



**2nd UT-KFUPM Workshop on
Large Scale Solar Power Generation**

Cooperative Relationship between KSA and Japan in Education & Technology

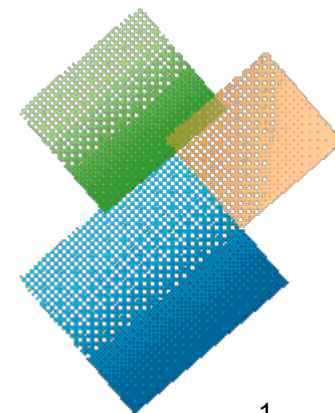
2012.09.28 (Friday), Tokyo



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1. Introduction

Objective of the Presentation:

Discussing the cooperative relationship in Education & Technology between Saudi Arabia and Japan

Presentation Flow

- (1) The Importance of Cooperation between KAS and Japan
- (2) Recent Developments of Higher Education & Technology in Saudi Arabia
- (3) The Current Situation of SA-JP Cooperative Relations
- (4) Future Challenges

1. The Importance of Cooperation between KAS & Japan:

Strategic Powers of Saudi Arabia:

(1) Politics:

The Only Arab country in G20, Leadership among Arabic & Islamic countries.

(2) Energy:

The Only Oil Sewing Producer in the World, 21% of World Oil Reserves.

(3) Religion:

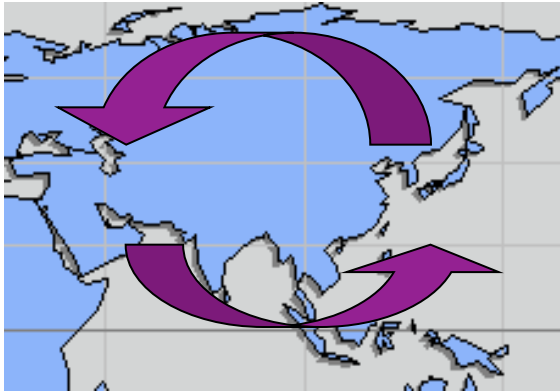
The holding country of Islamic holy lands in Makkah and Medina, the Hosting country of more than 10 millions Muslims who come for pilgrimage.

Saudi – Japanese Relations:

- Saudi Arabia provides Japan with almost **30%** of its imports of oil.

Japan had been for many years the **2nd** Trade partner for Saudi Arabia.

1. The Importance of Cooperation between KAS & Japan:



The World is Changing!!

Many **New Challenges** for the Two Countries

Importance of **Change** to Achieve the Goal of **Partnership** :

