


Section VII: Profile of Science Universities & Institutions located in MENA region

The People's Democratic Republic of Algeria

University of Science and Technology Houari Boumedienne (USTHB)



The University of Science and Technology Houari Boumedieme (USTHB) is a coeducational public university. The USTHB has eight faculties; such as biological science, chemistry, physics, mathematics, civil engineering, earth science, computer science and mechanical engineering.

	Type of University/Institute	Public
	Year Established	1974
	No. of Faculties	8
	No. of Teaching Staff	~ 1500
	No. of Students	~ 20,000
	No. of Alumni	*86,000
	No. of Publications	3
	Endowment/Budget Size	N/A
	Website	http://www.usthb.dz

*KLSC Calculation

University of Tlemcen



The University of Tlemcen is a coeducational public university. Tlemcen has eight faculties; such as Science, Technology, Medicine, Law and Language

	Type of University/Institute	Public
	Year Established	1974
	No. of Faculties	5
	No. of Teaching Staff	1966
	No. of Students	43,469
	No. of Alumni	*186,878
	No. of Publications	3
	Endowment/Budget Size	N/A
	Website	www.univ-tlemcen.dz

*KLSC Calculation

The Kingdom of Bahrain

Arabian Gulf University



Arabian Gulf University is a university in the city of Manama, in the Kingdom of Bahrain. It is accredited by the Ministry of Education, Bahrain, and governed by Gulf Cooperative Countries, and is a member of Federation of the Universities of the Islamic World.



Type of University/Institute	Public
Year Established	1979
No. of Faculties	3
No. of Teaching Staff	182
No. of Students	1,510
No. of Alumni	*5,738
No. of Publications	3
Endowment/Budget Size	N/A
Website	http://www.agu.edu.bh

*KLSC Calculation

University of Bahrain



The University of Bahrain is the largest public university in the Kingdom of Bahrain. It is the only national university in the country. It has faculties such as Arts, Science, Information technology, Business administration and Applied Science.



Type of University/Institute	Public
Year Established	1986
No. of Faculties	10
No. of Teaching Staff	~2000
No. of Students	~26,000
No. of Alumni	~60,000
No. of Publications	1
Endowment/Budget Size	N/A
Website	http://www.uob.edu.bh

*KLSC Calculation

The Arab Republic of Egypt

The American University in Cairo



Founded in 1919, AUC is a leading English-language, American-accredited institution of higher education and center of intellectual, social and cultural life of the Arab world. Its community of students, parents, faculty and staff, trustees, alumni and other generous sponsors represent more than 60 countries.



Type of University/Institute	Private
Year Established	1919
No. of Faculties	10
No. of Teaching Staff	534
No. of Students	~6,000
No. of Alumni	*58,800
No. of Publications	1
Endowment/Budget Size	600 million USD
Website	http://www.aucegypt.edu

*KLSC Calculation

Cairo University



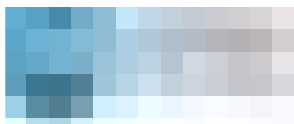
Cairo University also known as the Egyptian University from 1908 to 1940, It was founded on 21 December 1908. It is the second oldest institution of higher education in Egypt.



Type of University/Institute	Public
Year Established	1908
No. of Faculties	20
No. of Teaching Staff	11,545
No. of Students	256,470
No. of Alumni	*2,795,523
No. of Publications	23
Endowment/Budget Size	N/A
Website	http://cu.edu.eg

*KLSC Calculation

Alexandria University

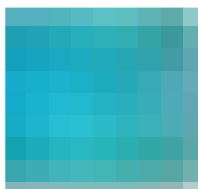


Alexandria University is a public research university in Alexandria, Egypt. It was known as Farouk University until the Egyptian Revolution of 1952, after this, its name was changed to the University of Alexandria.

