Note that this template is purely a template; universities will be required to enter the information in this presentation into an online portal hosted by the Deputyship of Research & Innovation



#### The Research & Innovation Strategy of [Insert University Name] (2020-2024)

Submission Date: XX-XX-2020

#### **Strategy Contents**

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**4.2** Research Priorities & Associated Activities

**4.3** Overall Targets





The core objectives in developing 'The Context' section of this University Research & Innovation Strategy Plan:



#### **R&D** Baseline

To establish a baseline of knowledge on your university's existing R&D activities



#### **Existing Capabilities**

To generate an overall understanding of your internal capabilities and broader R&D advantages across the Kingdom's R&D ecosystem



#### **Future Enhancement**

To develop key findings as well as specific recommendations to further enhance R&D internal capabilities and output

From the lens of institutional funding....



To assess R&D historical performance data you provide in relation to institutional funding evaluation criteria



# Section 1: Mission and Scope for Research

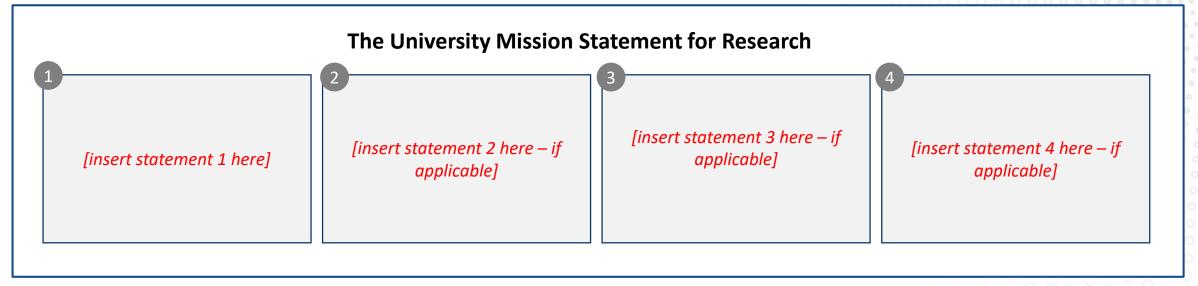


#### 1.1: University Mission Statement for Research

#### **Instructions:**

In the boxes below, provide <u>high-level</u> statements that describe the purpose of your university's R&D (why does it exist), and what makes your university's R&D unique. Feel free provide statements that may be linked to the following areas (if applicable):

- 1. The excellence in research and scientific outcomes that the university aims to achieve (or continue to achieve)
- 2. The innovation/commercialization challenges that the university aims to address (or continue to address)
- 3. The economic and/or industrial sectors that the university will target (or continue targeting)
- 4. The societal issues or community challenges that the university aims to contribute to (or continue contributing to)





#### **1.2: Disciplinary Strengths**

#### **Instructions:**

In the next slides, provide a list of Disciplinary Strengths that your university is currently concentrating its research, development and innovation activities on.

#### What is a "Disciplinary Strength"?

• A Disciplinary Strength is a "Second-level classification" of disciplines based on the Frascati Manual 2015 [see next slide for full list]

#### Notes:

- 1- Please select the number of Disciplinary Strengths in a manner that fits with your university's existing research and innovation capacity
- 2- The order of the Disciplinary Strengths will reflect your university's priority areas



#### Section 1: 1.2 Current Disciplinary Strengths

#### "Focus Area" – A second-level disciplinary classification as outlined in the 2015 Frascati Manual

#### Disciplinary List

#### 1. Natural Sciences

- 1.1 Mathematics
- 1.2 Computer and information sciences
- 1.3 Physical sciences
- 1.4 Chemical sciences
- 1.5 Earth and related environmental sciences

Example:

- 1.6 Biological sciences
- 1.7 Other natural sciences

#### 2. Engineering and technology

- 2.1 Civil engineering
- 2.2. Electrical engineering, electronic engineering, information engineering
- 2.3 Mechanical engineering
- 2.4 Chemical engineering
- 2.5 Materials engineering
- 2.6 Medical engineering
- 2.7 Environmental engineering
- 2.8 Environmental biotechnology
- 2.9 Industrial biotechnology
- 2.10 Nano-technology
- 2.11 Other engineering and technologies