Traditional View

Oil for
Goods

Win / Win

Change

Cooperative
Relations

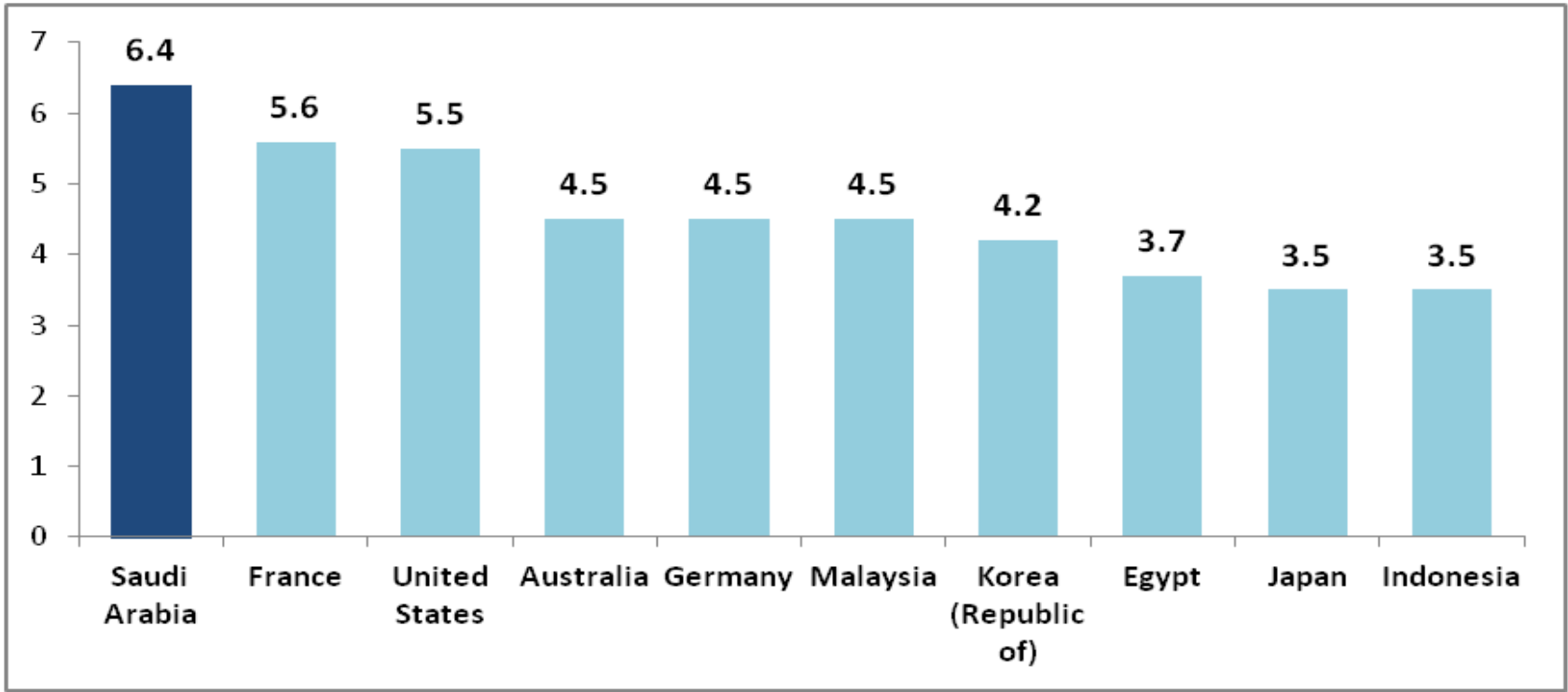
Proposal Partnership

Partners of Investment
In Industry, HRD and
Innovation

Happy / Happy

2. Recent Developments in Saudi Higher Education & Technology

Public expenditure on education (% of GDP) in 2007

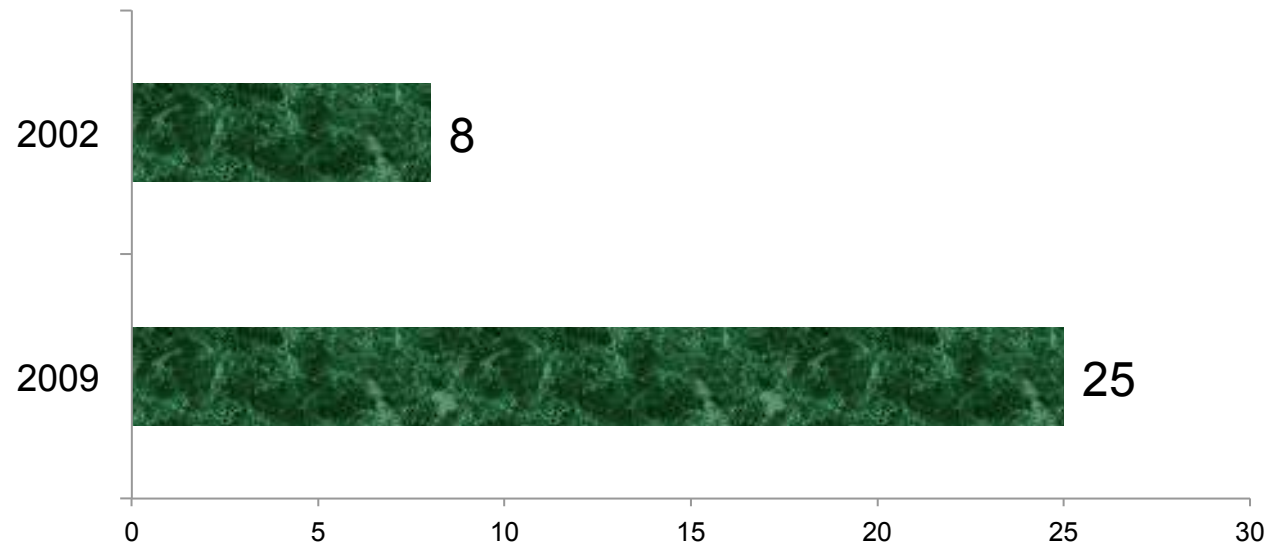


Source: UNDP, Human Development Report

2. Recent Development in Saudi Higher Education Sector

- Providing academic programs for free in Saudi public universities, and initiating scholar prog. for private universities.
- Establishing new centers of excellence in SA universities.

