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مدينة الملك عبد العزيز
للعلم و التقنية KACST

Our Journey Towards a Knowledge-Based Economy

Technology Innovation, Entrepreneurship and Incubation in the Kingdom

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Imperatives of a Knowledge-Based Economy

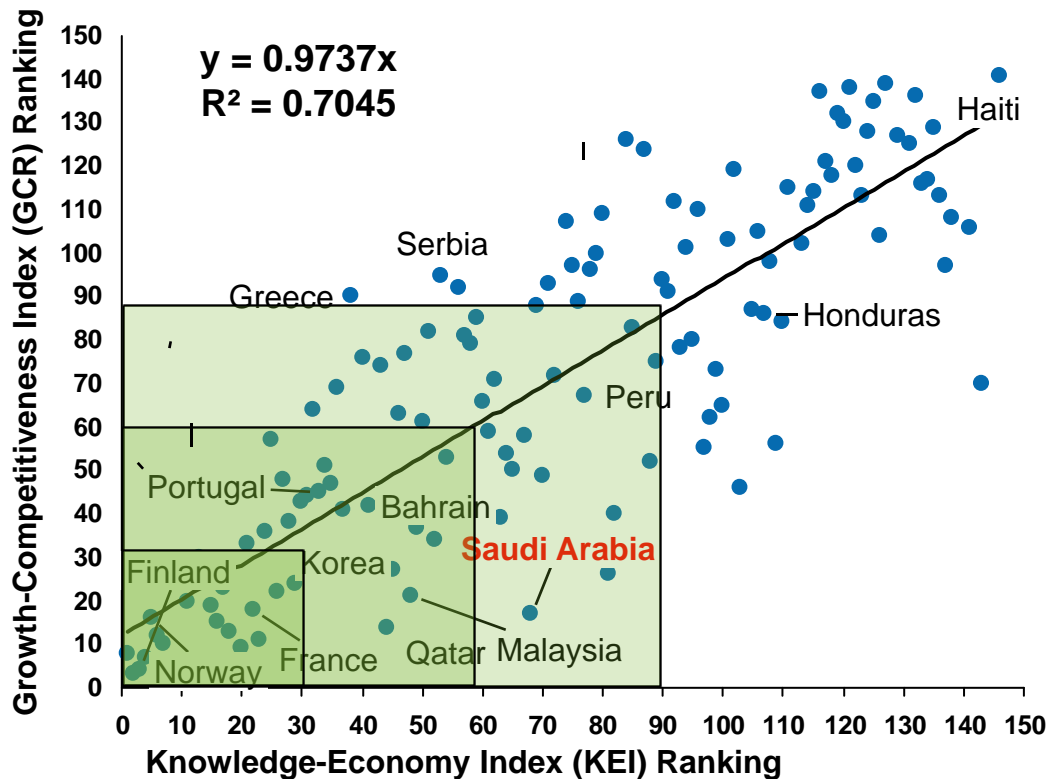
National Science and Technology Policy

Objectives of KACST

Objectives of the Conference

Knowledge-based economies provide nations unique competitive capabilities - a key advantage that KSA must exploit

Knowledge-Economy and Competitiveness Ranking 2010 World Bank Indices



Higher Growths During Economic Booms

Increased Productivity Gains

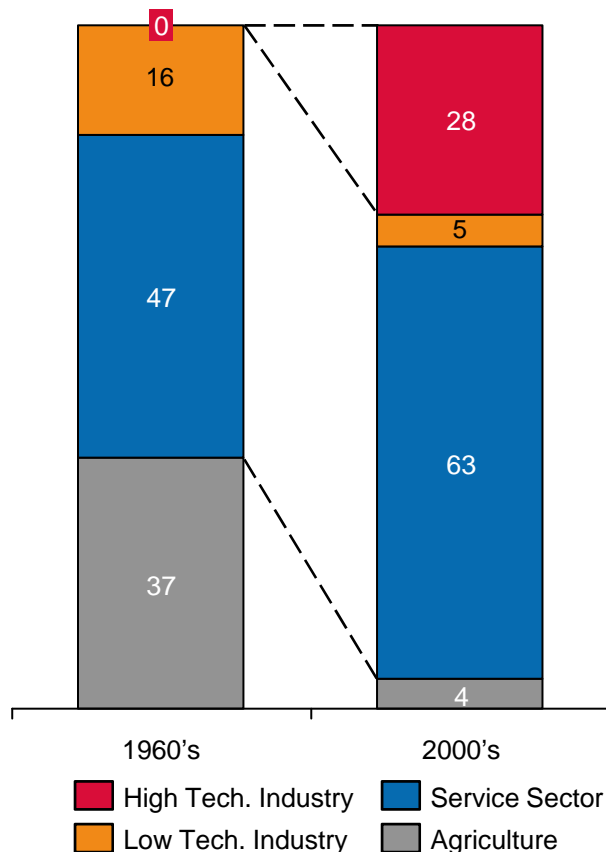
Faster Recoveries

Ability to Produce Sustainable Jobs

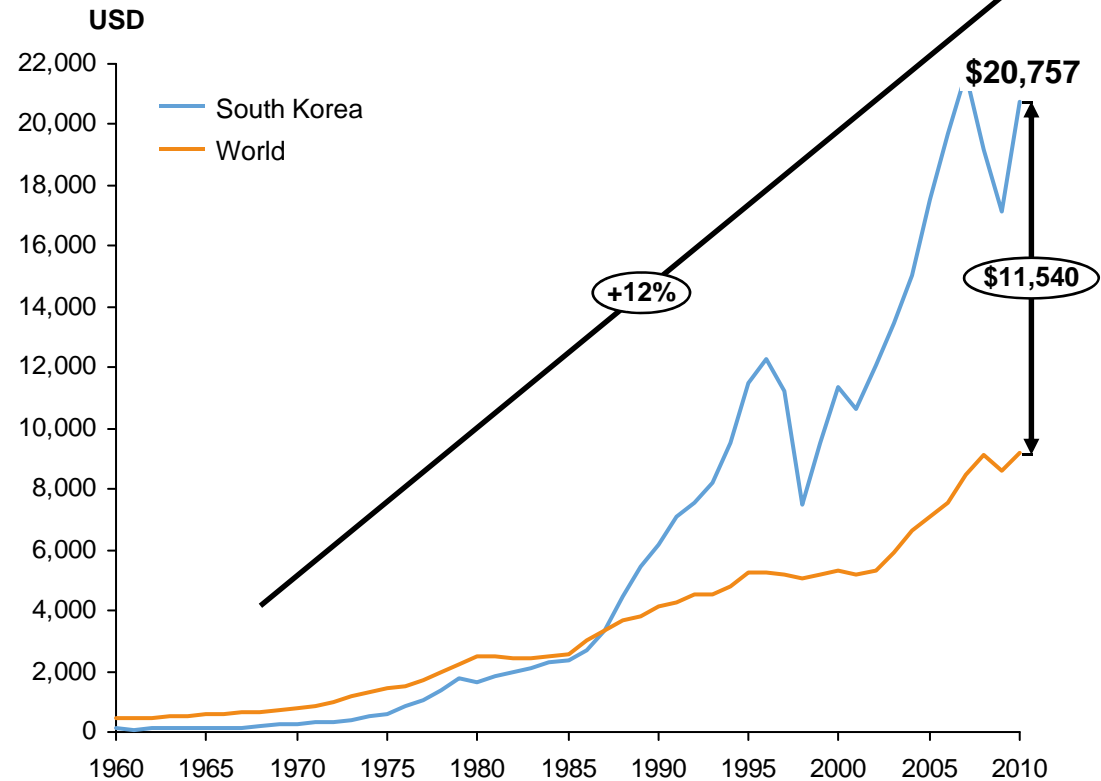
Case in point: South Korea successfully transitioned towards a knowledge based economy and has reaped associated benefits