#### 3. Medical and health sciences

- 3.1 Basic medicine
- 3.2 Clinical medicine
- 3.3 Health sciences
- 3.4 Medical biotechnology
- 3.5 Other medical science

#### 5. Social sciences

- 5.1 Psychology and cognitive sciences
- 5.2 Economics and business
- 5.3 Education
- 5.4 Sociology
- 5.5 Law
- 5.6 Political science
- 5.7 Social and economic geography
- 5.8 Media and communications
- 5.9 Other social sciences

#### 4. Agricultural and veterinary sciences

- 4.1 Agriculture, forestry, and fisheries
- 4.2 Animal and dairy science
- 4.3 Veterinary science
- 4.4 Agricultural biotechnology
- 4.5 Other agricultural sciences

#### 6. Humanities and the arts

- 6.1 History and archaeology
- 6.2 Languages and literature
- 6.3 Philosophy, ethics, and religion
- 6.4 Arts (arts, history of arts, performing arts, music)
- 6.5 Other humanities



Broad Classification: *Natural Sciences* Second-Level Classification: *Mathematics; Computer & Info. Sciences, etc.* 

you identify your university to have

research excellence in:

### 1.2: Disciplinary Strengths Disciplinary Strength #[Insert Number Here]: (Insert Discipline Here)

#### What specific sub-disciplinary topics would • [insert response here]

•

[insert response here]

...

А	Number of Post-Docs in this discipline (2018-19 academic year)	[insert response here]
В	Number of PhDs in this discipline (2018-19 academic year)	[insert response here]
С	Number of Master's Students in this discipline (2018-19 academic year)	[insert response here]
D	Name of the University Academic Department(s) involved in this discipline (2018-19 academic year)	[insert response here]
Е	Name of the Specialized Research Center(s)/Institute(s) in this discipline (2018-19 academic year)	[insert response here]
F	Number of ongoing projects contributing to the discipline (2018-19 academic year)	[insert response here]
G	Number of Scopus publications contributing to this discipline (2014-18)*	[insert response here]
Н	Number of non-Scopus publications contributing to the discipline (2014-18)*	[insert response here]
I	Number of Patents filed in the discipline (2015-2018)*	[insert response here]
J	Number of Patents issued in the discipline (2015-2018)*	[insert response here]



#### 1.2: Disciplinary Strengths

	Disciplinary Strength #[Insert Number Here]: (Insert Discipline Here)								
K	Name of journals published by your university that focus on this discipline, in addition to the journal's Scopus CiteScore metric	1. 2. 3.	[Insert title here, and CiteScore (if applicable)] [Insert title here, and CiteScore (if applicable)] 						
L	Contribution towards economic, social, or industry issues in this discipline (2015-2018)		[insert response here]						
M	Field-Weighted Citation Impact of your discipline based on the 'Fields of Research and Development' Frascati Manual classification available in Scopus (2014-2018)		[insert response here]						
N	Average citations per publication in this discipline based on the 'Fields of Research and Development' Frascati Manual classification available in Scopus (2014-2018)		[insert response here]						
0	The name and a short description of any key collaborations or strategic partnerships your university had with external stakeholders in this discipline (2015-2018)		[insert response here]						



#### 1.2: Disciplinary Strengths

# P Define the level of interdisciplinary research that exists within any of your aforementioned Disciplinary Strength Areas. This may include interdisciplinary projects, theses, research teams & collaborations, technology development, or research techniques and perspectives. [insert response here]

- 2 [insert response here]
- 3 [insert response here]



#### Section 2: Current Capabilities for Research



#### 2.1 Researchers and Support Staff

INSTRUCTIONS: For your university as a whole, provide the following statistics based on the 2018–2019 academic year

	2.1.1 Researchers	
А	Total Number of PhD Holders (either faculty or full-time researchers)	[insert response here]
В	Total Number of MSc Holders (full-time researchers only)	[insert response here]
С	Total Number of Post-Docs	[insert response here]
D	Total Number of Enrolled Master and PhD Students	[insert response here]



#### 2.1 Researchers and Support Staff

INSTRUCTIONS: For your university as a whole, provide the following statistics based on the 2018–2019 academic year

