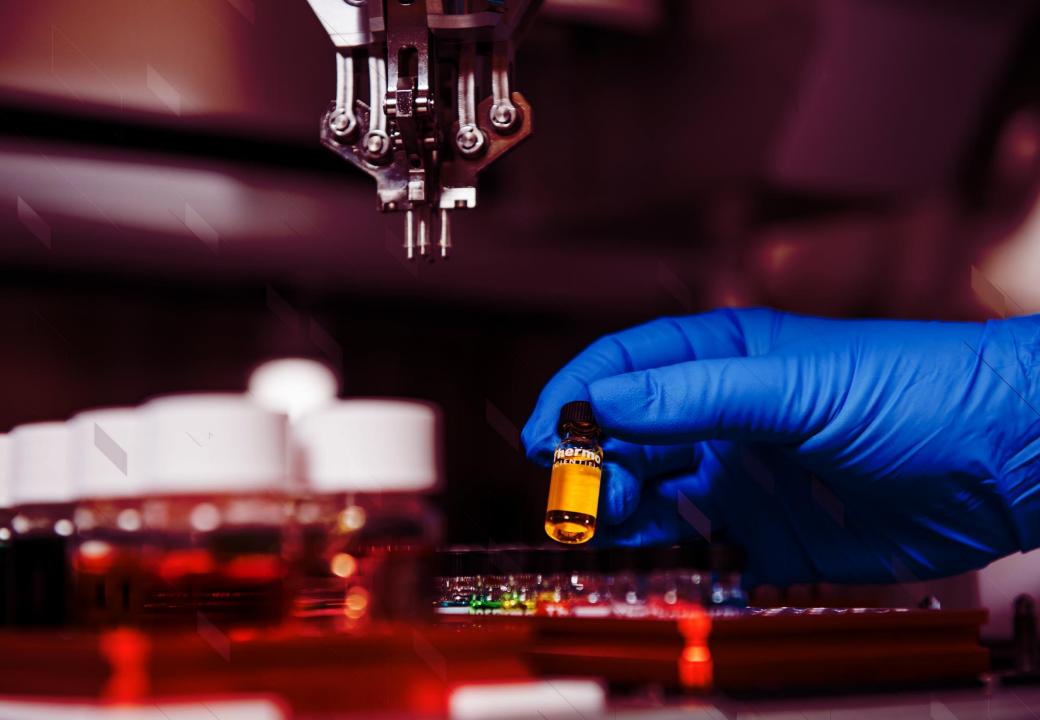




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## **President's Message**

Imam Abdulrahman Bin Faisal University aspires to achieve leadership in all academic, research and developmental fields. Praise to Allah Almighty and to the unlimited support of our prudent leaders, the University has been able to achieve a breakthrough in the areas of infrastructure in addition to establishing and developing academic programs. Having overcome all the difficulties, the university is eager to accomplish further achievements. The university is keen to outline a clear vision of its future milestones and goals. It has developed work strategies to achieve these goals through the strategic planning process which serves as a framework that organizes the future plans of the university for facilities, colleges, institutes, and research centers. All of this is to serve one goal: to enhance the leading role of the university for promotion of science, and its active contribution to the achievement of development of goals of Saudi Arabia that correspond to the Kingdom's Vision of 2030.

The university seeks to reinforce its role in the research field by focusing on research projects that contribute to finding solutions to local, regional, and global problems in order to achieve effective community partnerships while supporting excellence in research and innovation. The goal of the university is to be able to contribute positively to national research priorities in accordance with the scientific research rules and regulations. It is also keen to provide a stimulating research environment and contribute to the development, growth, and quality that the university aims to achieve and encourage collaborative research inside and outside the university. It will connect scientific research to contribute in the progress and prosperity of the nation.



**Dr. Abdullah Al-Rubaish**President of IAU

### **Vice President, Scientific Research Message**

The Deanship of Scientific Research at Imam Abdulrahman bin Faisal University has established a clear and ambitious vision for all scientific research programs at the university. This vision seeks to embed standards of excellence in all research areas and increase quality of scientific productivities to assist the vision of the university to occupy distinctive position among Universities nationally, regionally and internationally. Thus, strategies and objectives have been carefully placed to organize all research activities and support beneficiaries in all fields of scientific research.

The strategic planning initiative of Basic and Applied Scientific Research Center is an extension of the IAU strategic planning project, fulfilling its goals and aligning with its objectives. Especially, the projects of the center's operational plan correspond to the projects of the university in general and to the Deanship of Scientific Research projects in particular. Promoting research regulations and procedures involve the formation of additional research units and attractive experienced researchers. The deanship is dedicated to providing the optimum environment to carry out innovative research to achieve new discoveries across the broad spectrum of scientific disciplines. This in return, creates new opportunities for economic development and modification to promote an improved quality of life in our communities.



Prof. Fahad Al-Harbi
Vice President
of Higher Studies and Scientific
Research

### **Director, BASRC Message**

Nowadays scientific research is considered one of the significant pillars of our government's orientation, it is an effective means for evolving and finding solutions to the problems facing societies. In this context, one appreciative the initiatives of Imam Abdulrahman Bin Faisal University for establishing a research center, specialized in the field of basic and applied sciences, seeking to achieve our leader's directions signified by the Kingdom's strategic plan and vision 2030 which aim to convert society into science based and prosperous economy.

The Center of Basic and Applied Scientific Research specializes in the research fields of chemistry, physics, biology, mathematics, statistics and other scientific disciplines, in addition to the sub-areas that fall under these disciplines. The mission of Center is to provide effective contributions through innovative applied scientific research to serve the community with global economic development strategies. Accordingly, six initial strategic objectives have been identified as the cornerstone for establishing scientific research infrastructure compatible with world's best practices and international quality standards. That includes world-class researchers to build the center's research capabilities that promote high-quality scientific research to publish in the distinguished scientific journals within the list of "Nature Index" for upscaling the university scientific production locally, regionally and globally.

**Dr. Nuhad Al-Omair**BASRC Director

# **GENERAL OVERVIEW**

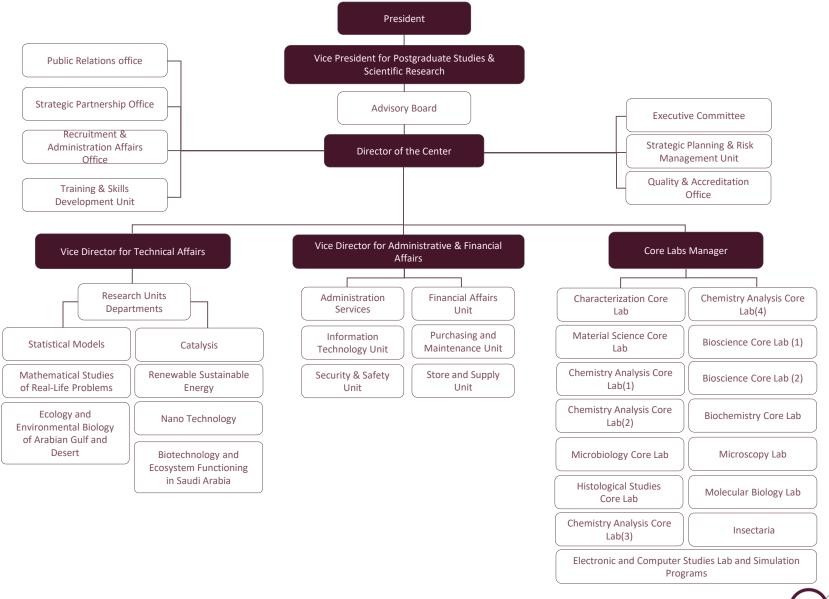
# **ABOUT BASRC**

Imam Abdulrahman Bin Faisal University is one of the leading Universities in the Eastern Province of Saudi Arabia. It focuses on supporting scientific research by establishing high-quality research centers with aim of improving the outputs of scientific research and converting them into inventions that can benefit human being and society in all applied fields.