South Korea Case

South Korea Economic Mix



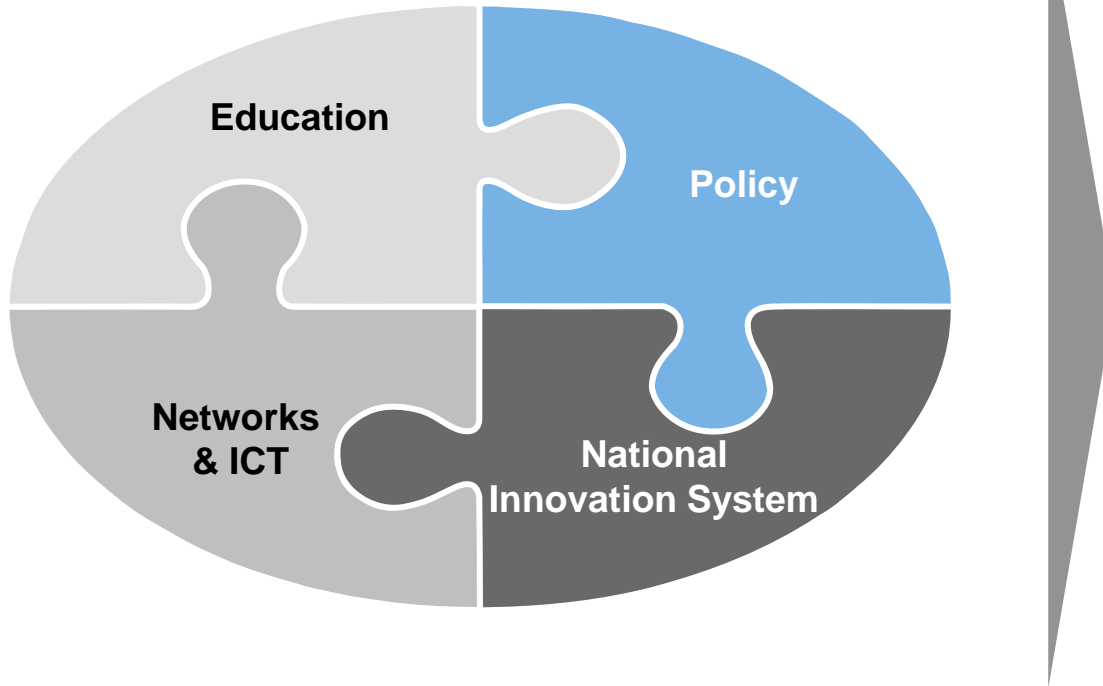
South Korea GDP Per Capita



Knowledge-based economies rely heavily on the production and management of knowledge, rather than simply physical products

Knowledge-Based Economies (KBE)