The Growth in the Number of Public Universities



2. Recent Development in Saudi Higher Education Sector

King Abdullah University for Science & Technology アブドラ国王科学・技術大学



アブドラ国王

「私は、この新しい大学が世界的に優秀な研究所になることを望む。
将来の世代の科学者、技術者、工学者を教育し訓練するのである。そして
能力次第で、他の偉大な研究を行う大学や民間部門と共同や協力を育むのである。」





"It is my desire that this new University become one of the world's great institutions of research; that it educate and train future generations of scientists, engineers and technologists; and that it foster, on the basis of merit and excellence, collaboration and cooperation with other great research universities and the private sector."



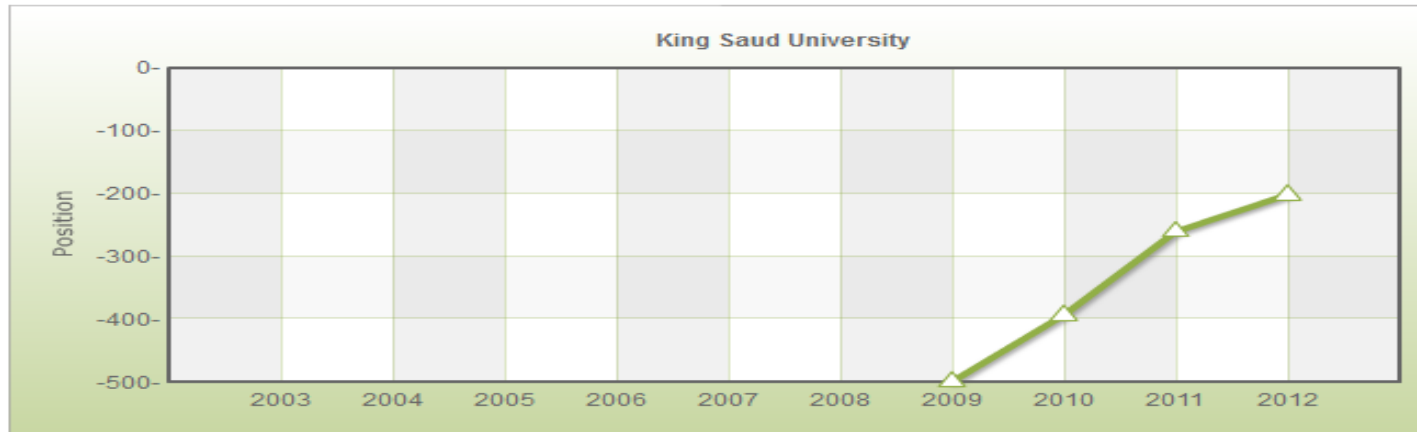
Academic Ranking of World Universities - 2012

Shanghai Ranking

Arab World Universities










Arab Rank	Institution	World Rank	Country
1	King Saud University	201-300	
2	King Abdulaziz University	301-400	
3	King Fahd University of Petroleum & Minerals	301-400	
4	Cairo University	401-500	

▶ Performance in Academic Ranking of World Universities



ARWU	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Institutional Ranking	/	/	/	/	/	/	402-501	301-400	201-300	201-300

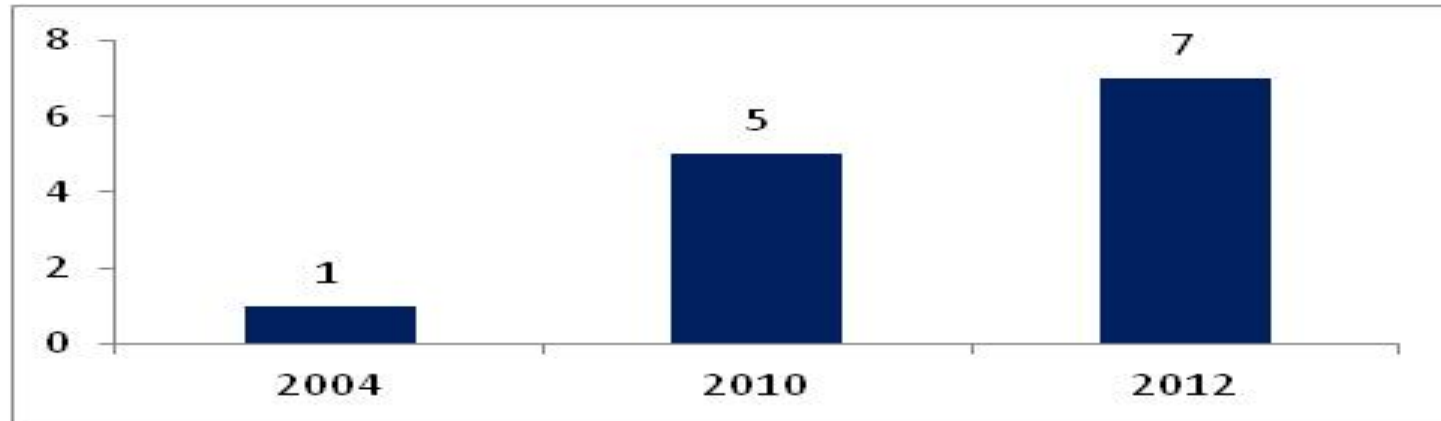
QS World University Ranking 2010: Arab World