An administrative decision was issued by Excellency of Dr. Abdullah Al- Rubaish, President of Imam Abdulrahman Bin Faisal University, based on the authorities assigned to him by law and in accordance with letter of General Secretary of the Interim Committee of higher education Committee of higher education council No. 248 dated 27/2/1437 AH. To meet the requirements of the public interest, it was decided to establish a Basic and Applied Scientific Research Center at Al Rayyan college complex in order to promote the scientific publication of faculty members, scholars and researchers inside and outside the college.



# **BASRC Organogram**



# **Nanomaterials Technology**

Quite a long time ago much attention has been paid to production and storage of energy from various sources such as water, solar waves, wind, petroleum and others. Now days, the research is oriented in the direction to produce new materials of high economical yields. Nanomaterials can be used for reinforcing devices used for water purification based on carbon nanotubes, foliated graphite, nanocrystalline metals, nanofibers and nanoscale inorganic fillers such as porous silicon, porous aluminum etc.

On the other side, Saudi Vision 2030 is a plan to reduce the country's dependence on petroleum resources, diversify its economy and develop public service sectors such as health, education, infrastructure, recreation and tourism.

This research unit will define ambitious goals to help the Kingdom's program to create and use variety of sustainable energy sources adapted to the new national orientation. It can involves "science of thin films and quantum effects, theory and materials modeling, surface and interface, thin film growth and epitaxy, nanostructured growth, optoelectronic and, dielectric coatings, organic thin films, thin films in biology, superconducting thin films, thin films in photovoltaic cells and energy, metallurgical coatings, applications of electrochemical depositions, advances in deposition techniques, characterization and instrumentation, large scale coating and industry" that can be divided in the three research topics:

- Nanomaterials Synthesis and Applications.
- Nanomaterials Theory and Experiments.
- Nanomaterials for Medical Applications.

## **Biotechnology**

Thousands of years ago, man predicted the use of microorganisms in food production. Moreover, the current accelerated lifestyle is due to the rapid incorporation of biotechnological techniques that allow the rapid identification of new microorganisms or even the genetic improvement of known species. Members of the unit of Biotechnology and the vision 2030 introduce applied research proposals aimed to solve industrial and environmental issues at eastern province using modern techniques.

The objectives of the Biotechnology unit are, to achieve excellence in the field of Biotechnology, to keep bound with the global and community services, to use optimal and modern techniques in Biotechnology researches, to prepare competent researchers dealing with applied research to solve industrial and environmental issues at eastern province, to develop and implement ways and means to ensure excellent performance.

The unit of Biotechnology provides all practical or administration necessaries for M.Sc. studies in different areas of Biotechnology, for example: studies on sulfate reducing bacteria from injection and production water samples of Saudi Aramco Oilfield (M.Sc. Study); Occurrence, molecular characterization and bioethanol production by cellulolytic fungi from Dammam soil (M.SC. Study). Biosynthesis of Silver Nanoparticles by Industrial Soil Isolate from the Eastern Province of Saudi Arabia. (M.SC. Study). The Biotechnology unit have collaboration with different International organizations such as: Saudi Aramco; King Fahad Special Hospital and The Center of Fungi, Assiut University, Egypt.

## **Ecology and Environmental Biology of Arabian Gulf and Desert**

The ecology and environmental biology of Arabian Gulf and desert unit at Basic and Applied Scientific Research Center, Imam Abdulrahman bin Faisal University is dedicated to give answers to many environmental problems like survival and productivity of man, animals and plants in this part of the world, and to provide gulf ecosystem a better chance of surviving the effects of climate change and man-made harmful effects.

Inspired by Saudi Vision 2030, we seek to safeguard our environment by reducing all types of pollution and fighting desertification (Saudi Vision, 2030, p.23). Our objectives are to maintain biodiversity and habitat community structure of ecosystems, identifying parasitic burden of fish, studying insect biology, assessing of detoxifying mechanisms in desert animals, and studying reproductive fertility of desert animals in the kingdom.

## **Catalysis**

Catalysis Unit pursues research and development on synthesis and processing of nanomaterials for catalysis and chemical engineering. Our research interest is the utilization of unique properties of metal nanoparticles for the design of heterogeneous catalysts with high control of composition, size, morphology, and chemical properties. We have highly skillful researchers working on fundamental aspects of acid-base and redox catalysis with the aim of understanding the nature of the active sites, reaction mechanisms, formal mechanisms, kinetics and design of reactors. Moreover, our research activities extend to cover the design of environmental friendly downstream processes, i.e. to upgrade the product quality (solar refinery, cross coupling reaction) or to degrade most recalcitrant pollutants in water.

In addition, the catalysis unit platform will be used for training of Saudi undergraduate and postgraduate students through senior and capstone projects which is verifying kingdom vision for supporting scientific research in different levels.

Capacity building is one of the main outcomes of the catalysis unit. Saudi Graduate students and scientists will be able to work together in new projects. They will expand their vision and enable them to learn how to produce nanomaterials and use them for applied science and environmental application. In addition, with these new skills and competencies they can be entrepreneurs to establish their startup companies, to transfer the technologies, add new products into commercial area and contribute to economy. Therefore, catalysis unit is consistent with the Kingdom 2030 vision.

# **Renewable and Sustainable Energy**

Renewable and Sustainable Energy unit (RSEU) is established by the Imam Abdulrahman bin Faisal University to develop strategies and policies promoting increased adoption of clean energy. This unit familiarizes researchers with the concepts behind and the design of renewable and efficient energy systems.

RSEU will be exposed to the problem of meeting energy demand especially; a renewable energy market, page: 49. While implementing strategies to reduce greenhouse gas emissions (achieving environmental sustainability, page:23) and to meet the full text of the Saudi vision 2030 document unveiled in Riyadh on 25 April 2016 by Deputy Crown Prince Mohammed Bin Salman.