Four Pillars of KBE

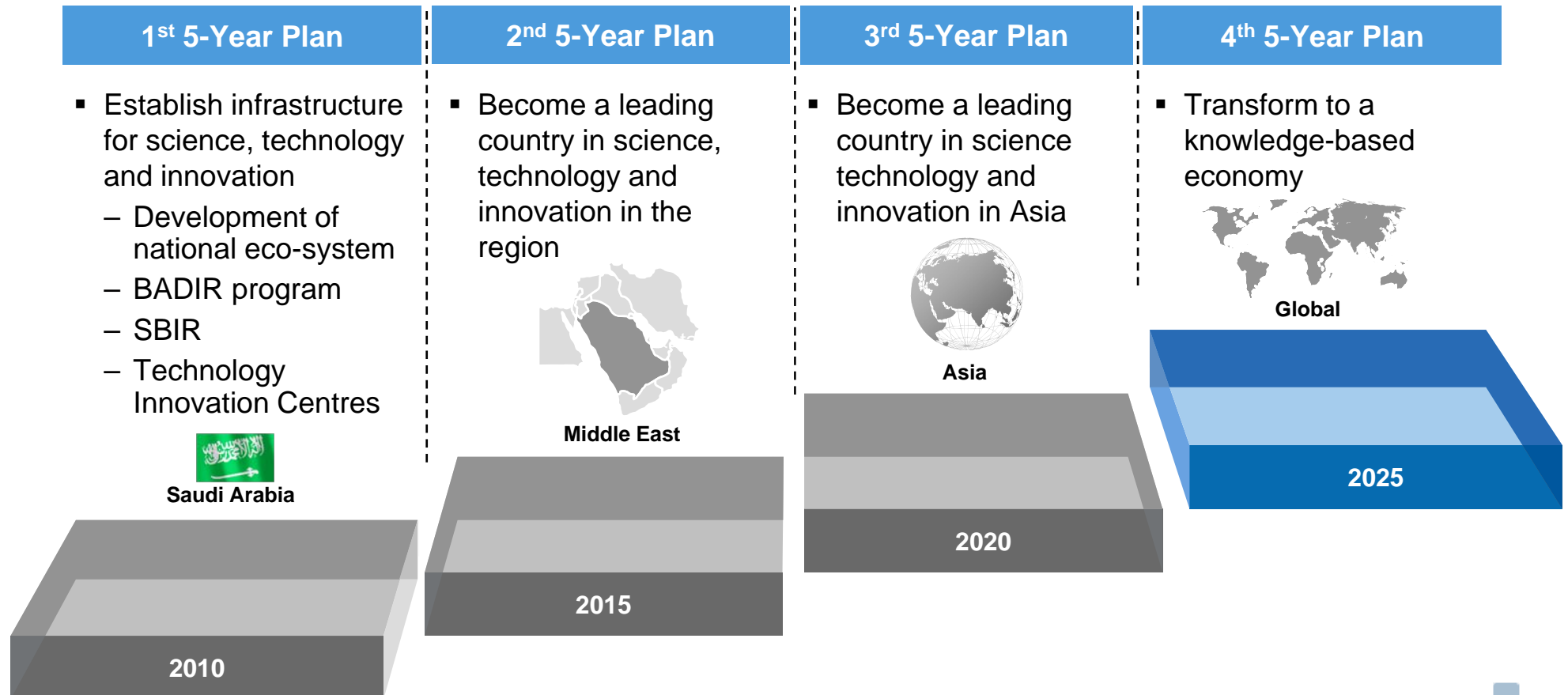


Benefits of KBE

- 1 Drive Economic Growth
- 2 Create New High Value Jobs
- 3 Globalize Local Economy
- 4 Facilitate Knowledge Transfer
- 5 Foster Innovation & Entrepreneurship

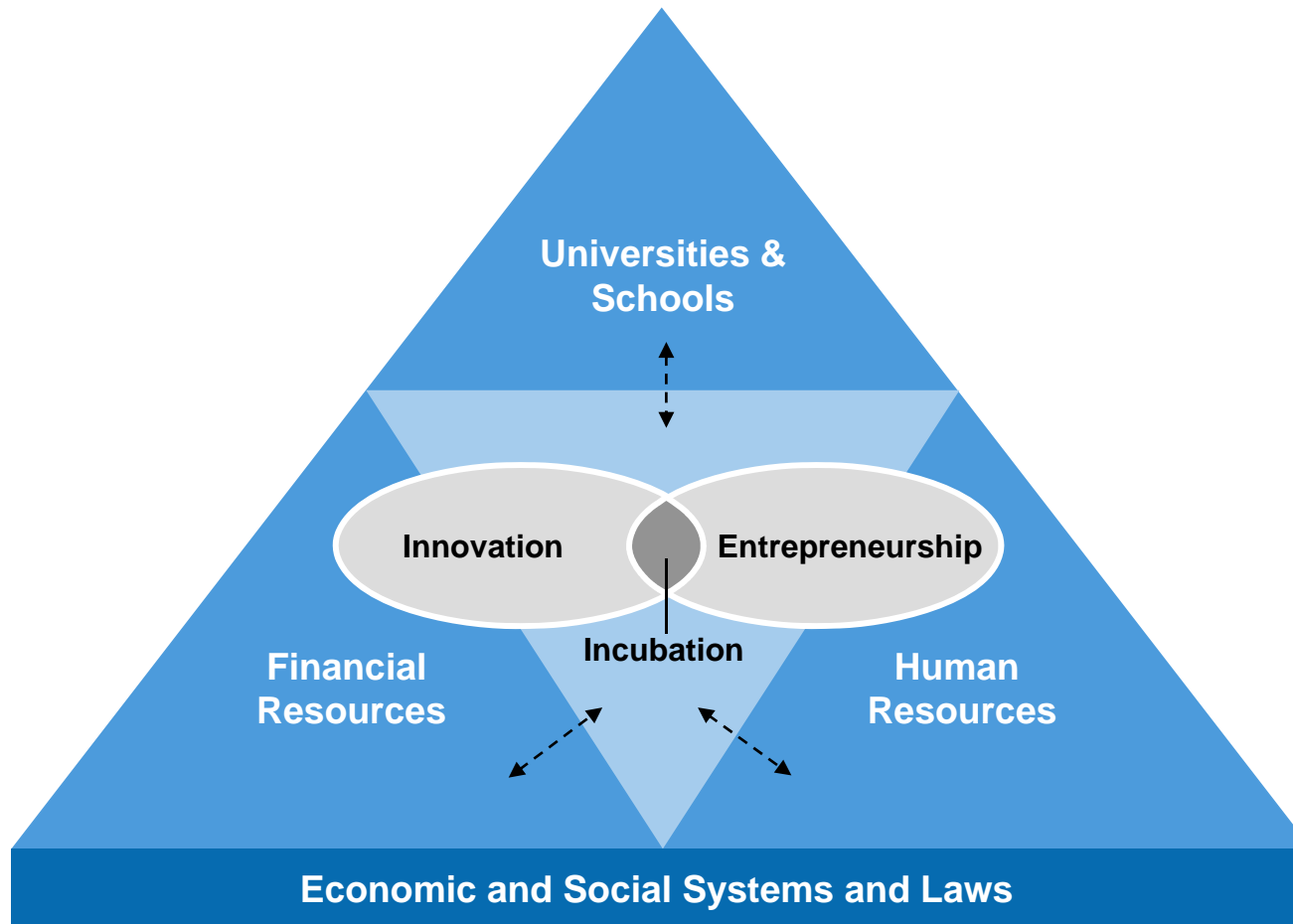
The National Science and Technology Plan provides KSA with the strategic vision to join knowledge-based economies ...