CONTINENT RANK	UNIVERSITY	COUNTRY	WORLD RANK
1	King Saud University	 Saudi Arabia	221
2	King Fahd University of Petroleum & Minerals	 Saudi Arabia	255
3	American University of Beirut (AUB)	 Lebanon	341
4	United Arab Emirates University	 UAE	372
5	King Abdul Aziz University (KAU)	 Saudi Arabia	401-450
6	Cairo University	 Egypt	451-500
7	Umm Al-Qura University	 Saudi Arabia	501-550
8	American University in Cairo	 Egypt	551-600
9	Al-Imam Mohamed Ibn Saud Islamic University	 Saudi Arabia	601+

QS World University Ranking 2012: KSA

Univesity	Ranking
King Saud University	197
King Fahad University of Petroleum & Minerals	208
King Abdulaziz University	334
Al-Imam Mohamed Ibn Saud Islamic University	401-450
Umm Al-Qura University	501-550
King Khaled University	501-550
King Faisal University	551-600

The Growth of the Numbers of Saudi Universities in QS World University Ranking



Web metrics 2011 July

Ranking Web of World Universities : Arab World

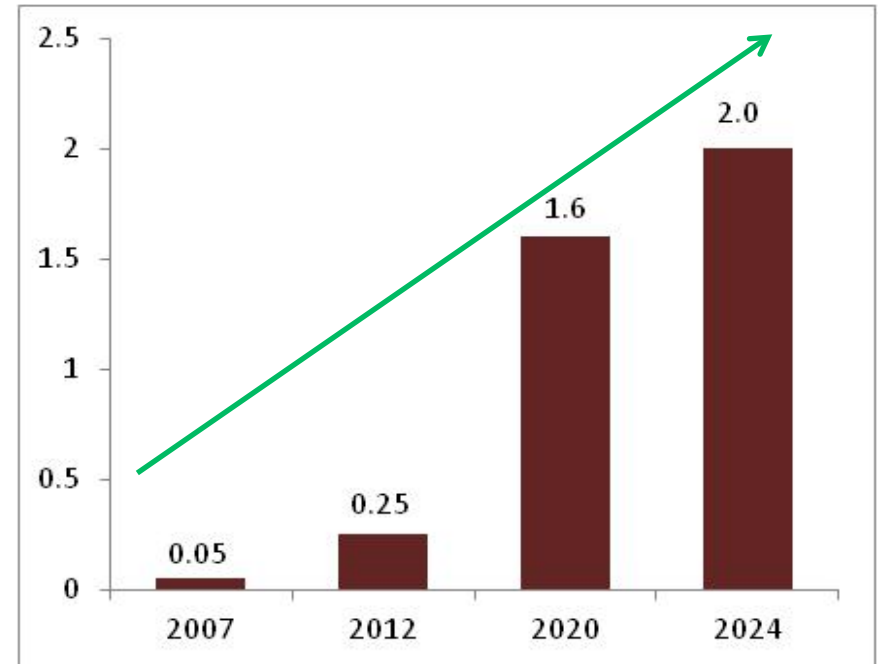
CONTINENT RANK	UNIVERSITY	COUNTRY	WORLD RANK
1	King Saud University		186
2	King Fahd University of Petroleum & Minerals		302
3	King Abdulaziz University		790
4	Umm Al-Qura University		955
5	Imam Muhammad bin Saud University		1,000
6	American University of Beirut		1,138
7	An-Najah National University		1,193
8	Cairo University		1,219
9	King Faisal University		1,256
10	American University in Cairo		1,357