	Type of University/Institute	Public
	Year Established	1941
	No. of Faculties	23
	No. of Teaching Staff	8,075
	No. of Students	156,053
	No. of Alumni	*1,185,980
	No. of Publications	6
	Endowment/Budget Size	N/A
	Website	http://www.alexu.edu.eg

*KLSC Calculation

Zewail City of Science and Technology



Zewail City of Science and Technology is a nonprofit, independent institution of learning, research and innovation. The concept of the City was proposed in 1999 and its cornerstone laid on January 1, 2000. After numerous delays, the project was revived by the Egyptian cabinet's decree on May 11, 2011 following the January 25 Revolution.

	Type of University/Institute	Public
	Year Established	2011
	No. of Faculties	2 (Science & Engineering)
	No. of Teaching Staff	30
	No. of Students	350
	No. of Alumni	*420
	No. of Publications	21
	Endowment/Budget Size	N/A
	Website	https://www.zewailcity.edu.eg


*KLSC Calculation

The Islamic Republic of Iran

Institute for Research in Fundamental Sciences (IPM)

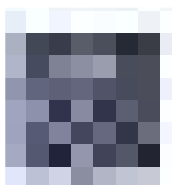


The Institute for Research in Fundamental Sciences (IPM) affiliated with the Ministry of Science, Research, and Technology, was founded in 1989 under the name of Institute for Studies in Theoretical Physics and Mathematics.

	Type of University/Institute	Public
	Year Established	1989
	No. of Faculties	9
	No. of Teaching Staff	~60
	No. of Students	~200
	No. of Alumni	*560
	No. of Publications	88
	Endowment/Budget Size	N/A
	Website	http://www.ipm.ac.ir

*KLSC Calculation

Tehran University of Medical Sciences



The first modern center of medical training in Iran was founded in 1851. It was a part of the Institute of Higher Education (*Dar-ol-Fonoon*). The School of Medicine was established as a part of University of Tehran in 1934.


	Type of	Public
	Year Established	1934
	No. of Faculties	5
	No. of Teaching Staff	1,653
	No. of Students	13,388
	No. of Alumni	*111,054
	No. of Publications	N/A
	Endowment/Budget	N/A
	Website	http://gsia.tums.ac.ir

*KLSC Calculation

Yazd University

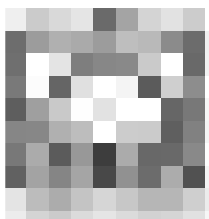


Founded in 1976, Yazd University is a non-profit public institution located in the Iranian city and province of the same name. It has faculties such as


	Type of University/Institute	Public
	Year Established	1976
	No. of Faculties	5
	No. of Teaching Staff	389
	No. of Students	12,500
	No. of Alumni	*51,250
	No. of Publications	N/A
	Endowment/Budget Size	N/A
	Website	https://www.yazd.ac.ir

*KLSC Calculation

University of Zanjan



The University of Zanjan (ZNU) is located in Zanjan, Iran. It was founded in 1975 and organized in four faculties. Nowadays it is one the largest universities of the country with a community of around 10,000 students.

	Type of	Public
	Year Established	1975
	No. of Faculties	5
	No. of Teaching Staff	394
	No. of Students	9,444
	No. of Alumni	*39,648
	No. of Publications	N/A
	Endowment/Budget Size	N/A
	Website	https://www.znu.ac.ir

*KLSC Calculation

The Republic of Iraq

University of Baghdad



The University of Baghdad was the first university in Iraq, located in the middle of Baghdad city. In 1957, the University of Baghdad was officially established and was able to award degrees in its own name. The university has 24 colleges, 3 high study institutes and 9 centers spread in four main campuses.

	Type of	Public
	Year Established	1957
	No. of Faculties	7
	No. of Teaching Staff	7,063
	No. of Students	67,994
	No. of Alumni	*407,940
	No. of Publications	223 (2013)
	Endowment/Budget Size	N/A
	Website	www.en.uobaghdad.edu.iq

*KLSC Calculation

University of Sulaimani (UOS)



University of Sulaimani (UoS) was first established in 1968, the main campus is located in the city of Sulaimani in Kurdistan of Iraq. In the beginning there were only three colleges but during the years that followed, number of the colleges increased dramatically as the result of growing demands of higher education in the country.