Long Term Plan from National Science and Technology Policy



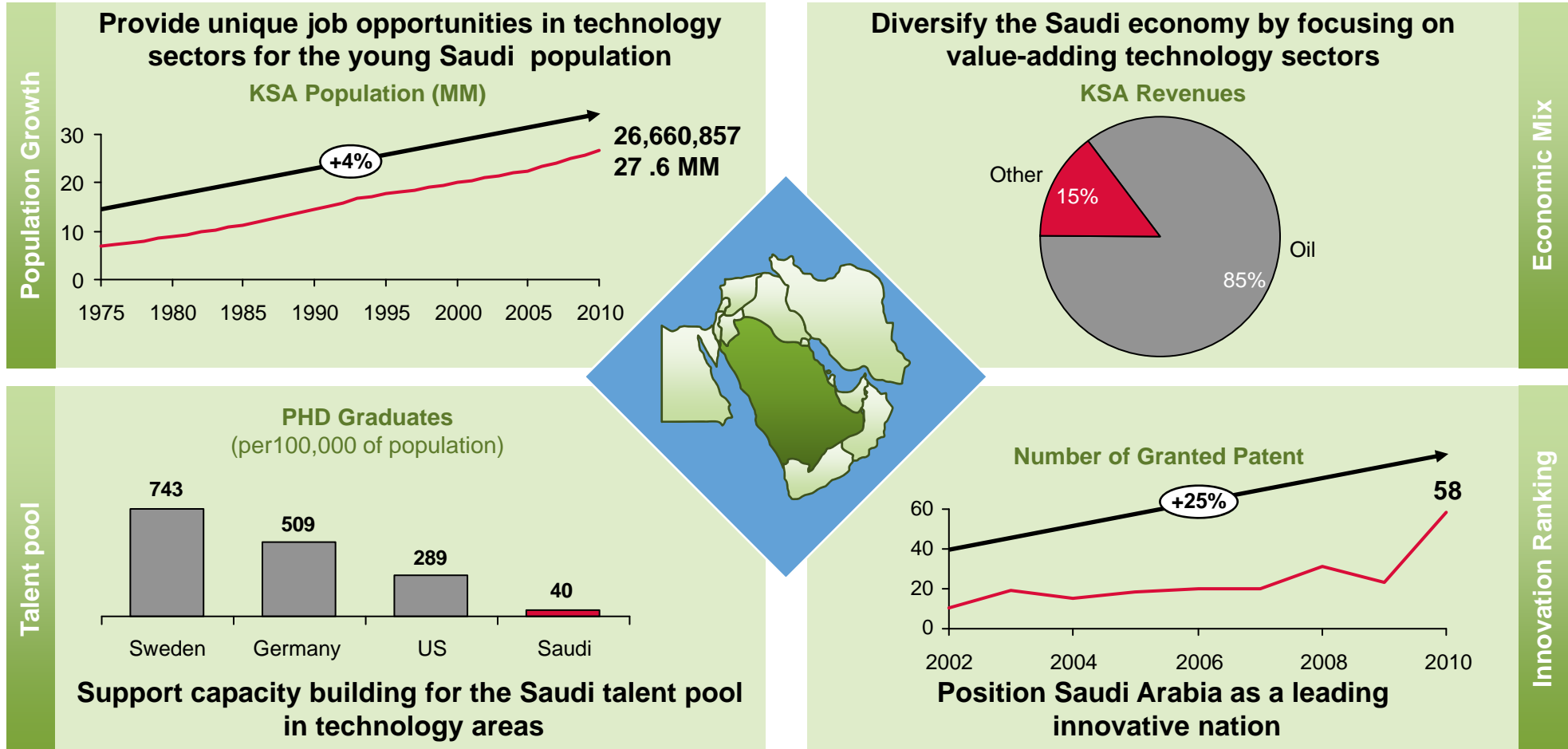
...and regroups all key elements necessary to achieve the transition

Technology Innovation, Entrepreneurship and Incubation



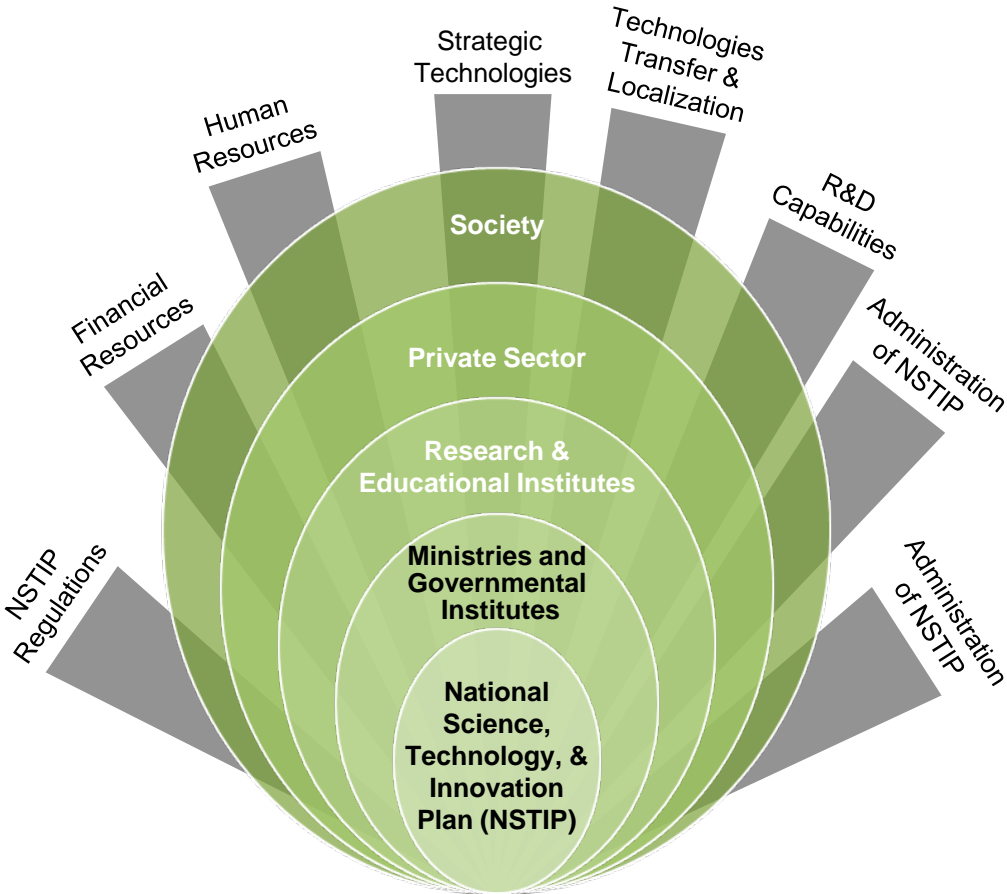
The plan will enable Saudi Arabia to address its most pressing socio-economic issues today

Socio-Economic Challenges in Saudi Arabia



KACST has clearly defined its national role to ensure the successful implementation of the plan

KACST National Role


















- 1 Define National Policy
- 2 Establish and Support Incubators in KSA
- 3 Conduct Research to Support Innovation
- 4 Conduct Training Program to Support Innovation, Incubation and Entrepreneurship
- 5 Increase Innovation and Entrepreneurship Awareness

Source: KACST; Booz & Company analysis

In regards to innovation, KACST will keep on focusing on 15 technological areas that have been identified as critical for KSA

KACST Technology Program

Technology Priorities for KSA

KACST Technology Priorities	Water	
	Oil and Gas	
	Petrochemicals	
	Nanotechnology	
	Biotechnology	
	Information Technology	
	Electronics and Communications	
	Space and Aeronautics	
	Energy	
	Environment	
	Advanced Materials	
	Mathematics And Physics	
	Medical and Health	
	Agriculture Technology	
	Building and Construction	