The key objectives of the Unit are to identify and implement energy efficiency strategies for industrial, commercial and residential users of electricity, formulate guidelines for the design and maintenance of hydrogen production, photovoltaic power systems, demonstrate knowledge of strategies to reduce greenhouse gas emissions, CO2 capture and management, assess the economic and environmental benefits of utilizing sustainable energy resources in Eastern province- Saudi Arabia.

#### **Statistical Models**

Statistical Models Unit is planning to participate efficiently in the national progress by creating a favorable research aligned with the vision 2030. In the light of this vision, the Statistical Models unit aims to produce Artificial Intelligence and data science research (i.e. Machine learning and statistics) which are considered the main pillars of Industry 4.0.

One of the main roles for the statistical models unit is to draw a real value from the data in number of fields related to initiatives of the National Transformation Program. The data science applications can be used for predictions to get better informed decision. Combining data science with Artificial Intelligence, will contribute in a variety of research areas tackled by the unit such as diagnosis of a disease, digital services in smart cities (Neom), opinion mining, machine learning and big data analysis.

The statistical models unit objective is to enhance research quality by supporting researchers in different scientific areas through joint research projects (i.e., Chemistry, Biology, Engineering, Medical application etc.), in addition to have high-level applied research partnerships in different fields with industries in order to expand private sector joint investments for future development.

The KSA 2030 initiative aims to provide expertise to citizens to meet the future demands of the labor market. Thus, this unit is willing to provide University faculty members the basic knowledge and skills in data science through effective and personalized trainings and to develop a sustainable research plan through a special research program for students.

#### **Mathematical Studies for Real-Life Problems**

Mathematical modelling plays a fundamental role in the description of phenomena in the applied sciences and in several aspects of technical and industrial activities.

By the mathematical model we mean a set of equations and/or other mathematical relations capable of capturing the essential features of a complex natural or artificial system in order to describe forecast and control its evolution. The applied sciences are not confined to the classical ones. In addition to Physics and Chemistry, the practice of mathematical modelling heavily affects disciplines like Finance, Biology, Ecology, Medicine and Sociology.

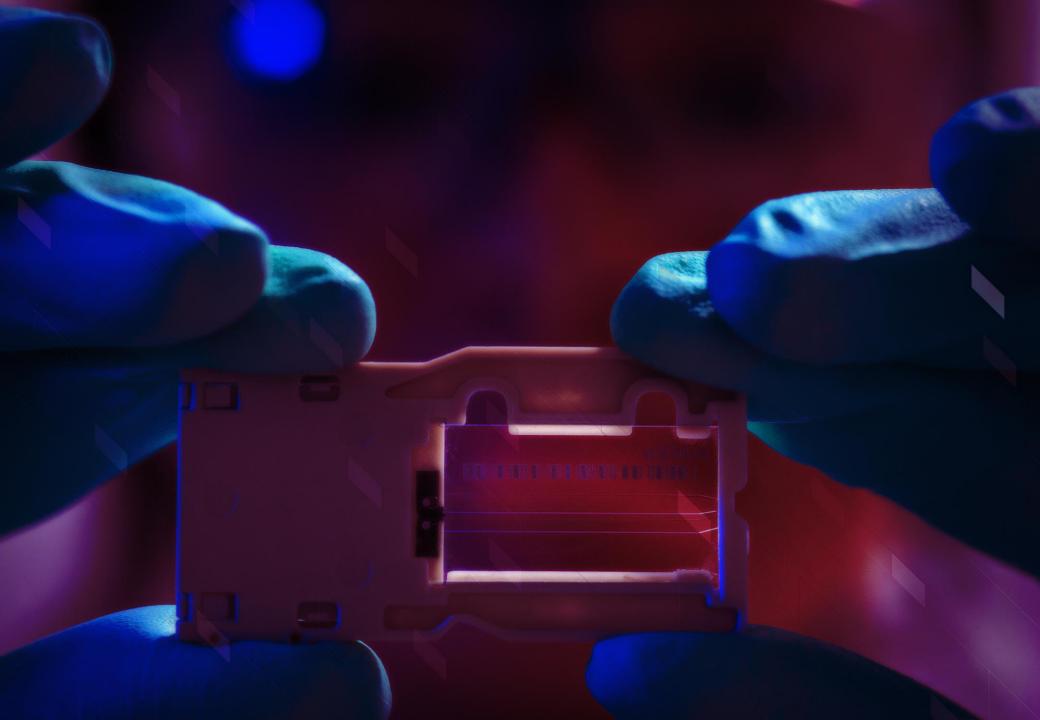
In industrial activity such as aerospace or naval projects, nuclear reactors, combustion problems, production and distribution of electricity, traffic control, etc., the mathematical modeling, analysis and numerical simulation, and experimental tests have become a common procedure, necessary for innovation and economic factors. It is clear that all of this is possible by the enormous computational power which is now available.

In general, the construction of a mathematical model is based on two main ingredients: general laws and constitutive relations. In this unit we shall deal with general laws coming from real life problems such as continuum mechanics, Physics, Chemistry, Biology, Ecology, Medicine, etc. This has deep relation with the Saudi vision 2030.

# **CORE LABS**

BASRC Core Labs function as a platform to support the research ambitions of the University. The labs provide analytical services to IAU research community on a wide range of advanced analytical instruments and the facility includes:

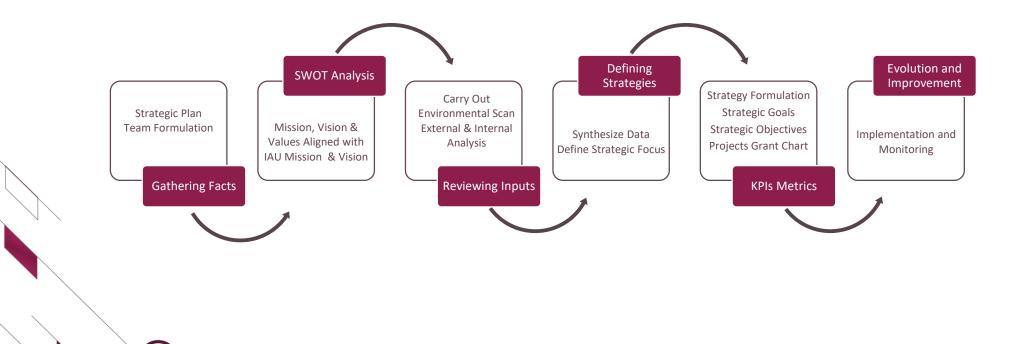
- Characterization Core Lab
- Material Science Core Lab
- Chemistry Analysis Core Lab (1 & 2)
- Chemistry Analysis Core Lab (1,2,3, & 4)
- Biochemistry Core Lab
- Bioscience Core Lab (1 & 2)
- Histological Studies Core Lab
- Microbiology Core Lab
- Microscopy Lab
- Molecular Biology Lab
- Insectaria Lab
- Electronic and Computer Studies Lab and Simulation Programs



# STRATEGIC PLAN PROCESS

## **Strategic Plan Process**

The strategic planning committee was formulated in January 2020. The process included regular meetings, extensive participation and input from the center, the University and from community partners. The first step is the development of the Center vision, mission and values in arrangement with University and 2030 KSA vision. After that a SWOT analysis was conducted to identify the strength, weakness, opportunities and threats. In light of the SWOT analysis, strategic priorities were identified goals and developed objectives. The strategic implementation plan, Gantt charts have been used extensively as a tool to overview the strategic goals, objectives, cost, responsibilities and tasks with its performance indicators to measure the progress of the college toward the attainment of its strategic goals and objectives.