2.1.1 Researchers						
E	If your university has PhD Degree Programs, indicate below the (a) Program Title, and (2) Number of enrolled PhD students					
	<u>PhD Program Title</u>	Number Enrolled Students				
1	[insert title and affiliated department here]	[insert response here]				
2	[insert title and affiliated department here]	[insert response here]				
3	[insert title and affiliated department here]	[insert response here]				
4						
5						
6						
7						
8						



#### 2.1 Researchers and Support Staff

INSTRUCTIONS: For your university as a whole, provide the following statistics based on the 2018–2019 academic year

	2.1.2 Research-Support Staff	
F	Total Number of Lab Technicians	[insert response here]
G	Total Number of Administrators and Non-Technical Staff	[insert response here]

#### 2.1.3 Research-Support Office and Other Research Support

H Below, list the existing research support services your university offers:

- 1. [insert response here]
- 3. [insert response here]
- 5. ...
- 7. ...

- 2. [insert response here]
- 4. [insert response here]
- 6. ...
- 8. ...



#### **2.2** Research Environment

INSTRUCTIONS: For your university as a whole, provide the following statistics based on the 2018–2019 academic year

	2.2.1 Research Centers – Centers of Excellence – Research Institutes								
ı	List the names of your university's Research Centers, Centers of Excellence, and Research Institutes (other than academic departments)								
1	[insert name here]	2	[insert name here]						
3	[insert name here]	4	[insert name here]						
5	[insert name here]	6	[insert name here]						
7		8							
9		10							
11		12							
13		14							
15		16							
17		18							



#### **2.2** Research Environment

INSTRUCTIONS: For your university as a whole, provide the following statistics based on the 2018–2019 academic year

2.2.2 Major Research Labs - Facilities									
J	List the names of your university's major research facilities and labs managed by (a) academic departments or (b) Research Centers, Centers of Excellence and Research Institutes								
1	[insert lab/facility name, and its affiliated Dept./Center here]	2	[insert lab/facility name, and its affiliated Dept./Center here]						
3	[insert lab/facility name, and its affiliated Dept./Center here]	4	[insert lab/facility name, and its affiliated Dept./Center here]						
5	[insert lab/facility name, and its affiliated Dept./Center here]	6	[insert lab/facility name, and its affiliated Dept./Center here]						
7		8							
9		10							
11		12							
13		14							
15		16							
17		18							



#### 2.3 Funding

INSTRUCTIONS: For your university, provide the following statistics from 2015 to 2018:

2.3.1 External Funding								
External Grants								
2015 2016 2017 2018 Total								
K Total Number of Grants	[insert here]							
L Total Funding (SAR Million)								
		Contractual Pro	jects					
2015 2016 2017 2018 Total								
M Total Number of Projects	[insert here]							
N Total Revenues (SAR Million)								



#### 2.3 Funding

INSTRUCTIONS: For your university, provide the following statistics from 2015 to 2018:

2.3.2	Internal	Funding
		I MIIIMII

Internal Grants								
2015 2016 2017 2018 Total								
O Total Number of Grants	[insert here]							
P Total Funding (SAR Million)								



# Section 3: Research Accomplishments



3.

4.

#### 3.1 Research Output

INSTRUCTIONS: For your university, provide the following statistics from 2015 to 2018:

3.

	3.1.1 Scientific Output							
			2015	2016	201	7	2018	Total
Α	Scholarly Output: Number of Publications & Reviews only)*	(Articles	[insert here]					
В	Other Scholarly Output: No. Conference P Books, Book Reviews, etc.*	apers,						
С	Number of Non-Scopus Publications (Artic Reviews)	cles &						
			University	y Self-Journals				
				Title			eScore* oplicable)	Indexed in Scopus? (Yes/No)
D	List the names of the Journals your university owns and publishes (if	1. [ins 2.	ert title here]			1. [insert   2.	here]	1. [insert here] 2.

3.