KACST Achievements

King Abdullah Initiative for Water Desalination

King Abdullah Initiative for Arabic Content

Design of Next Generation Electronic Chips

Date Palm and Camel Genome Project

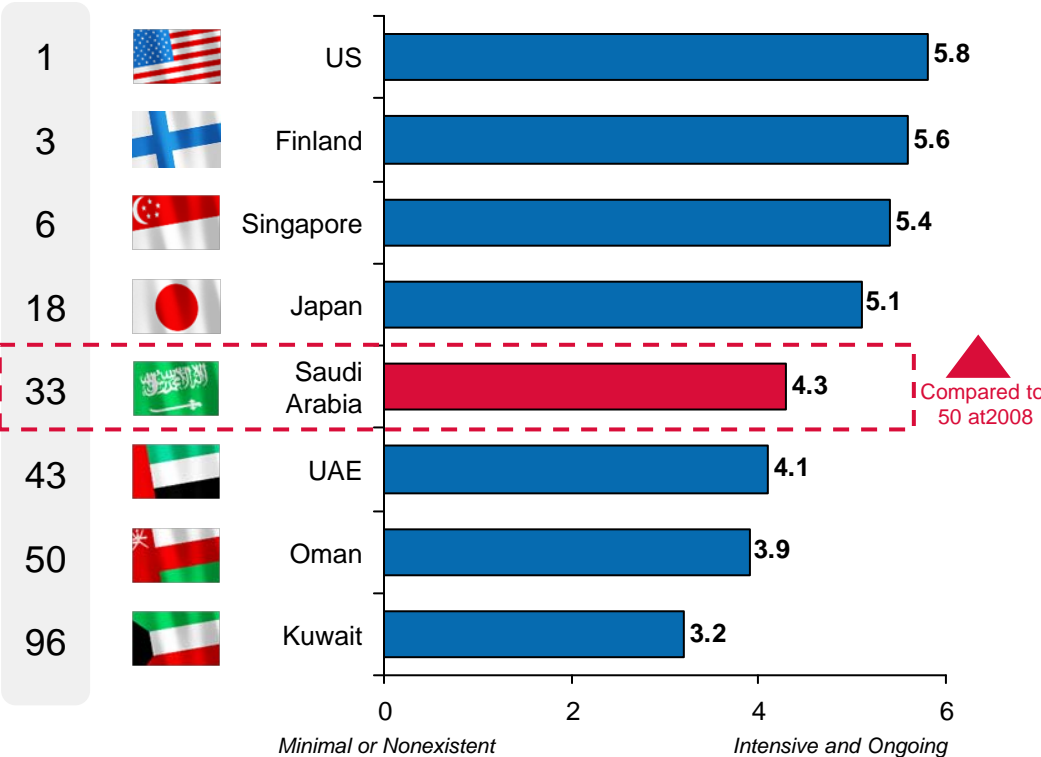
Gravity Probe Project

Innovation in Saudi Arabia has begun to show early signs of success - a momentum that we aim to further boost

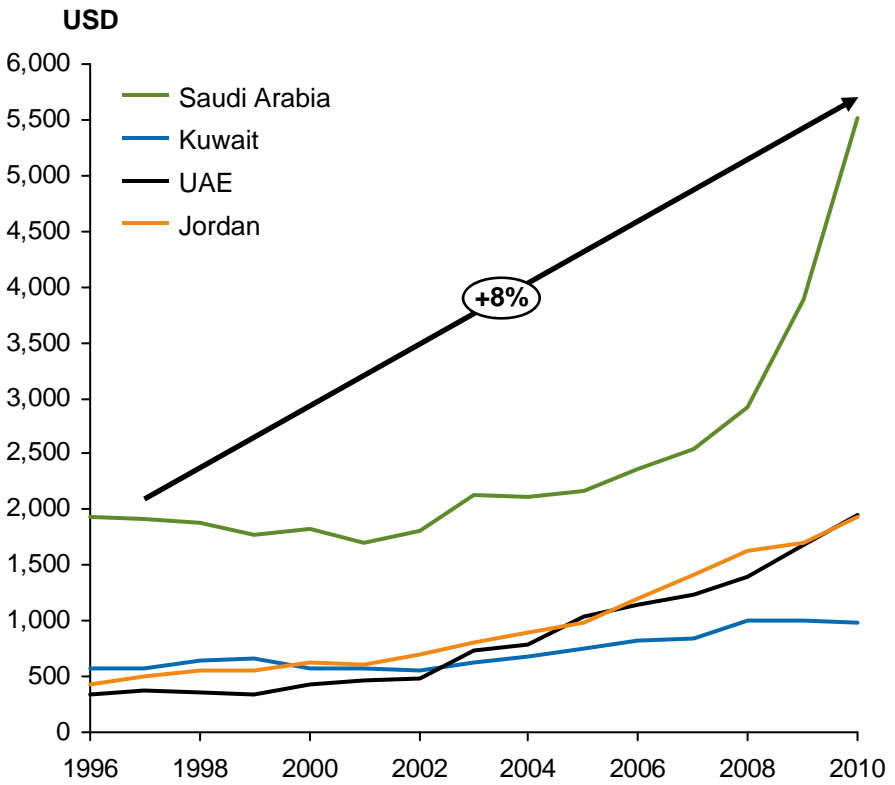


Extent of University-Industry Research Collaboration (2010)

Ranking (Out of 139)



Research Papers in Published Regionally (1996 to 2010)



Source: The Global Competitiveness Report (2010-2011), WEF; SCImago. SJR SCImago Journal & Country Rank ;Booz & Company analysis

Via BADIR, KACST will setup 80 incubators in the Kingdom by 2025 to create over 20,000 jobs...