	Type of University/Institute	Public
	Year Established	1968
	No. of Faculties	9
	No. of Teaching Staff	~1,300
	No. of Students	23,201
	No. of Alumni	*113,680
	No. of Publications	N/A
	Endowment/Budget Size	N/A
	Website	http://univsul.edu.iq

*KLSC Calculation

The Hashemite Kingdom of Jordan

University of Jordan



The University of Jordan (UJ), which was founded in 1962, it has offered a wide choice of academic programs for students who can choose from more than 250 Programs from 24 schools in various disciplines. At graduate level, UJ provides 38 doctoral Programs, which represent more than 50% of doctoral programs in Jordan.



Type of University/Institute	Public
Year Established	1962
No. of Faculties	19
No. of Teaching Staff	2,121
No. of Students	26,532
No. of Alumni	*145,915
No. of Publications	N/A
Endowment/Budget Size	N/A
Website	http://ju.edu.jo

*KLSC Calculation

Jordan University of Science & Technology



Jordan University of Science and Technology (JUST) is a leading teaching and research center in Jordan and in the Middle East. Our outstanding students, alongside our faculty, make JUST a distinguished institution of higher education.



Type of University/Institute	Public
Year Established	1986
No. of Faculties	13
No. of Teaching Staff	1,049
No. of Students	24,889
No. of Alumni	*77,128
No. of Publications	N/A
Endowment/Budget Size	N/A
Website	http://www.just.edu.jo

*KLSC Calculation

The State of Kuwait

Kuwait Foundation for the Advancement of Sciences (KFAS)



The Kuwait Foundation for the Advancement of Sciences (KFAS) is a private non-profit organization dedicated to supporting the progress and advancement of science and technology. The main objective of KFAS is to stimulate creative initiatives and promote the construction of a solid scientific and technological base while at the same time creating an environment that encourages innovation.



Type of University/Institute	Private
Year Established	1976
No. of Faculties	N/A
No. of Teaching Staff	N/A
No. of Students	N/A
No. of Alumni	N/A
No. of Publications	N/A
Endowment/Budget Size	N/A
Website	http://www.kfas.org

Dasman Diabetes Institute



To promote national welfare, the Kuwait Foundation for the Advancement of Sciences (KFAS) surveyed the top diseases affecting the Kuwaiti population. Among those diseases, diabetes was the fastest growing chronic condition. As a result, KFAS financed the establishment of the Dasman Diabetes Institute (DDI).



Type of University/Institute	Private
Year Established	2001
No. of Faculties	N/A
No. of Teaching Staff	N/A
No. of Students	N/A
No. of Alumni	N/A
No. of Publications	2
Endowment/Budget Size	N/A
Website	http://www.dasmaninstitute.or

The Kuwait Institute for Scientific Research (KISR)



KISR was established in 1967 by the Arabian Oil Company. The institute was founded to carry out applied research in petroleum, arid-zone agriculture and marine biology. KISR established as an independent public institution in 1981.

	Type of University/Institute	Public
	Year Established	1967
	No. of Faculties	N/A
	No. of Teaching Staff	N/A
	No. of Students	N/A
	No. of Alumni	N/A
	No. of Publications	N/A
	Endowment/Budget Size	N/A
	Website	http://www.kisr.edu.kw

Kuwait University (KU)



The university was officially inaugurated on November 27, 1966 to include the College of Science, the College of Arts, the College of Education and the College for Women. The university is the state's first public institution of higher education and research.

	Type of University/Institute	Public
	Year Established	1966
	No. of Faculties	17
	No. of Teaching Staff	1,577
	No. of Students	37,365
	No. of Alumni	*190,536
	No. of Publications	N/A
	Endowment/Budget Size	N/A
	Website	http://kuweb.ku.edu.k

*KLSC Calculation

The Lebanese Republic

Lebanese University (LU)



The Lebanese University was established in 1951[5] to serve the diverse social groups that make up Lebanese society, and to provide a high-level institution in which students can acquire university degrees.