Expenditure on R%D as % of GDP

In 2011 in KSA & Selected Countries

Country	% of GDP PPP
Japan	3.30%
South Korea	3.00%
United States	2.70%
Germany	2.30%
France	1.90%
United Kingdom	1.70%
China	1.40%
India	0.90%
Saudi Arabia	0.25%

Development of Saudi Performance Between 2007 and 2024



(3) The Current Situation of SA-JP Cooperative Relations

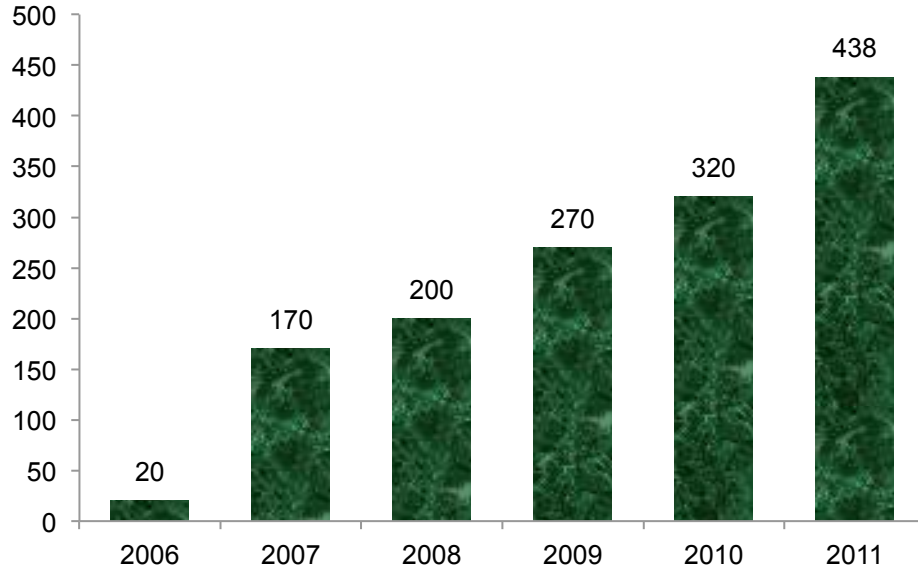
- (1) King Abdullah Scholarship Program (KASP)
- (2) Industrial – Academic Alliance
- (3) Cooperation in R&D between Universities

(3) The Current Situation of SA-JP Cooperative Relations

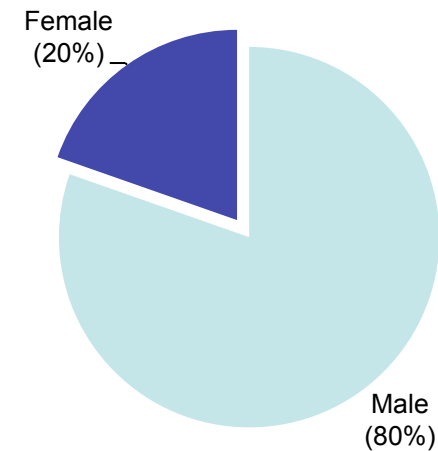
(1) King Abdullah Scholarship Program (KASP)

- More than **130,000** King Abdullah Scholarship Program Saudi Students studying abroad.

- In 2008, Saudi cultural offices in **Japan**, China, South Korea, Singapore and Malaysia were newly opened.