BADIR Program Long-Term Targets and Achievements

BADIR Program Long-Term Targets


	2015	2020	2025
Number of Incubators	20	40	80
Number of Clients	280	560	1,120
Employment in Client Companies	2,240	4,480	8,960
Number of Graduate Companies ¹	95	333	761
Graduate Employment ²	836	3,596	9,740
Total Employment	3,076	8,076	18,700

BADIR Supported Incubators






BADIR ICT




BADIR BIO



BADIR AMI



Om Al Qura




Yanbu




Taibah




Al Baha




King Khalid



Al Kharj



Princess Noura



Al Qassim

1) Cumulative and 15% business failure

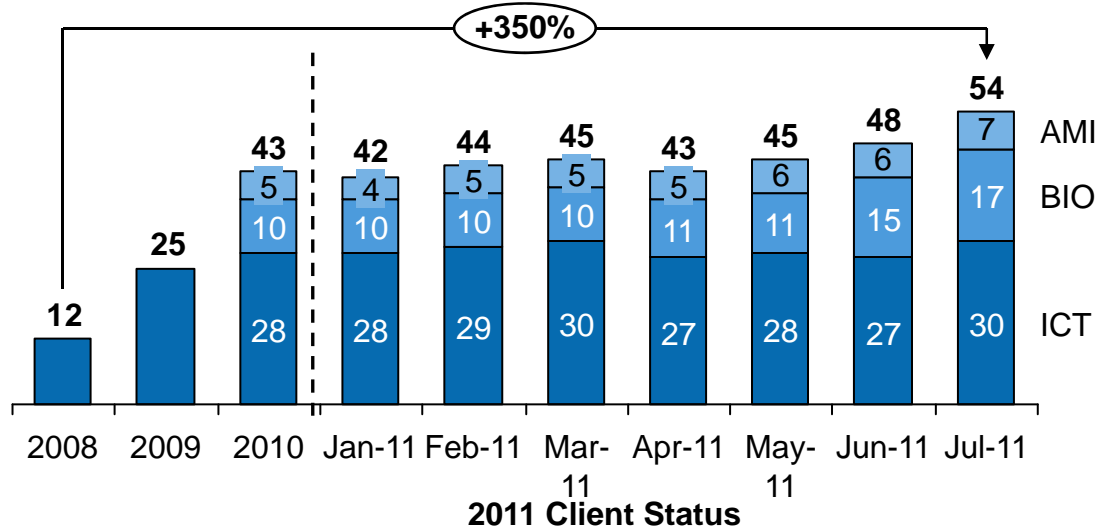
2) Cumulative and 5% annual growth

Source: NSTP Long Term Objectives

Currently, BADIR is supporting 54 clients- double the 2009 figure - resulting in over 112 new jobs created

BADIR Client Base

Clients and Affiliates by Incubator



	ICT	AMI	BIO	Total
Jobs Created	100	7	16	112
# Generating Revenues	9	0	0	9
# Generating Profits	2	0	0	2

Selected Success Stories



- Atalam provides a learning environment, training virtual Women through virtual classrooms, and interactive whiteboards

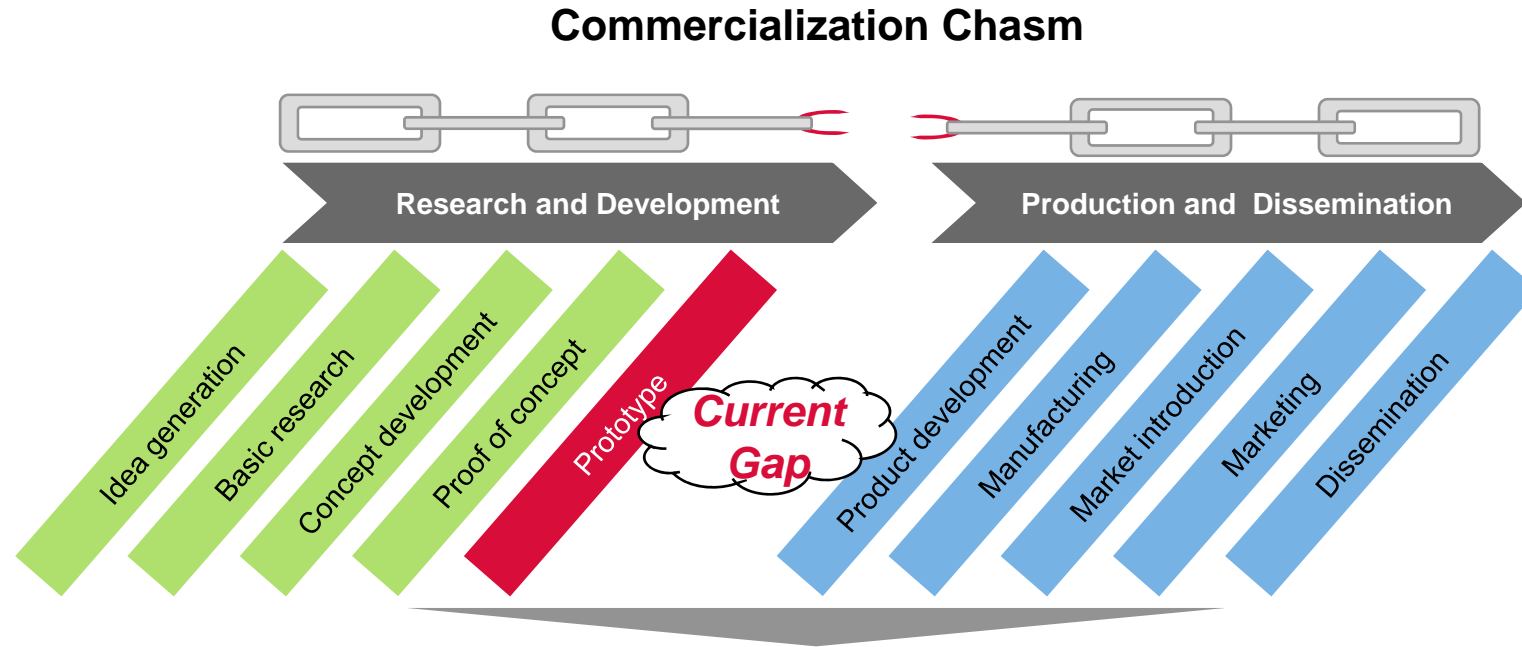


- S-me is a highly successful SMS based social network for young Saudis boasting some **600,000 members**



- AceBiotech aims to provide kits and reagent for PCR, DNA/RNA Isolation, Cloning, Electrophoresis and Buffers

