Research & Development Program
We have adopted “Saudi Arabia’s Vision 2030” as a clear target for economic and developmental action in the Kingdom of Saudi Arabia. In its aim to grant the Kingdom a leading position in all fields, Vision 2030 seeks to identify the general directions, policies, goals, and objectives of the Kingdom, and to reflect on the Kingdom’s strengths and capabilities.

The Ministry of Education has already launched a series of bold and transformative initiatives to meet the objectives set by the Kingdom’s Vision 2030 and National Transformation Program for general and higher education. To these it now adds a major commitment to strengthening the broad ecosystem of Saudi-based institutions, assets, and activities devoted to Research & Development and to ensuring the successful commercialization of results arising from this sector.

In 2017, we engaged with a range of stakeholders across the Kingdom’s R&D ecosystem to define 24 initiatives that can enhance the performance and impact of research and development activities undertaken across our nation’s universities and research centers.

In this context, The Ministry has now initiated implementation of a prioritized set of these initiatives. In coming months and years, we will begin execution of the remaining initiatives in our roadmap and work closely with government ministries and bodies, Saudi universities, international partners, and the private sector.

This is an exciting and transformative journey, focused on delivering real tangible value to the Kingdom’s economy and to support the strategic vision of our government’s leaders.

I would like to again thank our stakeholders across the wider Research and Development sector for supporting the progress we have made so far and we look forward to collaborating further to make a significant impact.

Minister of Education
Dr. Ahmed Al-Issa
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Context

- The Kingdom’s R&D ecosystem is a fundamental enabler of economic diversification and success.
- It is where new knowledge gets developed, innovation created and value-adding products and services are commercialized; but there is room to further strengthen the R&D ecosystem.
- The Ministry of Education is launching a new R&D program that is designed to strengthen the ecosystem and to help universities achieve their objectives.
- R&D program will be active until 2020.
- The purpose of this document is to give a brief overview of the R&D ecosystem and as well as the R&D program that will be launched.

Vision 2030 Objectives

Vision 2030 aims to increase KSA’s competitiveness and university rankings which highlights the overall importance of R&D for the Kingdom.

Objective 1
To rise from our current position on the Global Competitiveness Index

Top 25 2015
Top 10 2030

Objective 2
Have at least 5 Saudi universities among the top 200 universities in international rankings
Current State of R&D across KSA

Numerous entities and programs are involved in Kingdom’s R&D ecosystem today.

Other independent research and development centers serve specific industries.

- Saudi universities have their established research centers that serve various disciplines (e.g., engineering, medical, social etc.).
- Universities offer endowment funds with specific conditions for certain fields.

Large national corporations are engaging in partnerships with leading universities, institutes, and research centers to remain at the cutting-edge of technology and innovation.

Working collaboratively with a broad mix of relevant stakeholders, the Ministry has taken a careful look at the current state of our R&D ecosystem and compared its operations and performance with those that represent the very best international practice.
Current State of R&D across KSA

Saudi’s Research and Development sector has made significant progress in the recent years and has some very clear strengths. Examples include:

- In 2015, KSA issued 763 patents and published more than 47,000 citable publications between 2013 - 2015. One of the key players of the ecosystem, King Abdulaziz City for Science and Technology (KACST) implemented the National Science, Technology and Innovation Plan (NSTIP), which funded an impressive portfolio of over 1,852 science and technology projects, and awarded over 3.2 billion SAR to science and technology projects.

- King Fahd University of Petroleum and Minerals (KFUPM) established a research and educational partnership with Massachusetts Institute of Technology (MIT) which between 2008 and 2016 resulted in over 530 publications.

- King Abdulaziz University published 157 articles appearing in highly respected journals in 2016. KAU also has a Center of Excellence in Genomic Medicine Research (CEGMR), a leading center in the field of medical genomics research in the Western province of the Kingdom of Saudi Arabia.