4.



applicable)

#### 3.1 Research Output

INSTRUCTIONS: For your university, provide the following statistics from 2015 to 2018:

	3.1.2 Innovation / Commercialization Output						
	2015 2016 2017 2018 Total						
Е	Number of Issued Patents through SAIP	[insert here]					
F	Number of Issued Patent Families Applications Filed (simple families)						
G	Number of Published PCT Applications						

		3.1.3 Entrepren	neurship Output			
		2015	2016	2017	2018	Average
Н	Number of university students & faculty involved in projects for startup formation OR incubated businesses	[insert here]				
I	Number of projects for startup formation OR incubated businesses (resulting from patented or non-patented university research outcomes)					



INSTRUCTIONS: For your university, provide the following statistics from 2015 to 2018:

#### 3.2.1 Scientific Impact 2015 2016 2017 2018 **Average** Publications in Top Journal Percentiles: [provide 2015-18 [insert here] Publications in top 10% of journals\* average] Proportion of Publications in Top Journal Percentiles: Publications in top 10% of journals\* Publications in Top Citation Percentiles: Publications in top 10% of most cited publications worldwide\* Proportion of Publications in Top Citation Percentiles: Publications in top 10% of most cited publications\* Citation Count (Articles & Reviews only)\* Citations per Publication\*



INSTRUCTIONS: For your university, provide the following statistics from 2015 to 2018:

	3.2.2 Innovation / Commercialization Impact							
		2015	2016	2017	2018	Total		
Р	Number of Licensing/Option Deals	[insert here]						
Q	Number of Patents Involved in all Licensing/Option Deals							

	3.2.3 Entrepreneurship Impact							
2015 2016 2017 2018 Average								
R	Number of Startups that Resulted from Licensing/Option Deals (Technology-Transfer)	[insert here]				(		
S	Number of Startups that Resulted from Non- Patented Research Results (Knowledge-Transfer)							



INSTRUCTIONS: For your university, provide the following statistics from 2015 to 2018:

# 3.2.4 Economic - Social Impact 2015 2016 2017 2018 Average T Citing-Patents Count: number patents citing publications published at your university\* [insert here] ... Patent-Cited Scholarly Output: number of publications from your university that have been cited in patents\* V Patent-Citation Count: number of patent citations your university received\*



INSTRUCTIONS: For your university, provide a brief response to the below questions for 2015 to 2018:

	3.2.4 Other Economic – Social Impact					
W		List your contribution to any major industrial problems/challenges (if applicable):				
1	[insert here]					
2						
3						
4						
Х		List your contribution to any national or regional social challenges (if applicable):				
1						
2						
3						
4						



INSTRUCTIONS: For your university, provide a brief response the below questions:

	3.2.4 Other Economic – Social Impact						
Υ		List your contribution to any national or regional economic challenges (if applicable) from 2015-2018:					
1	[insert here]						
2							
3							
4							

	3.2.5 Impactful Collaborations / Strategic Partnerships (International & National	)
Z	International Collaboration Field-Weighted Citation Impact (2014-2018):	[insert response here]
AA	National Collaboration Field-Weighted Citation Impact (2014-2018):	[insert response here]



INSTRUCTIONS: Please list some key research and innovation partnerships/collaborations your university established from 2015 to 2018:

#### 3.2.5 Impactful Collaborations / Strategic Partnerships (International & National)

	With (a) Universities and (b) Research Institutions								
вв г	Name of Partner/Collaborator	Nature of Collaboration/Partnership	Major Outcomes						
1.									
2.									
3.									
4.									



#### 3.2 Research Impact **INSTRUCTIONS:** Please provide the following information for the period **2015** to **2018**: 3.2.6 Recognition and Esteem CC List key official Conferences or Symposia (if any) your university organized 1. [insert here] 2. 3. 4. List key rewards your university (or faculty/researchers) received DD 1. 2. 3. 4. List editorships your university's faculty/researchers held EE 1. 2. 3.

#### **3.2 Other Research Impact**

INSTRUCTIONS: Please list below any other impact you would like to include for the period 2015 to 2018:

FF

[insert additional information here]



#### Part 2: The Plan



#### Part 2: The Plan

The core objectives in developing 'The Plan' section of this University Research & Innovation Strategy Plan:



#### **Strategic Direction**

To provide a sense of direction in where to focus R&D activities and associated funding



#### **KSA National Priorities**

To align internal R&D capabilities to broader KSA national and regional priorities



#### **R&D Institutional Alignment**

To establish internal consistency across all researchers within a university in contributing to the same R&D goals

From the lens of institutional funding....