## Vision, Mission and Values

#### Vision

A leading basic and applied scientific research center achieving excellence in national and international level.

#### Mission

Providing significant contributions through innovative basic and applied scientific research to serve the community aligned with world economic development strategies.

#### **Values**

Belief in Teamwork

Accountability

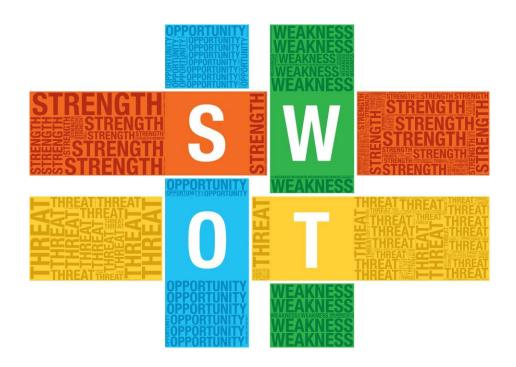
Social Responsibility

Respect

Creativity

# **SWOT Analysis**

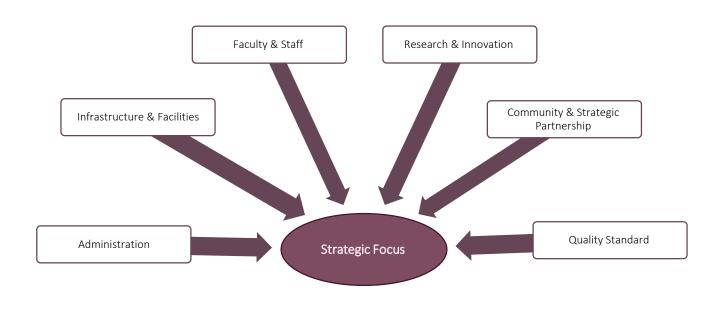
SWOT analysis (strengths, weaknesses, opportunities and threats analysis) was preformed to identify and analyze the internal and external factors that can have an impact on the viability of the center to help us focus on the center's strengths, minimize threats, and take the greatest possible advantage of the existing opportunities.



	Weaknesses	Strengths	
	1. Skilled workforce shortage i.e. (staff, technicians)	1. Strong research potentials with high-quality research, skilled researchers, active faculty publication	activities
ပ်	2. Low number of cutting-edge equipment	and opportunity for collaboration among scientist in multi-disciplinary research area	
cto	3. Inadequate administrative infrastructure including policies,	2. Support from IAU top management	
l fa	procedures and center's identity	3. Strategic location, the only research center in AL Rayyan campus and near science collage with variable science.	ety of
rna	4. Lack of adequate lab safety procedures and risk management	disciplines.	
Internal factors	planning	4. Availability of well-equipped specialized labs and research facility with access to useful digital library	ry for e-
	5. Lack of efficient financial planning and budget management plan	journals	
	6. Low number of postgraduate students	5. The center is accessible for everyone day and night with strong security protection	
		6. IAU support scientific research through prizes such as Research Excellence Award	
	Threats	Opportunities	
	1. Insufficient external funds and funded research	1. Seeking grants and support through collaboration with industries, companies, government agencie	s,
	2. High level of competition locally, nationally and internationally	universities and other research institutions	
	3. Some research measurements (analysis) are carried out at other	2. Partnership with competent research centers locally i.e. (Saudi ARAMCO-R&D, SABIC, KFUPM, KAUS	ST and
હ	research centers	hospitals)	
cto	4. The increasing costs and expenses of labs supply	3. The eastern region holds about a quarter of the world's reserves of oil and gas	
_ fa	5. Difficulty to attract skilled researchers and qualified staff	4. KSA vision 2030 is encouraging for innovation in research	
External factors	6. Lack of international collaboration	5. Income sources can be diversified through providing research and development consulting and pro	viding
Exte	7. Lack of opportunity to participate in international conferences	laboratory services for external customers	
		6. Develop collaborative grants proposals and projects among researchers in multi-disciplinary resear	ch area
		7. Offer new Master and PhD Programs due to the increasing demand for postgraduates in the labor r	market
		8. New trends in Saudi Arabia toward renewable energy sources	
		9. Implementing external quality procedures (proficiency testing) to evaluates laboratory's testing res	ults by
		comparing them to competitive laboratories	

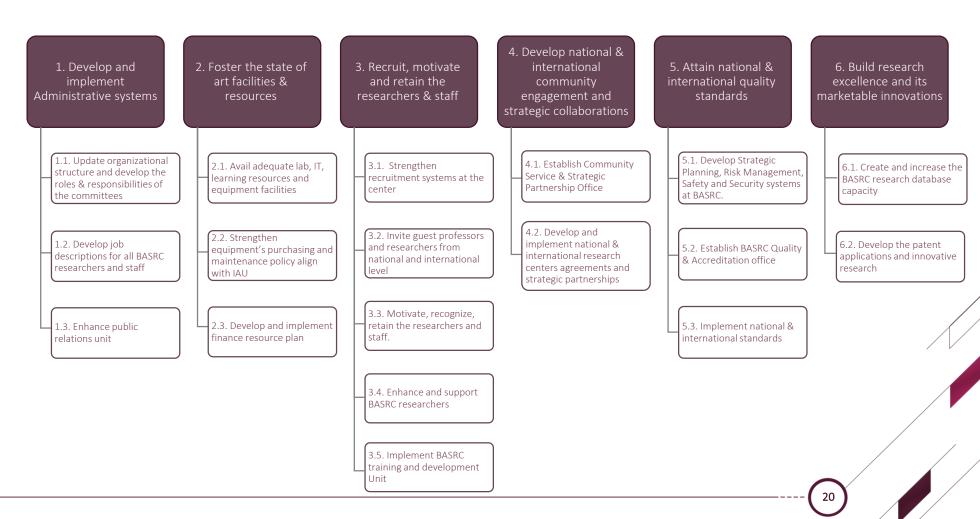
# **Strategic Focus**

To facilitate the achievement of the vision and mission and to select the right success factors, the center has set the following strategic focuses:



## **Strategic Goals & Objectives**

To accomplish the vision, mission, and values, and considering the data of analyzing internal and external environment along with strategic focuses, the center has set the following strategic goals:



# Alignment of BASRC Strategic Goals with External Factors (Strengths & Weaknesses)

	BASRC Strategic Goals	Develop and implement Administrative systems	Foster the state of art facilities & resources	Recruit, motivate and retain researchers & staff	Develop national & international community engagement and strategic collaborations	Attain national & international quality standards	Build research excellence and its marketable innovations
SE SE	Strong research potentials, skilled researchers and collaboration among scientist				✓		<b>√</b>
STRENGTHS	Support from IAU top management	✓					
STI	Strategic location, the only research center in AL Rayyan campus				✓		
	well-equipped specialized labs and research facility with access to useful digital library for e-journals		✓			<b>√</b>	
	The center is accessible for everyone day and night		✓			<b>✓</b>	
	IAU support scientific research through prizes "Research Excellence Award"	✓	✓	✓	✓	✓	✓
	Skilled workforce shortage			<b>✓</b>			
10	Low number of cutting-edge equipment		✓				
VESSE	Inadequate administrative infrastructure	✓				<b>✓</b>	
WEAKNESSES	Lack of adequate lab safety procedures		<b>✓</b>			✓	
	Lack of efficient financial planning	✓					<b>√</b>
	Low number of postgraduate students	<b>√</b>	<b>√</b>	✓	<b>√</b>	✓	<b>√</b>

# Alignment of BASRC Strategic Goals with Internal Factors (Opportunities & Threats)

	BASRC Strategic Goals	Develop and implement Administrative systems	Foster the state of art facilities & resources	Recruit, motivate and retain researchers & staff	Develop national & international community engagement and strategic collaborations	Attain national & international quality standards	Build research excellence and its marketable innovations
	Seeking grants and support through collaboration with external institutions	✓	✓		✓		✓
ES	Partnership with competent research centers locally	<b>√</b>			<b>√</b>	✓	
OPPORTUNITIES	The eastern region holds about a quarter of the world's reserves of oil and gas				✓		
OPPO	KSA vision 2030 is encouraging for innovation						<b>√</b>
	Income sources can be diversified (research consulting and laboratory services for external customers	✓	✓	<b>√</b>		✓	
	Develop collaborative grants proposals			✓	✓		<b>√</b>
	Offer new Master and PhD Programs		✓	✓			
	New trends in Saudi Arabia toward renewable energy sources		✓	<b>✓</b>	✓		<b>✓</b>
	Implementing external quality procedures (proficiency testing)	✓	✓	✓		✓	
	Insufficient external funds and funded research				✓		✓
	High level of competition locally, nationally and internationally		✓	✓		✓	
ι,	Some research measurements carried out at other research centers		✓			✓	
THREATS	The increasing costs and expenses of labs supply				✓		
	Difficulty to attract skilled researchers and qualified staff	✓	✓	✓			
	Lack of international collaboration		✓		✓		
	Lack of opportunity to participate in international conferences	✓	✓	✓	<b>√</b>		<b>✓</b>

## Alignment of BASRC Strategic Plan with IAU Strategic Plan

IAU has an inclusive strategic plane with 8 strategic goals that cover all academic and administrative performance of the university. These goals represent a framework for establishing strategic plans for all the university facilities. The center has aligned its strategic plan with IAU strategic plan to ensure it contributes to the achievement of IAU vision, mission and values.

#### IAU Vision

A leading University achieving distinction nationally, regionally and internationally.

#### **IAU** Mission

Providing creative knowledge, research, and professional services with effective community partnerships.

#### IAU strategic Goals:

- 1. Provide high quality knowledge and educational services
- 2. Develop scientific research and innovation system
- 3. Promote Community responsibility and partnership
- 4. Enforce University values and develop its human resources
- 5. Achieve Sustainable built environment
- 6. Build a modern institutional administrative system
- 7. Achieve financial sustainability of University resources
- 8. Enhance communication and information technology systems

# Alignment of BASRC Strategic Goals with IAU Strategic Goals

	BASRC Strategic Goals	Develop and implement Administrative systems	Foster the state of art facilities & resources	Recruit, motivate and retain researchers & staff	Develop national & international community engagement and strategic collaborations	Attain national & international quality standards	Build research excellence and its marketable innovations
ν	Provide high quality knowledge and educational services	✓					✓
GOALS	Develop scientific research and innovation system		✓		✓	✓	
STRATEGIC	Promote Community responsibility and partnership			✓			
IAU STR	Enforce University values and develop its human resources	✓			<b>√</b>	✓	
	Achieve Sustainable built environment				✓	✓	✓
	Build a modern institutional administrative system				✓	✓	
	Achieve financial sustainability of University resources		✓	✓			
	Enhance communication and information technology systems						<b>✓</b>



# IMPLEMENTATION PLAN

# GOAL 1. DEVELOP AND IMPLEMENT ADMINISTRATIVE SYSTEMS AT BASRC

### Objective 1.1: Update organizational structure and develop the roles & responsibilities of the committees

	Overview
Duration	5 YEARS
Cost/year	10000 SAR/YR.
Starting Date	January 2020
Responsibility for Implementation	<ol> <li>Vice President, Scientific Research</li> <li>Director, BASRC</li> <li>Vice Director, Administrative Affairs</li> <li>Members of all the Committees</li> </ol>

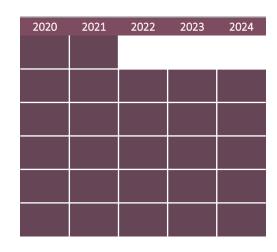
	ivieurics/ KPIS
1.	Number of policy & procedures developed and implemented annually
	in the center.

- 2. Organogram updated and approved
- 3. Number of committees framed annually.
- 4. Number of various committee meeting conducted in a year
- 5. Roles and responsibilities for each committee developed and implemented.
- 6. List the approved membership for each committee.

#### Project Calendar (5 years)

Tasks
Strengthen the administrative process at BASRC
Develop administrative policy and procedures align with scientific research vice presidentship & deanship of IAU.
Update BASRC organogram with approval of vice presidentship.
Establish various committees at BASRC
Frame the roles & responsibilities for each committee at BASRC
Align & follow MoE, IAU & Scientific Research administrative orders, decisions, rules and regulations at BASRC.

Period
2020-2021
2020- continuous



# GOAL 1. DEVELOP AND IMPLEMENT ADMINISTRATIVE SYSTEMS AT BASRC

### Objective 1.2: Develop job descriptions for all BASRC researchers and staff

Overview		
Duration	5 YEARS	
Cost/year	10000 SAR/YR.	
Starting Date	January 2020	
Responsibility for Implementation	<ol> <li>Director, BASRC</li> <li>All Vice Directors</li> <li>Members of Job Description Committee</li> </ol>	

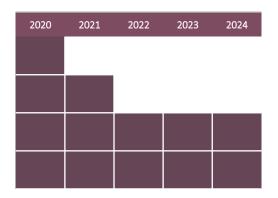
		IVIEUTICS/ KPIS	Metrics/ Kris	
1.	BASRC Job description	manual developed and implemented.	al developed and implem	

2. Number of Job description committee meeting conducted in a year.

Project Calendar (5 years)

Tasks
Setup the job description committee
Create a job specifications and descriptions for all BASRC researchers, staff and students align with MoE and IAU policy.
Follow the IAU job description manual
Implement and circulate all the job description to researchers and staff as when required.