Type of University/Institute	Public
Year Established	1951
No. of Faculties	14
No. of Teaching Staff	~5,000
No. of Students	~74,000
No. of Alumni	*488,400
No. of Publications	N/A
Endowment/Budget Size	N/A
Website	https://www.ul.edu.lb

*KLSC Calculation

American University of Beirut (AUB)



Founded in 1866, the American University of Beirut bases its educational philosophy, standards, and practices on the American liberal arts model of higher education. AUB currently offers more than 130 programs leading to the bachelor's, master's, MD, and PhD degrees.

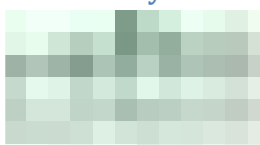


Type of	Private
Year Established	1866
No. of Faculties	7
No. of Teaching Staff	943
No. of Students	7,836
No. of Alumni	*50,000
No. of Publications	N/A
Endowment/Budget Size	N/A
Website	https://www.aub.edu.lb

*KLSC Calculation

The Kingdom of Morocco

Al Akhawayn University Ifrane

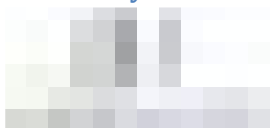


Al Akhawayn University in Ifrane opened its doors to students in January 1995. Based on the principles of diversity and an international outlook, the university's mission is driven by values of human solidarity and tolerance. Al Akhawayn has modeled its administrative, pedagogical, and academic organization on the American university system, and English is the language of instruction.

	Type of	Public
	Year Established	1993
	No. of Faculties	5
	No. of Teaching Staff	139
	No. of Students	1791
	No. of Alumni	*4000
	No. of Publications	N/A
	Endowment/Budget Size	N/A
	Website	http://www.aui.ma

*KLSC Calculation

University Mohammed V – Agdal



Mohammed V University A is a public university that provides high quality education to over 20 000 students annually. Its alumni include leading government officials, ambassadors, academics, engineers, lawyers and executives.

	Type of	Public
	Year Established	1920
	No. of Faculties	6
	No. of Teaching Staff	1,160
	No. of Students	75,403
	No. of Alumni	*731,380
	No. of Publications	N/A
	Endowment/Budget Size	N/A
	Website	http://www.um5.ac.ma

*KLSC Calculation

The Sultanate of Oman

Sultan Qaboos University (SQU)



Sultan Qaboos University is the realization of the promise announced by His. Majesty Sultan Qaboos Bin Said during the 10th anniversary of Oman's National Day in 1980. Construction started in 1982 and the first Sultan Qaboos University students were enrolled in 1986.



Type of University/Institute	Public
Year Established	1986
No. of Faculties	9
No. of Teaching Staff	899
No. of Students	7,634
No. of Alumni	*23,653
No. of Publications	N/A
Endowment/Budget Size	N/A
Website	https://www.squ.edu.om

*KLSC Calculation

University of Nizwa



The University of Nizwa is a non-profit academic institution, which is governed by its faculty. It shall promote positive thinking, preserve the nation's Islamic and cultural heritage and identity, faith in Allah and loyalty to the country and His Majesty. Its purpose is to broadly educate students and equip them with values, knowledge and life skills needed to enrich their lives and enable them to meaningfully contribute to the progress of society.



Type of	Public
Year Established	2004
No. of Faculties	4
No. of Teaching Staff	~271
No. of Students	~5,182
No. of Alumni	*6,734
No. of Publications	N/A
Endowment/Budget Size	N/A
Website	http://www.unizwa.edu.om

*KLSC Calculation

The State of Qatar

Qatar University



Qatar University is the national institution of higher education in Qatar. It provides high quality undergraduate and graduate programs that prepare competent graduates, destined to shape the future of Qatar.



Type of University/Institute	Public
Year Established	1977
No. of Faculties	9
No. of Teaching Staff	949
No. of Students	11,844
No. of Alumni	*47,360
No. of Publications	6
Endowment/Budget Size	N/A
Website	www.qu.edu.qa

*KLSC Calculation

Hamad bin Khalifa University (HBKU)



Hamad Bin Khalifa University (HBKU), a member of Qatar Foundation for Education, Science, and Community Development (QF), was founded in 2010 to continue fulfilling QF's vision of unlocking human potential. HBKU is an emerging research university that acts as a catalyst for transformative change in Qatar and the region while having global impact.