To assess continued institutional funding based on proposed goals, activities and targets



#### Part 2: The Plan

## Section 4: Research Plan



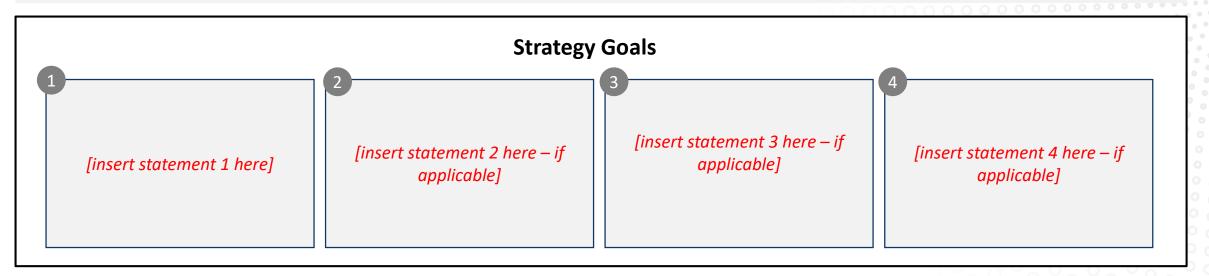
#### 4.1: Overarching R&D Goals

#### Instructions:

In the box below provide a maximum of 4 <u>high-level</u>, overarching goals that will drive the strategic direction for your university's R&D for the next 5 years\* (2020-2024):

#### What makes a "Goal"?

- Goals support the achievement of a larger purpose or strategy
- Goals are <u>what</u> you want to achieve (rather than how you want to achieve it)
- Goals may not be measureable and have longer time frames
- Goals are aligned within and across functions and departments to ensure everyone is contributing to a higher purpose





#### **INSTRUCTIONS:**

#### 4.2: Research Priorities and Associated Activities

In the next slides, provide a list of Research Priorities that your university would like to concentrate its research, development, and innovation activities in relation to:

- (a) The allocation of Ministry of Education institutional funding from 2020-2022, as well as
- (b) Your broader University Research & Innovation Strategy over the period of 2020-2024

#### What is a "Research Priority"?

- An area, be it within the scope of research, development, or innovation your university would like to focus on given your existing "Disciplinary Strengths" from Part 1, internal capabilities and external KSA opportunities for R&D
- Note that Research Priorities can be shaped in terms of a discipline, type of R&D [basic vs. applied], economic, social, or industrial challenges, or
  any other factor the university deems worthy of focus that falls within the R&D activity limits of the Deputyship for Research & Innovation (DRI)

#### Notes:

- 1- Please select the number of Research Priority Areas in a manner that fits with your university's existing R&D capacity
- 2- The Deputyship for Research & Innovation at the Ministry of Education will evaluate universities based on their ability to identify appropriate, yet strategic Priority Areas linked to their Disciplinary Strengths and submit appropriate reports



Please duplicate this slide and the 2 slides below according to the number of 'Disciplinary Strengths' your university wants to share in this Plan

Section 4:
4.2: Research Priorities and Associated
Activities

#### 4.2: Research Priorities and Associated Activities

Research Priority #[Insert Number Here]: (Insert Research Priority Here)

#### Description

Please provide a description of your Research Priority:

[Insert response here]

#### Impact on KSA and International Ecosystem

Describe how the priority is aligned to broader KSA priorities (economic, societal, industrial, developmental) (provide evidence whenever possible):

[Insert response here]

Describe how the priority is aligned to broader, international R&D trends (if applicable):

[Insert response here]



Please duplicate this slide and the above & below slides below according to the number of 'Disciplinary Strengths' your university wants to share in this Plan

Section 4: 4.2: Research Priorities and Associated Activities

#### **4.2: Research Priorities and Associated Activities**

Research Priority #[Insert Number Here]: (Insert Research Priority Here)