Development in the numbers of Saudi Students in Japan

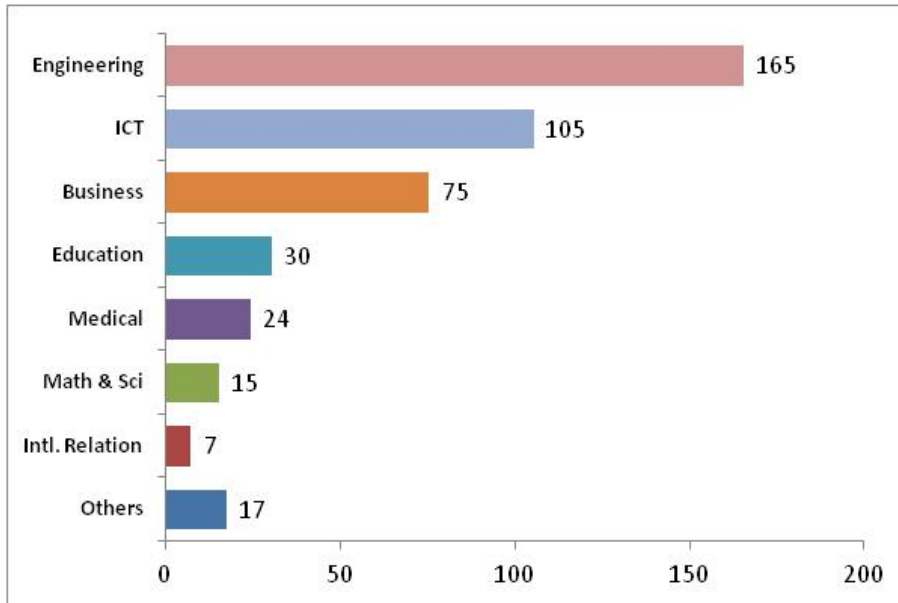


(3) The Current Situation of SA-JP Cooperative Relations

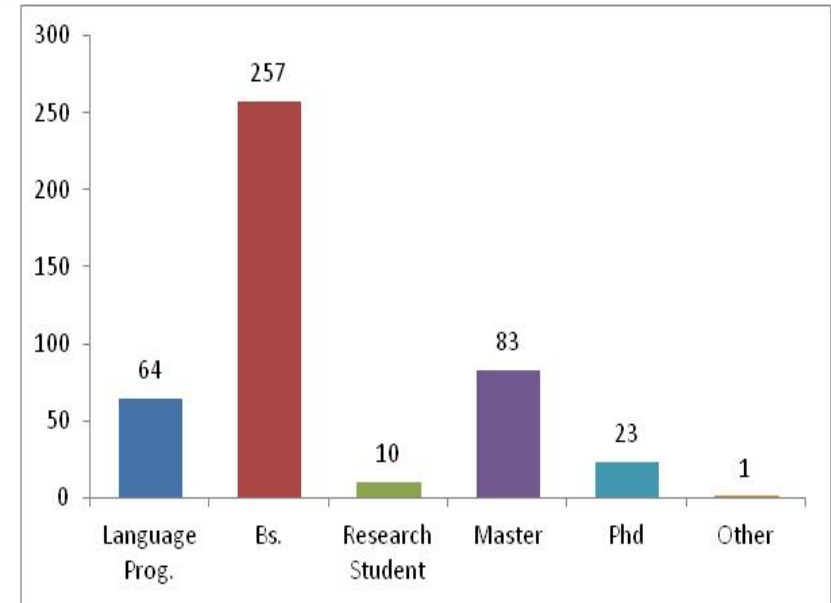
(1) King Abdullah Scholarship Program (KASP)

- Most of students spend 1.5 to 2 years for learning Japanese language.

- Saudi students in Japan achieved 100% acceptance rate in Japanese universities. (more than 50 universities)



The numbers of Saudi students in Japan by field of study



The numbers of Saudi students in Japan by Academic Level

(3) The Current Situation of SA-JP Cooperative Relations

(1) King Abdullah Scholarship Program (KASP)

Firms and universities from Japan and Saudi Arabia are making efforts for attracting Saudi students who graduated from Japanese universities.



The Seminar about Isuzu Motors project in Saudi for Saudi students in Japan

Job Opportunities:

JGC

Isuzu Motors

Sankyo

Azbil

Internship Programs

Hitachi

Sumitomo Chemicals

Marubini

Solar Frontier

Smart Solar

IBM Japan

Nissan

(3) The Current Situation of SA-JP Cooperative Relations

(1) King Abdullah Scholarship Program (KASP)

Three Saudi KASP students were members of the Tokai Challenger Team which won a the championship in the solar car race held in Australia in October 2011.



(3) The Current Situation of SA-JP Cooperative Relations

(2) Industrial – Academic Alliance

Techno- Valleys in Dhahran, Riyadh, Jeddah and Taif are effective channels for industrial – academic alliance between Saudi Arabia and Japan.



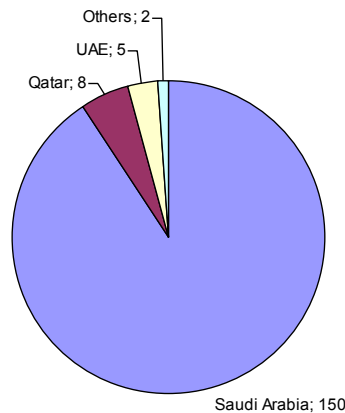
- Yokogawa was the second company to join the science park in Dhahran in the year 2008.
- Yokogawa has committed to provide technical training to new graduates of Saudi universities.