- King Saud University established 10 centers and 4 institutes that are supporting its research programs. Within these centers, it launched numerous programs including The Research Chairs Program, Nobel Laureates Program, and Distinguished Scientific Fellowship Program (DSFP).
R&D Ecosystem Pillars

The strategic framework which will guide the overall program comprises 6 key pillars:

• Aligning priorities – ensuring that Research and Development funding is aligned to ongoing national priorities
• Ensuring appropriate funding – making sure that the correct level of funding is provided to ensure quality outcomes
• Performance Measurement – a focus on economic outcomes, not just measurement of the output such as the number of publications
• Talent – ensuring that our human capital has the right capabilities across the end to end Research and Development sector
• Partnerships – with both the private sector and eminent Research and Development organizations around the world
• Entrepreneurialism – encouraging entrepreneurship and innovation across the Kingdom to create the demand for Research and Development
The R&D Program

With a clear understanding of the current state of the R&D ecosystem and defined Strategic Pillars for transforming the R&D ecosystem, the Ministry has established a Steering Committee to govern its efforts.

The Steering Committee has endorsed the Ministry’s R&D Plan, which has short-listed a number of initiatives for implementation within the year. Three of them are currently being implemented:

- International Collaboration Initiative
- Post-Doc Training & Support
- Research Capital Fund

Executing the Ministry’s R&D Plan will build up the capacity of the R&D ecosystem by:

- Creating opportunities for Saudi public universities to engage in research collaborations with leading international universities
- Developing talent across the Research and Development value chain, particularly with respect to graduate students and full-time researchers
- Upgrading the existing capital infrastructure of the Kingdom’s research universities and obtaining game-changing equipment where there is strong promise for new scientific outputs
R&D Program Governance

The Steering Committee for the R&D Program is composed of a broad range of stakeholders to make program-level decisions for the R&D ecosystem:

H.E. The Minister of Education

R&D Program Owner

R&D Office (RDO)

R&D Steering Committee Chairman: H.E. Minister of Education

Government Representatives
International and Local Experts

Universities & Research Centers
Industry Leaders

Since the launch of the R&D Program, the Steering Committee has met twice, in December 2017 and February 2018.

Outcomes have included:

• Establishing the ways of working for the Committee
• Developing a shared understanding of the R&D capabilities of universities and industry
• Agreeing the Plan for 2018 and initiatives targeted for immediate implementation
# R&D Program Initiatives

24 initiatives have been designed to deliver the R&D Program’s Strategic Pillars

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<tr>
<th>Initiative</th>
<th>Description</th>
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<tr>
<td>Research Capital Funding</td>
<td>Establish a rolling fund to support specific additional capital investment and more effective maintenance of existing facilities</td>
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<td>International Collaboration</td>
<td>Developing a legal and standardized national framework to facilitate effective international collaborations</td>
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<tr>
<td>University/ Industry Partnership Program</td>
<td>Establish a framework/platform to enable R&amp;D partnerships, and encourage universities to develop a “unique selling point”. To attract private sector companies</td>
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<tr>
<td>Post-doc Training and Support Program</td>
<td>Provide universities with additional funds to specifically increase post-docs positions in KSA universities and support post-doc trainings</td>
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<td>PhD Scholarship Facilitation</td>
<td>Facilitate more students to enter PhD programs in local KSA universities by incentivizing local &amp; international students.</td>
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<td>Technology and Innovation Centers</td>
<td>Develop a fund aimed at technology and innovation centers focusing translational research aims at increasing the commercialization of research activities and technology transfer</td>
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<td>Technology Transfer Offices (TTOs)</td>
<td>Provide incentives and matched funding for leading research universities’ to developed and strengthen existing TTOs</td>
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<td>Knowledge Sharing Platforms</td>
<td>Develop a platform that encourages the sharing of active R&amp;D activities between research instructions and the private sector</td>
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<td>Knowledge Transfer Partnership Fund</td>
<td>Fund allocated to universities which provide monetary vouchers to SMEs as incentives to use Saudi-based R&amp;D faculty and students to enhance SMEs business opportunities and innovations</td>
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<td>National R&amp;D Awards</td>
<td>Develop national awards for local researchers &amp; institutes within Saudi Arabia</td>
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<tr>
<td>International Exchange Program</td>
<td>Providing leading university faculty and top STEM graduate students with opportunities to partner and conduct short-term research and training exchange programs at leading institutes</td>
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<tr>
<td>Incubator Development</td>
<td>Motivate universities to provide faculties, support, infrastructure know-how and encourage for start-up activities</td>
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National Innovation Fund: Building a long term “third stream” of funding to universities to support universities in developing capacity and capability for downstream phases of R&D.