...that will significantly support in overcoming the commercialization chasm



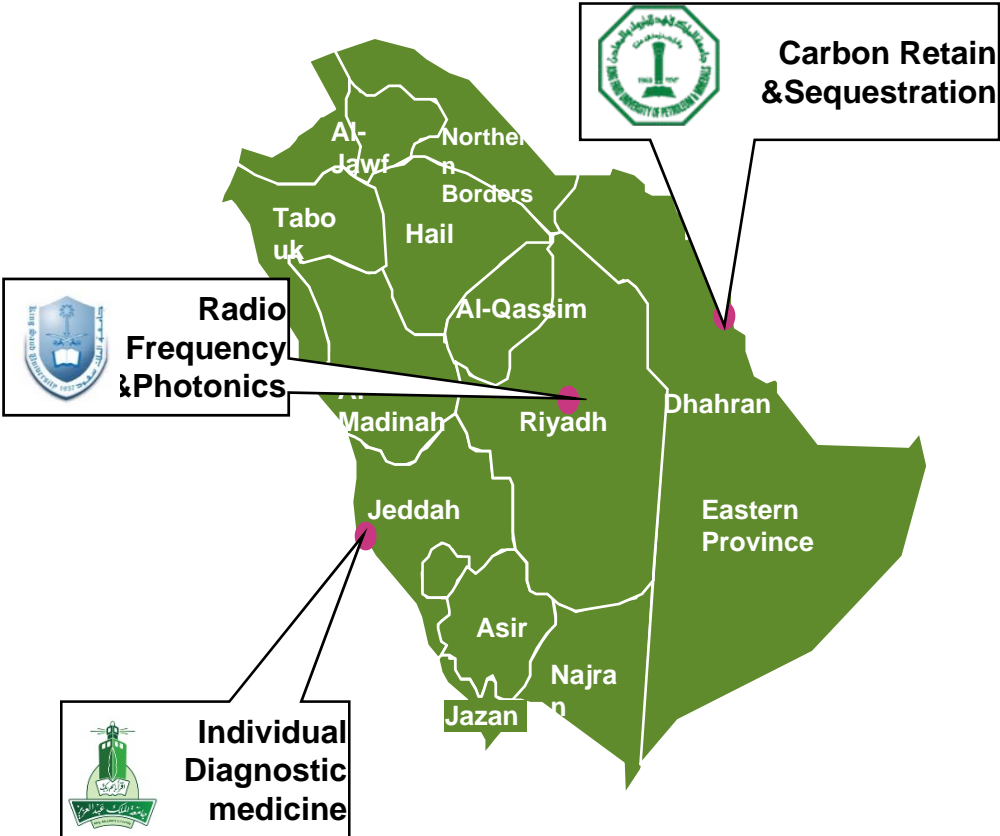
Value Add of Incubators in Addressing Commercialization Chasm

- Incubator programs provide significant add-on funding to the commercialization initiatives, examples include
 -  **Norway:** FORNY program designed to **commercialize research based business**; most of the FORNY supported spin-offs receive significant support from Innovation Norway through the **incubator grant scheme**
 -  **Canada:** The Industrial Research Assistance Program (IRAP) supports a significant share of spin-offs. In combination with tax deductions these funds can add up to 70% of the total project costs

To produce a critical mass of high-quality patents , KACST launched the Technology Innovation Centers (TIC) program

Technology Innovation Centers (TIC)

Technology Innovation Centers	
Objectives	<ul style="list-style-type: none"> ▪ Address economic and social goals of the Kingdom ▪ Promote university-industry research collaboration and technology transfer in the Kingdom ▪ Strengthen university research and science and engineering education in KSA
Achievements	<ul style="list-style-type: none"> ▪ Established 3 technical innovation centers in collaboration with Saudi universities with a cost of SAR 150 million



Source: KACST; Booz & Company analysis

Through SBIR, KACST will support the development of Saudi businesses by funding innovative research



SBIR Program

SBIR Program Objectives

- Encourage the foundation and growth of technology-based companies
- Commercialize promising technologies from universities and research centers
- Catalyze high tech employment in the kingdom
- Ability to Produce Sustainable Jobs



SBIR Program Phases

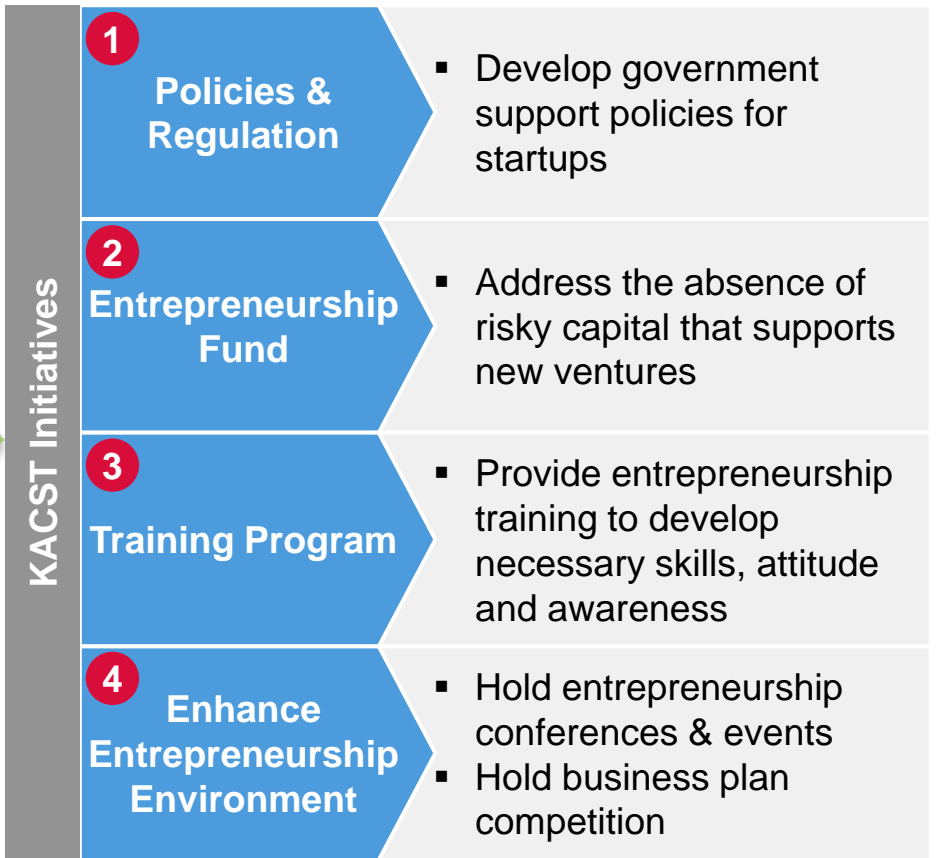
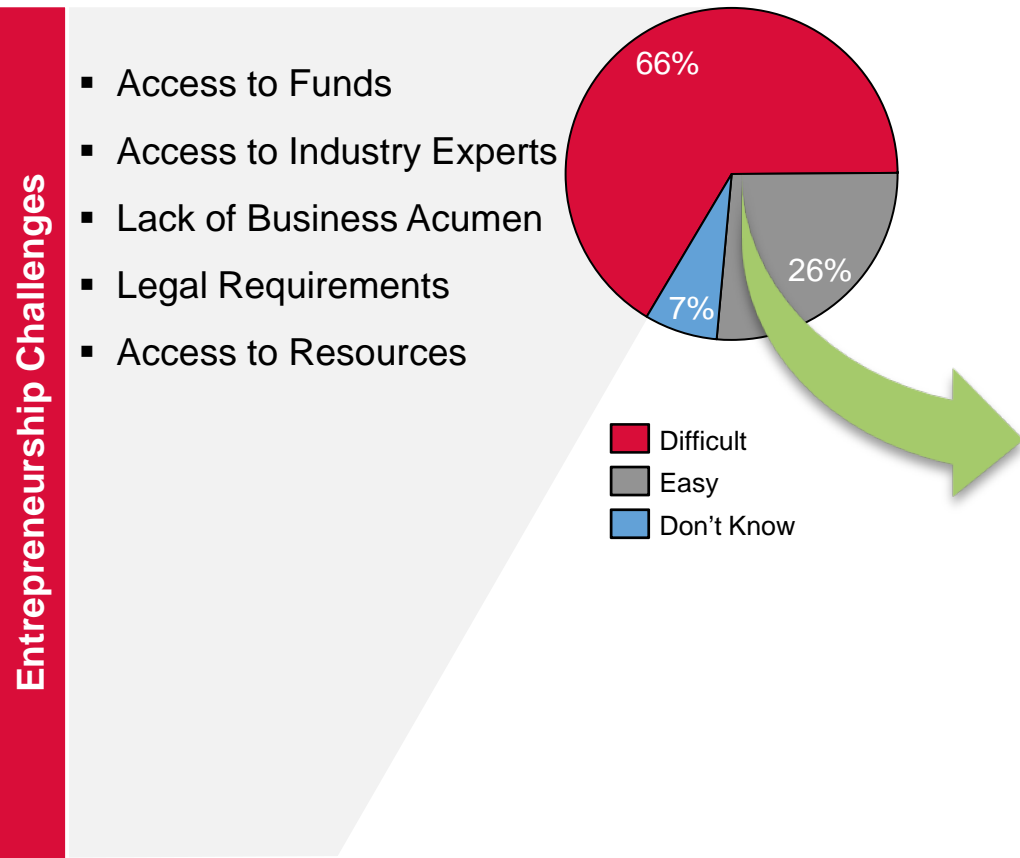
	Activities
Phase I	<ul style="list-style-type: none"> ▪ Provides preliminary funding for feasibility studies
Phase II	<ul style="list-style-type: none"> ▪ Provides the core funding necessary to develop a prototype
Phase III	<ul style="list-style-type: none"> ▪ Supports the transition to private sector finance, and product development
Phase III	<ul style="list-style-type: none"> ▪ Graduation from the program