Type of University/Institute	Private
Year Established	2010
No. of Faculties	5
No. of Teaching Staff	N/A
No. of Students	~500
No. of Alumni	*700
No. of Publications	28
Endowment/Budget Size	N/A
Website	https://www.hbku.edu

*KLSC Calculation

Carnegie Mellon University in Qatar



Carnegie Mellon University established to create a transformative educational experience for students focused on deep disciplinary knowledge, problem solving, leadership, communication and interpersonal skills and personal health and well-being.



Type of	Private
Year Established	2004
No. of Faculties	5
No. of Teaching Staff	N/A
No. of Students	~ 500
No. of Alumni	*1,300
No. of Publications	28
Endowment/Budget Size	N/A
Website	https://www.qatar.cmu.edu/

*Calculated

Qatar Foundation



Qatar Foundation for Education, Science and Community Development is a private, non-profit organization that serves the people of Qatar by supporting and operating programs in three core mission areas: education, science and research, and community development. The Foundation strives to nurture the future leaders of Qatar.



Type of University/Institute	Private
Year Established	1995
No. of Faculties	N/A
No. of Teaching Staff	N/A
No. of Students	N/A
No. of Alumni	N/A
No. of Publications	3
Endowment/Budget Size	N/A
Website	https://www.qf.org.qa

The Kingdom of Saudi Arabia

King Abdullah University of Science and Technology (KAUST)



KAUST advances science and technology through distinctive and collaborative research integrated with graduate education. KAUST catalyst for innovation, economic development and social prosperity in Saudi Arabia and the world. It strives to enhance the welfare of society with a special focus on four areas of global significance – food, water, energy and the environment.

	Type of	Private
	Year Established	2009
	No. of Faculties	N/A
	No. of Teaching Staff	~ 200
	No. of Students	~ 1500
	No. of Alumni	*2,400
	No. of Publications	169
	Endowment/Budget Size	20 Billion USD
	Website	https://www.kaust.edu.sa

*KLSC Calculation

King Abdulaziz University (KAU)



King Abdulaziz University (KAU) was founded in 1967 in Jeddah, Saudi Arabia. Established initially as a private university and later in 1974 King Abdulaziz University was converted to a public university by a resolution of the Council Ministers of Saudi Arabia.

	Type of University/Institute	Private
	Year Established	1967
	No. of Faculties	19
	No. of Teaching Staff	3875
	No. of Students	37,178
	No. of Alumni	*185,850
	No. of Publications	164
	Endowment/Budget Size	1 Billion USD
	Website	http://www.kau.edu.sa

*KLSC Calculation

King Saud University (KSU)



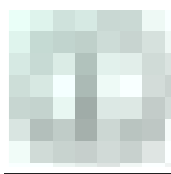
Established in 1957, to provide distinctive education, produce creative research, serve society and contribute in building the knowledge economy and community through learning, creative thinking environment, the optimal use of technology and effective international partnership.



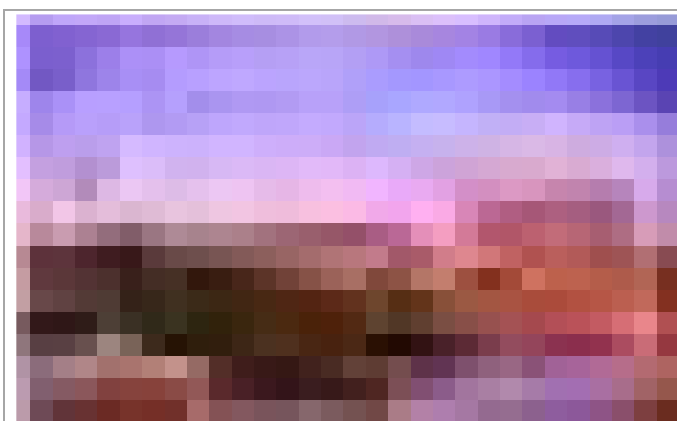
Type of University/Institute	Public
Year Established	1957
No. of Faculties	19
No. of Teaching Staff	4,869
No. of Students	40,404
No. of Alumni	*242,400
No. of Publications	32
Endowment/Budget Size	2.7\$ Billion USD
Website	http://ksu.edu.sa

*KLSC Calculation

King Fahd University of Petroleum & Minerals (KFUPM)



King Fahd University of Petroleum and Minerals (KFUPM) was officially established on 23rd September, 1963, With vision to preeminent institution known for its globally competitive graduates, cutting edge research, and leadership in energy discoveries.