Period
2020
2020- 2021
2020- continuous
2020- continuous



# GOAL 1. DEVELOP AND IMPLEMENT ADMINISTRATIVE SYSTEMS AT BASRC

### **Objective 1.3: Enhance public relations unit at BASRC**

Overview				
Duration	5 YEARS			
Cost/year	30000 SAR/YR.			
Starting Date	January 2020			
Responsibility for	1. Director, BASRC			
Implementation	2. All Vice Directors, BASRC			
	3 Public Relations Officer BASRC			

		Me	etric:	s/ I	ΚP

- 1. Public Relations Unit is established
- 2. Number of brochures, pamphlets designed and printed in a year.
- 3. Number of sponsors got externally for BASRC in a year
- 4. Annual BASRC achievement report submitted.

#### Project Calendar (5 years)

Tasks	
Setup the public relations unit at BASRC	2020
Develop BASRC annual public relation activity plan	2020
Prepare, design and implement the BASRC brochures, pamphlets circulate to the stakeholders	2020
Market the center activities through public relations	2020
Seek funds from external organizations to sponsor the researchers to attend national & international conferences /trainings	2020
Prepare and submit the center achievement report to the IAU administrators.	2020

Period
2020
2020- continuous

2020	2021	2022	2023	2024

## GOAL 2. FOSTER THE STATE OF ART FACILITIES & RESOURCES

#### Objective 2.1: Avail adequate lab, IT, learning resources and equipment facilities

Overview				
Duration	5 YEARS			
Cost/year	100000 SAR/YR.			
Starting Date January 2020				
Responsibility for Implementation	<ol> <li>Vice President, Scientific Research</li> <li>Director, BASRC</li> <li>All Vice Directors</li> <li>Deanship, ICT &amp; Central Library</li> <li>BASRC Stores &amp; Supply committee</li> <li>BASRC Learning Resource Center</li> </ol>			

	IVICTICS/ IXI IS
1.	Number of stores and supply committee meetings conducted in a
	vear.

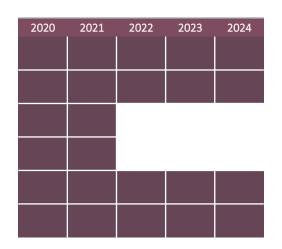
- 2. BASRC online software applications implemented.
- 3. Annual research activities and progress report documented and submitted.
- 4. Number of learning resource materials available at the center.
- 5. Number of new advanced technology equipment's purchased annually.

#### Project Calendar (5 years)

Recruit lab supervisor to monitor regularly day-to-day all lab activities and report to the concerned authorities.	
Strengthen BASRC stores & supply committee to improve their operational efficiency.	
Develop and implement BASRC online software application systems to monitor the research activities and progress of the center.  Setup IT support unit and staffs with help of deanship of ICT, IAU.	
Establish the BASRC learning resource center with support of central library, IAU provide learning materials to researchers, students and staff	
Advanced equipment technology and facilities are to be updated.	

Tasks

Period
2020- continuous
2020- continuous
2020-2021
2020-2021
2020- continuous
2020- continuous



# GOAL 2. FOSTER THE STATE OF ART FACILITIES & RESOURCES

### Objective 2.2: Strengthen equipment's purchasing and maintenance policy align with IAU.

•	
	Overview
Duration	5 YEARS
Cost/year	200000 SAR/YR.
Starting Date	January 2020
Responsibility for Implementation	<ol> <li>Deanship, Scientific Research, IAU</li> <li>Directors and All Vice Directors, BASRC</li> <li>Manager, Core Labs</li> <li>BASRC Equipment Purchasing and Maintenance Committee</li> <li>Lab Supervisor, BASRC</li> </ol>

	ivieures/ Kris
1.	Number of BASRC equipment purchasing and maintenance
	committee meetings conducted annually.

2. Annual calibration and maintenance schedule plan implemented.

Tasks	
Follow and align with IAU and DSR purchasing policy and procedures systems.	
Setup the equipment purchasing and maintenance committee	
Enhance BASRC maintenance policy and procedures	
Calibration, annual maintenance contract / schedule plan	
Lab supervisor is responsible for calibration and maintenance plan follow-up activities.	

Period
2020- continuous
2020
2020- continuous
2020- continuous

2020	2021	2022	2023	2024

# GOAL 2. FOSTER THE STATE OF ART FACILITIES & RESOURCES

### **Objective 2.3: Implement finance resource plan**

	Overview
Duration	5 YEARS
Cost/year	50000 SAR/YR.
Starting Date	January 2020
Responsibility for Implementation	<ol> <li>Vice President, Scientific Research, IAU</li> <li>Directors and All Vice Directors, BASRC</li> <li>Manager, Core Labs</li> <li>Head, Financial unit, BASRC</li> </ol>

Metrics	s/ KF	ls

- 1. Annual budget plan implemented
- 2. Number of funded research with internal and external sources created annually.
- 3. Annual income generated through the training programs.

Tasks
Setup financial unit at BASRC
Develop and implement annual budget plan for the center
Seek funds from external agencies for the research center
Encourage researchers to create more funded research with internal and external sources for revenue generation at the center.

Period
2020
2020- continuous
2020- continuous
2020- continuous

2020	2021	2022	2023	2024

### **Objective 3.1: Strengthen recruitment systems at the center**

Overview				
Duration	5 YEARS			
Cost/year	20000 SAR/YR.			
Starting Date	January 2020			
Responsibility for Implementation	<ol> <li>Vice President, Scientific Research</li> <li>Director, BASRC</li> <li>All Vice Directors</li> <li>Manager, Core</li> </ol>			

	incertes, in is					
1.	Number of recruitment committee meetings conducted annually.					

- 2. Annual recruitment plan created and submitted.
- 3. Annual recruitment report submitted .

Tasks
Establish the Recruitment Committee
Follow and align IAU recruitment policy and procedures
Strengthen "Researcher referral recruitment system" at the center.
Create recruitment plan as and when required
Annual recruitment report

Period	
2020-2021	
2020- continuous	

2020	2021	2022	2023	2024

### Objective 3.2: Invite guest professors and researchers from national and international level

Overview				
Duration	5 YEARS			
Cost/year	200000 SAR/YR.			
Starting Date	ting Date January 2020			
Responsibility for Implementation	<ol> <li>Vice President, Scientific Research</li> <li>Director, BASRC</li> <li>All Vice Directors</li> </ol>			

			Metrics/ KPIs				
	6	-					

- 1. Guest professors research database developed and implemented
- 2. Number of guest professors/researchers are invited at national and international level in a year
- 3. Number of guest lectures are conducted in a year.
- 4. Number of researchers and staff attended the guest lectures in a year.

Tasks
Create a guest researchers' database from national and international level
Follow and align with IAU visiting/guest professors and researchers by laws and regulations.
Seek approval from the IAU administrators to invite the guest professor.
Avail and gather inputs from guest professor from worldwide universities
Motivate all researcher and staff to attend the guest lectures from national and international level to update their research knowledge and outputs.