(3) The Current Situation of SA-JP Cooperative Relations

(2) Industrial – Academic Alliance

Training program of Chiyoda Corporation

- Introduced from 1976 to 1999 for **GCC students** to train at **Japan**
- **Period of the program:** Six months
- **Statement of the Program:** Compulsory subjects (the scientific training programs in the companies)



Specialization	Number of students	Percentage
Chemical Engineering	56	34%
Mechanical Engineering	52	32%
Civil Engineering	33	20%
Electrical Engineering	20	12%
System Engineering	2	1%
Chemical and Petroleum Engineering	1	1%
Petroleum Engineering	1	1%

(3) The Current Situation of SA-JP Cooperative Relations

(2) Industrial – Academic Alliance

In the 80s, JCCP and KFUPM started joint R&D projects which came with patents that were used in industrial plants

JGC is training about 12 students from KFUPM each year for 6 months in Japan and the Philippine.

Hitachi is cooperating with King Abdulaziz University in the field of Water Desalination

Solar Technology Demonstration and Verification of Industrial Firms in the New Energy Oasis (NEO) of KAUST

Compnay	Technology	System Rating (KW)	No. of Panels	Date on Line
Solar Frontier	CIS	10	128	Jan-10
Sunthrough	CSP	Demo Installation	Demo Installation	Sep-09
Sulfur Cell	CIGS	1.2	21	Mar-10
BP Solar	Poly-crystalline	14	60	Jul-10
Kaneka	Amorphous Silicon	10	132	Nov-10
Circadian Solar	CPV	7		
Q-Cells	Poly-crystalline	6	24	Dec-10

(3) The Current Situation of SA-JP Cooperative Relations

(3) Cooperation between Universities

The Saudi – Japanese University Presidents Meetings



30 universities in the 1st Meeting in
Tokyo - July 2010



32 universities in the 2nd Meeting in
Riyadh - April 2011

(3) The Current Situation of SA-JP Cooperative Relations

(3) Cooperation between Universities

Agreements and joint projects between Universities:



King Abdulaziz University and Tokai University, is to design and build unmanned aircraft systems technology powered by solar energy.



Tsukuba University and Al-Jouf University started joint research project on the genetic engineering of plants.

(3) The Current Situation of SA-JP Cooperative Relations

(3) Cooperation between Universities

Agreements and joint projects between Universities:



Al-Imam University with cooperation of Doshisha University hold the international symposium of “Peace Building through Cultural Dialogue” in Tokyo.



KFUPM and University of Tokyo hold the 1st Saudi Workshop for Photovoltaic Power Generation in Dhahran

3. Approaches for Implementation

(3) Cooperation between Universities

Agreements and joint projects between Universities:



Nagoya Commerce and Business University (NUCB) started student exchange program with Prince Sultan University (PSU).



Tokai University dispatched two of its faculty members to deliver intensive academic courses to students in Effat University in Jeddah.

3. Approaches for Implementation

(3) Cooperation between Universities

Agreements and joint projects between Universities:



Salman bin Abdulaziz University and Kyoto University signed on joint research project for cultivation of medicinal and aromatic plants.



Umm Al-Qura University and University of Tokyo signed on joint research project for crowd management to be applied during the seasons of pilgrimage in Makkah.

3. Approaches for Implementation

(3) Cooperation between Universities

Agreements and joint projects between Universities:



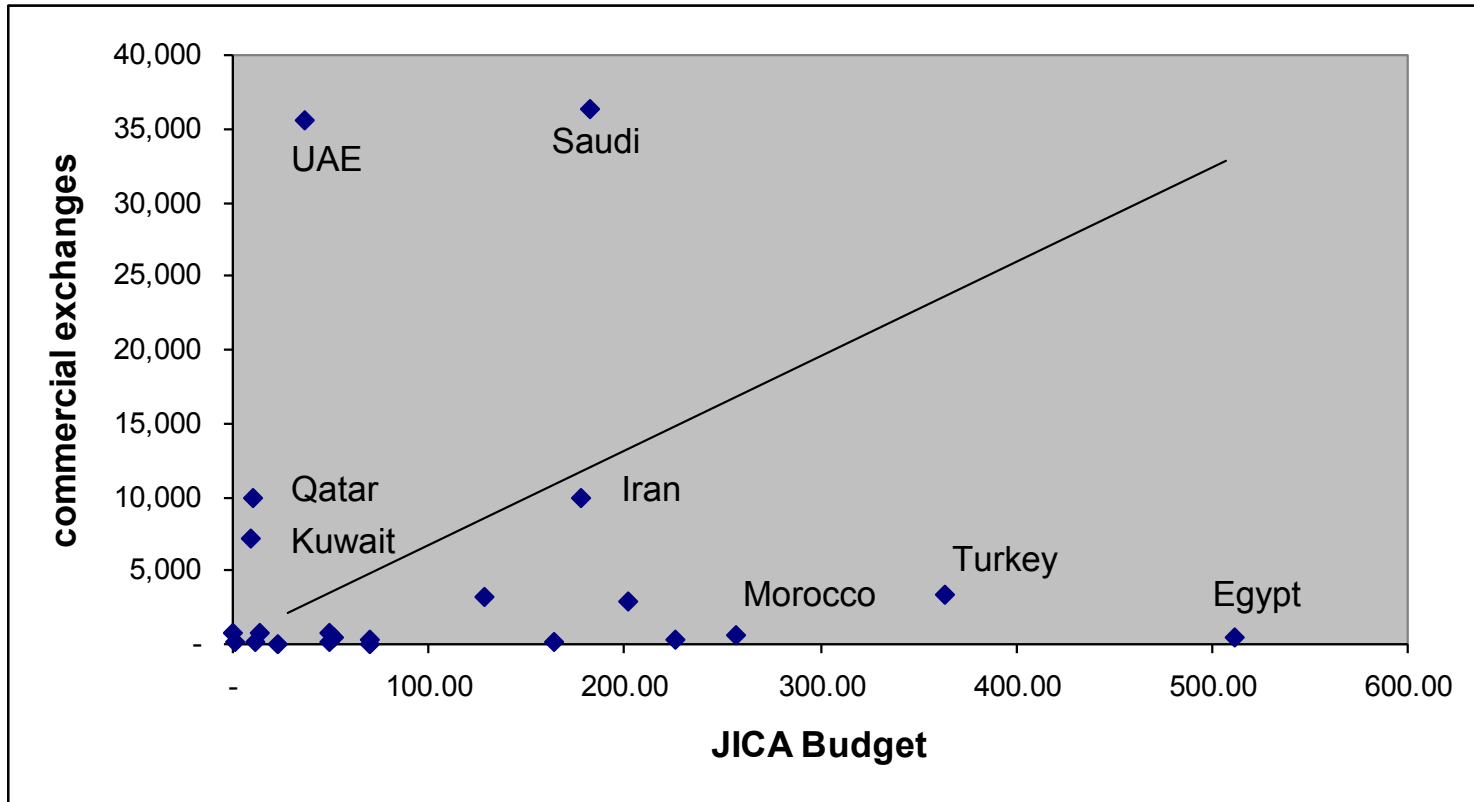
Princess Noura bint Abdulrahman University made a contract with Japanese experts for completing a research about Japanese experience in matching academic outputs with the market needs.



Tokyo University of Technology hosted a joint workshop on Biotechnology with 5 Saudi universities.

4. Future Challenges

Scientific and Technological Cooperation in the Post ODA era



4. Future Challenges

For Students

- Opening the doors of Japanese Public universities.
- Activating the exchange of students between Saudi & Japan

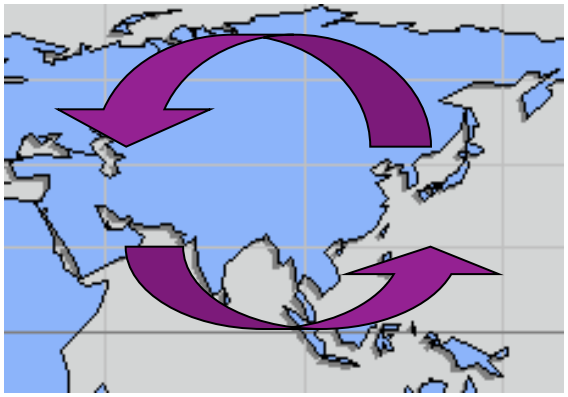
For Firms

- Promoting Industrial – Academic cooperation
- Promoting Japanese FDI in Saudi Arabia

For Universities

- Building the brand of Japanese Higher Education
- Englishnization of R&D Guidebooks in Japan

5. Conclusion



The World is Changing!!

Many **New Challenges** for the Two Countries

Importance of **Change** to Achieve the Goal of **Partnership** :