	Core Activities							
Priority	Research Priority Activity Title & Brief Description	Proposed Outcome	Involved Stakeholders	Other Considerations*				
#1	<ul> <li>[Insert Research Activity Title here]</li> <li>[insert description of the type of activity within this Research Priority your university plans to undertake here]</li> </ul>	[What application or problem will this activity address; how to define success?]	[Which stakeholders and partners outside of your university, if any, will contribute to this activity]	Duration  [Month, 20XX – Month, 20XX]  Expected Budget (SAR)  [Insert expected budget here]				
#2	<ul> <li>[Insert Research Activity Title here]</li> <li>[insert description of the type of activity within this Research Priority your university plans to undertake here]</li> </ul>	[What application or problem will this activity address; how to define success?]	[Which stakeholders and partners outside of your university, if any, will contribute to this activity]	Duration [Month, 20XX – Month, 20XX]  Expected Budget (SAR) [Insert expected budget here]				
#3	<ul> <li>[Insert Research Activity Title here]</li> <li>[insert description of the type of activity within this Research Priority your university plans to undertake here]</li> </ul>	[What application or problem will this activity address; how to define success?]	[Which stakeholders and partners outside of your university, if any, will contribute to this activity]	Duration  [Month, 20XX – Month, 20XX]  Expected Budget (SAR)  [Insert expected budget here]				



#### **4.2: Research Priorities and Associated Activities**

#### Research Priority #[Insert Number Here]: (Insert Research Priority Here)

	Core Activities								
Priority	Activity Title	Activity Owner(s)	Resources Required	Other Considerations					
#1	[Insert Activity Title from previous slide here]	[Insert university Department(s) and/or Research Center(s) to be involved in this activity]	[What existing facilities will be used, new equipment/software that will be required, additional consumables, etc.]	[Highlight any other important considerations such as IT Support, Researcher and Researcher Support requirements]					
#2	[Insert Activity Title from previous slide here]	[Insert university Department(s) and/or Research Center(s) to be involved in this activity]	[What existing facilities will be used, new equipment/software that will be required, additional consumables, etc.]	[Highlight any other important considerations such as IT Support, Researcher and Researcher Support requirements]					
#3	[Insert Activity Title from previous slide here]	[Insert university Department(s) and/or Research Center(s) to be involved in this activity]	[What existing facilities will be used, new equipment/software that will be required, additional consumables, etc.]	[Highlight any other important considerations such as IT Support, Researcher and Researcher Support requirements]					



#### **4.3 Research Targets**

INSTRUCTIONS: For your university <u>as a whole</u>, please provide the following projections for 2020 to 2023:

4.3.1 Research Capa	abilities
---------------------	-----------

Funding						
	2020		2021	2022	2023	
A Total Number of Grants						
B Total Funding (SAR Million)	unding (SAR Million)					
		Resear	chers and Support Staff			
2020			2021	2022	2023	
C Number of Post-Docs						
D INCLUSIVITY: Please list any targets to increase women participation and access to R&D opportunities			esponse here]			
E INCLUSIVITY: Please list any targets to increase student participation and interest in R&D opportunities (Undergraduates, Masters)			esponse here]			



#### **4.3** Research Targets

INSTRUCTIONS: For your university <u>as a whole</u>, please provide the following projections for 2020 to 2023:

#### **4.3.2 Output**

	Scientific							
		2020	2021	2022	2023			
F	Scholarly Output: Number of Publications (Articles & Reviews only)*							
G	Other Scholarly Output: No. Conference Papers, Books, Book Reviews, etc.*							
	In	novation						
		2020	2021	2022	2023			
Н	Number of Patents Filed							
I	Number of Patents Issued							



#### **4.3** Research Targets

**INSTRUCTIONS:** Please provide the following projections for 2020 to 2023:

4.3.3 Impact									
Scientific									
		2020	2021	2022	2023				
J	Citation Count (Articles & Reviews only)*								
K	Publications in Top Journal Percentiles: Publications in top 10% of journals*								
L	Publications in Top Citation Percentiles: Publications in top 10% of most cited publications worldwide*								
	Innovation - Entrepreneurship								
		2020	2021	2022	2023				
M	Number of Licensing/Option Deals								
N	Number of Startups that Resulted from Licensing/Option Deals								



#### Section 2: 4.3 Research Targets

#### **4.3** Research Targets

**INSTRUCTIONS:** Please provide the following projections for 2020 to 2023:

Economic							
		2020	2021	2022	2023		
0	Patent-Cited Scholarly Output: number of publications from your university that have been cited in patents*						

#### 4.3.4 Economic , Societal, Development, Other Impacts

P

[insert additional information regarding other targets here]