Research Pooling Program: Requires cooperation among groups of universities to share research goals.

Science & Technology (S&T) Parks: Building physically clustered research and commercialization centers of universities, private sectors and other institutions to share.

Integrated Human Asset Pyramid: Effective support of technology-driven economic growth requires more than just top-flight PhD scientists.

Industry Placements: Funds provided to University programs which support university doctoral students and faculty to spend a placement period within key industries, or SME’s.

Human Asset Database for STEM Professionals: Developing an integrated repository of information on the knowledge and skills of Saudi human resources in STEM.

Start-up Support Program: Establishing a center with a mission of reducing the time and cost associated with starting and registering a new business as well as supporting its growth.

Research and Development Leadership & Management Programs: Launching leadership programs in order to improve the leadership and technology management skills.

IP Laws and Regulations: Developing IP laws and regulations, in line with international best practice, to promote collaboration and knowledge sharing.

(S&T) Awareness Program within the Ministry: Work with the Ministry & relevant bodies to support existing projects to raise the STEM capabilities of local secondary-level teachers.

Next Generation Science and Tech Policy: Using technology to form policies: forming policies aimed at driving R&D towards next generation technologies through making use of advances in technology.

Supporting Research in Social Sciences: Enabling researchers to better understand and develop solutions for current & emerging socio-economic challenges facing KSA.
The conference will promote international partnerships in 6 priority science and technology fields and 11 associated sub-fields:

- Petrochemicals
  - Polymers & catalysis

- Life Science & Health
  - Biogenomics, nanobiology

- Information Technology
  - Cyber security
  - Machine learning

- Energy
  - Renewables & storage
  - Oil & gas

- Water
  - Desalination, waste water reuse
  - Red Sea

- Environment
  - Climate change
  - Pollution & crowd mgmt.
  - Food security
Current Initiatives Post-Doctoral Program

Overview

Post-doctoral positions funded for 2 - 3 years in Saudi universities
First cohort is funded from AY 2018
Funding also provided for consumables and matching grants for training

Objectives

- Advance research capacity and capabilities in Saudi universities in fields of high national priority
- Enhance human capital (particularly recent PhD Saudi graduates) and develop a sustainable pipeline of researchers in strategic S&T fields
- Create non-teaching employment paths for early career Saudi researchers
- Provide early career researchers with access to mentorship and training programs

Mechanics

Unis submit proposals → Expert panel evaluate proposals and issue awards → Unis recruit post-docs → Post docs conduct research → Unis submit progress reports

Ongoing management, reporting, and governance by the RDO
Current Initiatives Research Capital Fund

Overview

- Provide significant funding for new game-changing capital equipment to eligible universities
- Provide funding for operating expenses and maintenance of existing research equipment and facilities

1. Tranche 1
   
   “Floor” Funding
   
   - Maintain, upgrade, renew existing research facilities and equipment
   - Provided to eligible public universities based on a formula based on research intensity
   - In parallel, universities will also begin a research facilities survey to inform future floor & strategic allocations

2. Tranche 2
   
   Strategic and Special Research Funding
   
   - Large scale, new capital equipment which will enhance scientific capabilities and support a University’s research strategy
   - Provided on a selective basis in response to University proposals
Contact Details

For further information please visit our website

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