Period
2020- continuous

2020	2021	2022	2023	2024

### Objective 3.3: Motivate, recognize, retain the researchers and staff.

Overview				
Duration	5 YEARS			
Cost/year	100000 SAR/YR.			
Starting Date	January 2020			
Responsibility for Implementation	<ol> <li>Vice President, Scientific Research</li> <li>Director, BASRC</li> <li>All Vice Directors</li> <li>Manager, Core Labs</li> </ol>			

				,	
1	Performance	annraisal	systems	impleme	ented

2. Number of researchers and staff awarded annually.

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Tasks
Implement the Performance Appraisal Systems and follow the IAU promotion policy.
Provide financial and non-financial incentives for the researchers and staff
Availing flexible vacation systems for the researchers and staff
Develop best researcher award systems / best employees award systems to retain them
TWO months' salary award system for the researchers involved in the summer training programs at the center as per IAU policy.
Motivate all researchers and staff to attend the national and international workshops, seminars and conferences.
Day off facility system provided for researchers and staff who attended any conferences, workshops and seminars, if any financial incentives not provided.

Period	
2020- continuous	

2020	2021	2022	2023	2024
2020				2024

### **Objective 3.4: Implement BASRC training and development Unit**

Overview					
Duration	5 YEARS				
Cost/year	100000 SAR/YR.				
Starting Date	January 2020				
Responsibility for Implementation	<ol> <li>Vice President, Scientific Research</li> <li>Director, BASRC</li> <li>All Vice Directors</li> <li>Manager, Core Labs</li> <li>Manager, Training and Development unit.</li> <li>Public Relations Unit, BASRC</li> </ol>				

	Metrics/ KPIS	
1.	Annual training program calendar and plan implemented	

- 2. Number of training programs conducted in a year
- 3. Number of short, long-term paid training programs offered in a year.
- 4. Revenue generated report on paid programs annually.

Tasks
Set up training and development unit
Conduct the training need analysis survey for the community
Prepare and implement annual training program calendar
Implement annual training plan
Follow and align with IAU training policy and procedures
Develop and implement more research training programs for the community
Market the training and development activity to the community.
Generate more revenue for conducting paid training programs (short, long term, certificates & diploma programs)

Period
2020- 2021
2020- continuous

2020	2021	2022	2023	2024

# GOAL 4. DEVELOP NATIONAL & INTERNATIONAL COMMUNITY ENGAGEMENT AND STRATEGIC COLLABORATIONS

### **Objective 4.1: Establish Community Service & Strategic Partnership Office**

Overview					
Duration	5 YEARS				
Cost/year	100000 SAR/YR.				
Starting Date	January 2020				
Responsibility for	1. Vice President, Scientific Research				
Implementation	2. Director, BASRC				
	3. All Vice Directors				
	4. Deanship, Community services and sustainable				
	development.				
	5. Head, Public Relations				

1.	Number	of community	service	activities	conducted	in a	year

- 2. Number of research training programs conducted for community annually.
- 3. Number of participants attended in the research training programs in a year.

Metrics/KPIs

Tasks
Setup office for the community service and strategic partnership with full
capacity of support staff and facilities
Get support and coordinate with university Deanship, community services and sustainable development.
Prepare community service activity plan
Conduct more research training programs for the community

Period
2020- 2021
2020- continuous
2020- continuous
2020- continuous

2020	2021	2022	2023	2024

# GOAL 4. DEVELOP NATIONAL & INTERNATIONAL COMMUNITY ENGAGEMENT AND STRATEGIC COLLABORATIONS

### Objective 4.2: Develop and implement national & international research center agreements and strategic

Overview				
Duration	5 YEARS			
Cost/year	150000 SAR/YR.			
Starting Date	January 2020			
Responsibility for Implementation	<ol> <li>Vice President, Scientific Research</li> <li>Director, BASRC</li> <li>All Vice Directors</li> <li>Head, Public Relations</li> </ol>			

1.	List the	number	of strategic	partners	that	founded	annually	y .

- 2. Number of strategic partnership agreements/MoU signed at nationally and internationally in a year.
- 3. Number of research collaborations activity done for the ministry level in a year.
- 4. Number of external affairs projects completed in a year.
- 5. Annual achievement reports on strategic collaborations submitted.

Tasks						
To seek and develop various strategic agreements and contracts at nationally						
and internationally.						
Follow and align with IAU strategic partnership agreements/contracts regulations.						
Avail and sign new agreements/ Memorandum of Understanding (MoU) for						
national and international strategic partners for research collaborations.						
Collaborations with Ministry of Agriculture, external affairs projects and other ministries						
Prepare and submit the annual report on strategic partnership and achievements to the IAU administrators for decision making.						

Period	
2020- continuous	

2020	2021	2022	2023	2024

# GOAL 5. ATTAIN NATIONAL & INTERNATIONAL QUALITY STANDARDS

### **Objective 5.1: Develop Strategic Planning, Risk Management, Safety and Security systems at BASRC.**

_	
	Overview
Duration	5 YEARS
Cost/year	200000 SAR/YR.
Starting Date	January 2020
Responsibility for Implementation	<ol> <li>Vice President, Scientific Research</li> <li>Director, BASRC</li> <li>All Vice Directors</li> <li>Manager, Core Labs</li> <li>Manager, Financial Affairs</li> <li>Head, Public Relations</li> <li>Supervisor General, DQAA, IAU</li> <li>Quality officer BASRC</li> </ol>
Starting Date Responsibility for	January 2020  1. Vice President, Scientific Research 2. Director, BASRC 3. All Vice Directors 4. Manager, Core Labs 5. Manager, Financial Affairs 6. Head, Public Relations

1.	Strategic	plan	document	developed	and	launched
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- 2. BASRC Risk management plan developed
- 3. Number of risks found and rectified annually
- 4. Number of safety training programs conducted annually.
- 5. Annual report on strategic plan activities.

Tasks
Develop and launch the strategic plan for the center
Review, implement and monitor the strategic plan activities
Coordinate with Strategic Planner, DQAA for implementation of the strategic plan activity.
Implement BASRC Risk Management Plan
Develop and implement the Environmental Health and Safety programs
Implement fire safety programs at the center
Prepare and submit annual report on strategic planning implementations, risk management and safety issues at the center to the IAU administrator.