Source: KACST; Booz & Company analysis

KACST will drive key national initiatives to boost entrepreneurship in KSA

KACST Entrepreneurship Initiatives

Perceived Difficulty of Starting Up a New Business



Source: KACST; Entrepreneurship in the UAE and KSA , Kipp and YouGovSirajji; Booz & Company analysis

KSA's vision is achievable - other nations have done it, so can we

**R&D Levels of Investment by Country
(1982 to 2009)**



Several countries have been able to join the ranks of innovative nations through coordinated government policies that encourages entrepreneurship & innovation

Today's conference program aims to maintain KSA's momentum in this journey by addressing the most pressing questions

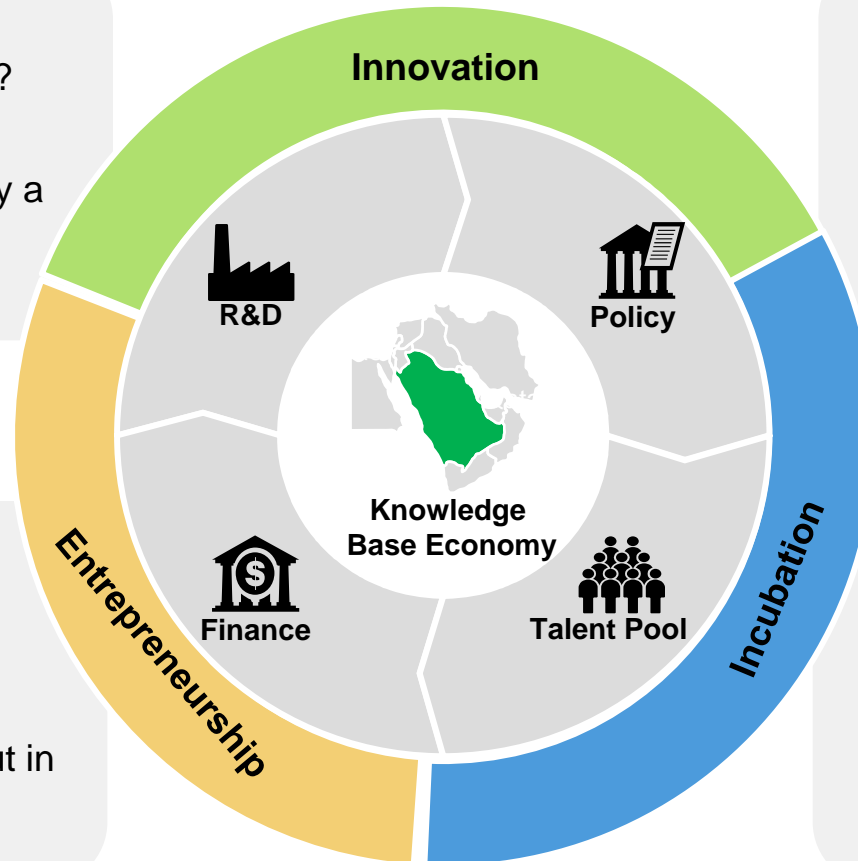
Knowledge Base Economy Key Questions

- How can we efficiently commercialize innovations?
- How can private sector play a key role in promoting innovation?

- What policies are required to support Incubator development in KSA?
- How can we create an innovative nation?

- How can we finance entrepreneurs?
- What policies and mechanisms need to be put in place that would stimulate investments?

- How can we improve the education system to support innovation and entrepreneurship?
- What can be learnt from best practices?



The Way Forward ...

**... An Exciting and Challenging
Time for Technology Innovation,
Entrepreneurship and Incubation**

