
				Outcome	# of Students Passed in Courses
			Open	Process	# of Open Science Course Hours Assigned
				Output	# of Open Science Course Hours Taught
				Outcome	# of Students Passed in Open Science Courses
					# of Students Passed in Openly Available Courses
Su	pervision	Student Supervision	Generic	Process	# of Students Being Supervised
				Output	# of Students Supervised
				Outcome	# of Supervised Student Theses
					# of Supervised Students Graduated
			Open	Process	# of Students Being Supervised in Open Science
				Output	# of Students Supervised in Open Science
				Outcome	# of Supervised Student Theses Openly Available
					# of Supervised Students in Open Science Graduated



	Skills	Skills Development	Generic	Process	# of Skills Courses Being Followed
				Output	# of Skills Courses Completed
				Outcome	# of Skills Certificates Obtained
			Open	Process	# of Open Science Skills Courses Being Followed
				Output	# of Open Science Skills Courses Completed
				Outcome	# of Open Science Skills Certificates Obtained
Leadership	People	Staff Supervision	Generic	Process	# of Staff Being Supervised
				Output	# of Staff Supervised
				Outcome	# of Supervised Staff Theses
					# of Supervised Staff Projects
			Open	Process	# of Staff Being Supervised in Open Science
				Output	# of Staff Supervised in Open Science
				Outcome	# of Supervised Staff Theses Openly Available
					# of Supervised Staff Projects involving Open Science
	Projects	Project Management	Generic	Process	# of Projects Being Managed
				Output	# of Projects Completed
				Outcome	# of Projects Successfully Evaluated
			Open	Process	# of Projects involving Open Science Being Managed
				Output	# of Projects involving Open Science Completed
				Outcome	# of Projects involving Open Science Successfully Evaluated



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	Organisation	Unit Management	Generic	Process	# Unit Management Positions Assigned
				Output	# Unit Management Positions Completed
					# of Agreed Unit Management Outputs
				Outcome	# of Agreed Unit Management Outcomes
			Open	Process	# Unit Management Positions in Open Science Assigned
				Output	# Unit Management Positions in Open Science Completed
					# of Agreed Unit Management Outputs involving Open Science
				Outcome	# of Agreed Unit Management Outcomes involving Open Science
	Recognition	Expert Positions	Generic	Process	# of Expert Positions Assigned
				Output	# of Expert Positions Completed
					# of Expert Position Outputs
				Outcome	# of Expert Position Outcomes
					# of Expert Achievement Awards
			Open	Process	# of Expert Positions in Open Science Assigned
				Output	# of Expert Positions in Open Science Completed
					# of Open Science Expert Position Outputs
					# of Expert Position Outputs Openly Available
				Outcome	# of Expert Position Outcomes Openly Available
					# of Expert Achievement Awards for Open Science
Valorisation	Communication	Public Writing	Generic	Process	# of Publications Being Drafted



			Output	# of Publications Published
			Outcome	# of Publications Accessed
				# of Publications Cited
		Open	Process	# of Draft Publications Openly Available
		_	Output	# of Published Publications Openly Available
		_	Outcome	# of Openly Available Publications Accessed
		_		# of Openly Available Publications Cited
	Public Speaking	Generic	Process	# of Appearances Planned
			Output	# of Appearances Made
			Outcome	# of Appearances Accessed
				# of Appearances Cited
		Open	Process	# of Appearances on Open Science Planned
			Output	# of Appearances on Open Science Given
		_	Outcome	# of Appearances on Open Science Accessed
		_		# of Appearances on Open Science Cited
		_		# of Appearances Openly Available
Engagement	Intersectoral Engagement	Generic	Process	# of Intersectoral Engagements
			Output	# of Intersectoral Outputs
			Outcome	# of Intersectoral Outcomes
				# of Organisations Engaged



		Open	Process	# of Intersectoral Engagements involving Open Science
			Output	# of Intersectoral Outputs involving Open Science
			Outcome	# of Intersectoral Outcomes involving Open Science
				# of Organisations Engaged for Open Science
	Citizen Engagement	Generic	Process	# of Citizen Science Activities Ongoing
			Output	# of Citizen Science Activities Completed
				# of Citizen Science Outputs
			Outcome	# of Citizen Science Outcomes
				# of Citizen Scientists Engaged
		Open	Process	# of Citizen Science Activities involving Open Science Ongoing
			Output	# of Citizen Science Activities involving Open Science Completed
				# of Citizen Science Outputs involving Open Science
			Outcome	# of Citizen Science Outcomes involving Open Science
				# of Citizen Scientists Engaged in Open Science
Innovation	Research Exploitation	Generic	Process	# of Research Outputs Being Legalised
			Output	# of Research Outputs with Defined IPR
				# of Research Outputs Patented
			Outcome	# of Research Outputs with Licenses
		Open	Process	# of Openly Available Research Outputs Being Legalised
			Output	# of Openly Available Research Outputs with Defined IPR



			# of Openly Available Research Outputs Patented
		Outcome	# of Research Outputs with Open Licenses
Entrepreneurial Spirit	Generic	Process	# of Spin-offs/Start-ups Being Created
		Output	# of Spin-offs/Start-ups Created
		Outcome	# of Spin-off/Start-up Employees
			# of Spin-off/Start-up Products
			# of Spin-off/Start-up Services
	Open	Process	# of Open Science Spin-offs/Start-ups Being Created
		Output	# of Open Science Spin-offs/Start-ups Created
		Outcome	# of Open Science Spin-off/Start-up Employees
			# of Open Science Spin-off/Start-up Products
			# of Open Science Spin-off/Start-up Services