	Period
2020	
2020-	continuous

2020	2021	2022	2023	2024

# GOAL 5. ATTAIN NATIONAL & INTERNATIONAL QUALITY STANDARDS

### **Objective 5.2: Establish BASRC Quality & Accreditation Office**

Overview					
Duration	5 YEARS				
Cost/year	100000 SAR/YR.				
Starting Date	January 2020				
Responsibility for Implementation	<ol> <li>Vice President, Scientific Research</li> <li>Director, BASRC</li> <li>Vice Director, Administrative Affairs</li> <li>Supervisor General, DQAA, IAU</li> <li>Quality officer, BASRC</li> </ol>				

1.	Quality p	policy and	procedures	developed	and implem	ented.

2. Number of quality awareness training programs conducted in a year.

Metrics/ KPIs

3. Number of researchers and staff participated the quality training programs in a year

Tasks
Set up the quality & accreditation office with required staff capacity
Recruit quality officer to support the accreditation and strategic plan activities in the center.
Get support from DQAA for implementing the quality and accreditation activities.
Develop and implement quality management policy and procedures for the center.
Conduct training programs regularly about the quality awareness for all researchers and staff

Period
2020-2021
2020-2021
2020- continuous
2020- continuous
2020- continuous

2020	2021	2022	2023	2024

# GOAL 5. ATTAIN NATIONAL & INTERNATIONAL QUALITY STANDARDS

### **Objective 5.3: Implement national & international standards**

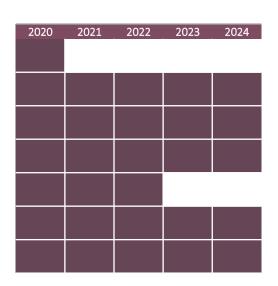
	Overview
Duration	5 YEARS
Cost/year	350000 SAR/YR.
Starting Date	January 2020
Responsibility for Implementation	<ol> <li>Vice President, Scientific Research</li> <li>Director, BASRC</li> <li>All Vice Directors</li> <li>Manager, Core Labs</li> <li>Manager, Financial Affairs.</li> <li>Supervisor General, DQAA, IAU</li> <li>Quality officer, BASRC</li> </ol>

	Metrics/ KPIs						
1.	List of national and international accreditation agencies developed						
	and approved.						

- 2. Number of ISO training programs conducted annually.
- 3. Number of nonconformities found and rectified through the ISO external review audit report.

Tasks
Find out the list of national and international accreditation agencies and
standards
Finalize and seek approval for the national and international accreditation agency
Coordinate with international accreditation officer, DQAA for supporting accreditation activities.
Fulfil and prepare ISO/IEC 17025 standards requirements.
Conduct regular ISO training programs for all researchers and staff
Implement and follow ISO standards at the center
Rectify any non-conformity submitted by the ISO auditor and act plan.

Period
2020
2020- continuous
2020- continuous
2020- continuous
2020- 2022
2020- continuous
2020- continuous



# GOAL 6. BUILD RESEARCH EXCELLENCE AND ITS MARKETABLE INNOVATIONS

### Objective 6.1: Create and increase BASRC research database capacity

Overview				
Duration	5 YEARS			
Cost/year	250000 SAR/YR.			
Starting Date	January 2020			
Responsibility for Implementation	<ol> <li>Director, BASRC</li> <li>All Vice Directors, Researchers and Staff</li> <li>Research Council Members</li> <li>Manager, Core Labs</li> </ol>			
	5. Public Relations Unit, BASRC			

1	L.	Guest professors	research	database	developed	and imp	lemented

2. Number of guest professors/researchers are invited at national and international level in a year

Metrics/KPIs

- 3. Number of guest lectures are conducted in a year.
- 4. Number of researchers and staff attended the guest lectures in a year.

Tasks
Strengthen the BASRC Research Council
Study and analyze the market research needs in the community/industries
Prepare annual research plan for the center in all units.
Establish new units to achieve the maximum of 15 research units in the center
Increase and publish the research scholarly output in referred journals

2020	2021	2022	2023	2024

# GOAL 6. BUILD RESEARCH EXCELLENCE AND ITS MARKETABLE INNOVATIONS.

### **Objective 6.2: Enhance and support BASRC researchers**

-	
Overview	
Duration	5 YEARS
Cost/year	20000 SAR/YR.
Starting Date	January 2020
Responsibility for Implementation	<ol> <li>Director, BASRC</li> <li>All Vice Directors, Researchers and Staff</li> <li>Research Council Members</li> <li>Manager, Core Labs</li> <li>Public Relations Unit, BASRC</li> </ol>

	ivieu ics/ Kris
1.	Number of researchers attended national and international advanced
	training programs in a year.

- 2. Number of researchers got sponsorship to participate at national and international conferences/exhibitions in a year.
- 3. Number of weekly/monthly social gatherings /events conducted in a year.
- 4. Number of "BASRC CAFÉ" events conducted annually.

Tasks
Encourage and support all BASRC researchers to send national and international
advanced training program requirements.
Providing flexible vacation facility and work lifestyle systems
Sponsor and support the researchers to participate the scientific
exhibitions/conferences at national/international level.
Reduce teaching workload for the researchers.
Organize weekly/monthly social gatherings/events for all BASRC employees.
Implement "BASRC CAFÉ"

Period
2020- continuous

2020	2021	2022	2022	2024
2020	2021	2022	2023	2024

# GOAL 6. BUILD RESEARCH EXCELLENCE AND ITS MARKETABLE INNOVATIONS

### Objective 6.3: Develop the patent applications and innovative research.

	Overview
Duration	5 YEARS
Cost/year	50000 SAR/YR.
Starting Date	January 2020
Responsibility for Implementation	<ol> <li>Director, BASRC</li> <li>All Vice Directors, Researchers and Staff</li> <li>Research Council Members</li> <li>Manager, Core Labs</li> <li>Patent Technical Office, IAU</li> <li>Public Relations Unit, BASRC</li> </ol>

	Wieu ics/ Kr is	
1.	Patent applications policy and procedures are implemented.	

- 2. Number of patent applications are applied annually.
- 3. Number of patented researches are awarded in a year.

Tasks
Follow and align with IAU Scientific Research Patent Technical Office (PTO)policy
and procedures.
Motivate all researchers, staff and student to provide more patents in their research activities.
Increase and conduct more patent applications and innovative researches at center
Market the patent research activities to the community

Period
2020- continuous
2020- continuous
2020- continuous
2020- continuous

2020	2021	2022	2023	2024



# **EVALUATION AND REPORTING**

### STRATEGIC PLAN EVALUATION AND REPORTING

The strategic planning process does not end with the strategy formulation phase alone. Implementation of the strategy is the most crucial phase of strategic planning. There must be a translation of strategic thought into strategic action. The center has assured to implement the plan through the Vice Director for Technical Affairs and under the directions of the Center's Director. The Strategic planning team has developed and followed the implementation plan for further progress. The delivery of our plan will therefore be undertaken through an annual planning cycle which will allow key priorities, tasks and resources to be allocated where BASRC aspirations and ambitions can be met alongside providing enough agility and creativity in our response to the changing external and internal demands as the future unfolds. Monitoring progress of our achievements will be undertaken through a series of metrics to demonstrate progress against our strategic objectives. These annual progress reports to be presented to the university administrators and it will help them for the decision making and find out the shortfalls.

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. OBJECTIV LIMPLEMENTA					
	TASK	Start Date	Completed (%)	In Progress (%)	End Date
#	TASK				
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## **TEAMS**

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