Type of University/Institute	Public
Year Established	1963
No. of Faculties	8
No. of Teaching Staff	*3,500
No. of Students	33,093
No. of Alumni	33,265
No. of Publications	11
Endowment/Budget Size	N/A
Website	http://www.kfupm.edu.sa

*KLSC Calculation

King Abdulaziz City for Science and Technology (KACST)



The King Abdulaziz City for Science and Technology (KACST) is Saudi Arabia's national science agency and home to its advanced laboratories. To help achieve the Kingdom's shift towards a knowledge-based economy, KACST is promoting the development and investment in the national system of science, technology and innovation, by orienting research outputs towards industrial diversification.



Type of University/Institute	Public
Year Established	1977
No. of Faculties	N/A
No. of Teaching Staff	N/A
No. of Students	N/A
No. of Alumni	N/A
No. of Publications	22
Endowment/Budget Size	N/A
Website	https://www.kacst.edu.sa

*KLSC Calculation

Princess Nora Bint Abdulrahman University



The Princess Noro Bint Abdulrahman university for women in Riyadh was established in 1970, with vision to become a comprehensive university for women, distinguished with its academic leadership and scientific research that contributes to building a knowledge economy with societal and international partnerships.



Type of University/Institute	Public
Year Established	1970
No. of Faculties	14
No. of Teaching Staff	~ 2,500
No. of Students	~ 52,500
No. of Alumni	*246,750
No. of Publications	N/A
Endowment/Budget Size	N/A
Website	http://www.pnu.edu.sa

*KLSC Calculation

The Republic of Tunisia

University of Tunis El Manar



The University of Tunis El Manar is a public administrative institution created in 1987 under the name of University of sciences, technologies and medicine of Tunis by Article 97 of Act No.87-83 of 31 December 1987.



Type of	Public
Year Established	1987
No. of Faculties	4
No. of Teaching Staff	3,169
No. of Students	38,000
No. of Alumni	*114,000
No. of Publications	5
Endowment/Budget Size	N/A
Website	http://www.utm.rnu.tn

*KLSC Calculation

University of Monastir



The University of Monastir is famously decentralized, noted for the independence of its various constituent faculties and institutions and schools.



Type of University/Institute	Public
Year Established	2004
No. of Faculties	5
No. of Teaching Staff	1966
No. of Students	19,973
No. of Alumni	*51,930
No. of Publications	2
Endowment/Budget Size	N/A
Website	http://www.um.rnu.tn

*KLSC Calculation

The Republic of Turkey

Istanbul Technical University



Istanbul Technical University is one of the world's oldest technical universities with a long history of 250 years. ITU offers 39 graduate programs at 13 faculties, 39 postgraduate and doctoral programs at 6 institutes on five different campuses, all of them located in the heart of Istanbul.



Type of	Public
Year Established	1773
No. of Faculties	13
No. of Teaching Staff	1,291
No. of Students	35,789
No. of Alumni	*436,625
No. of Publications	62
Endowment/Budget Size	N/A
Website	www.itu.edu.tr

*KLSC Calculation

Middle East Technical University



Middle East Technical University is founded on November 15th, 1956 to contribute to the development of Turkey and Middle East countries and especially to train people so as to create a skilled workforce in the fields of natural and social sciences.



Type of University/Institute	Public
Year Established	1956
No. of Faculties	5
No. of Teaching Staff	~ 1,106
No. of Students	~ 28,000
No. of Alumni	~170,800
No. of Publications	74
Endowment/Budget Size	400 Million USD
Website	http://www.um.rnu.tn

*KLSC Calculation

Bilkent University



Bilkent University – the first private, nonprofit university in Turkey – was founded on October 20, 1984, by Professor İhsan Doğramacı, M.D., with the fundamental aim of creating a center of excellence in higher education.

	Type of	Private
	Year Established	1984
	No. of Faculties	9
	No. of Teaching Staff	~ 1,000
	No. of Students	~ 13,116
	No. of Alumni	*43,263
	No. of Publications	2
	Endowment/Budget Size	N/A
	Website	http://w3.bilkent.edu.tr

*KLSC Calculation

Sabanci University



Sabanci University established to to develop internationally competent and confident individuals, enriched with the ability to reflect critically and independently, combined with a strong sense of social responsibility.

	Type of University/Institute	Private
	Year Established	1994
	No. of Faculties	3
	No. of Teaching Staff	384
	No. of Students	4,967
	No. of Alumni	*9,280
	No. of Publications	156
	Endowment/Budget Size	N/A
	Website	https://www.sabanciuniv.edu

*KLSC Calculation

The United Arab Emirates

United Arab Emirates University



The first and foremost comprehensive national university in the United Arab Emirates. Founded in 1976 by the late Sheikh Zayed Bin Sultan Al Nahyan, UAEU aspires to become a comprehensive, research-intensive university.

	Type of University/Institute	Public
	Year Established	1976
	No. of Faculties	9
	No. of Teaching Staff	946
	No. of Students	~ 14,000
	No. of Alumni	*57,400
	No. of Publications	574
	Endowment/Budget Size	N/A
	Website	http://www.uaeu.ac.ae

*KLSC Calculation

American University of Sharjah



Founded in 1997 by His Highness Sheikh Dr. Sultan bin Muhammad Al Qasimi, Member of the Supreme Council of the United Arab Emirates and Ruler of Sharjah.

	Type of University/Institute	Private
	Year Established	1997
	No. of Faculties	3
	No. of Teaching Staff	370
	No. of Students	5,545
	No. of Alumni	*11,080
	No. of Publications	2
	Endowment/Budget Size	N/A
	Website	https://www.aus.edu

*KLSC Calculation

Khalifa University of Science, Technology and Research



Khalifa University is an independent, non-profit, coeducational institution inaugurated in 2007 as part of an Abu Dhabi Government initiative. Khalifa University is supported by the UAE government and owned entirely by the Emirate of Abu Dhabi.



Type of University/Institute	Public
Year Established	2007
No. of Faculties	2
No. of Teaching Staff	182
No. of Students	1,875
No. of Alumni	*2,255
No. of Publications	2
Endowment/Budget Size	N/A
Website	http://www.kustar.ac.ae

*KLSC Calculation

Masdar Institute of Science and Technology



Masdar institute established on 2007 with objectives of continually evolve interdisciplinary, collaborative research and development capability in advanced energy and sustainability and Educate students to be innovators with the breadth and depth to develop technology and enterprises in the region and globally.



Type of Institute	Private
Year Established	2007
No. of Faculties	N/A
No. of Teaching Staff	85
No. of Students	456
No. of Alumni	*910
No. of Publications	2
Endowment/Budget Size	80 Million USD
Website	https://www.masdar.ac.ae

*KLSC Calculation

State of Palestine

Palestinian Neuroscience Initiative



The Palestinian Neuroscience Initiative (PNI) was established in 2009 at Al-Quds University as a nucleus for a future Palestinian Neuroscience Institute. It encompasses research and educational programs in cognitive neuroscience, molecular neuroscience, neurogenetics, neuropharmacology and neuropsychiatry.

	Type of Institute	Private
	Year Established	2009
	No. of Faculties	N/A
	No. of Teaching Staff	N/A
	No. of Students	N/A
	No. of Alumni	N/A
	No. of Publications	2
	Endowment/Budget Size	N/A
	Website	http://neuroscience.med.alquds.edu/

Section VIII: Companies Involved & Investing in Scientific Research and Innovation

National Technology Enterprises Company (NTEC)



NTEC was created to utilize its broad objectives and technology focus being: Information & Communications Technologies, Life Sciences & Healthcare Technologies, Energy, Renewable Energy, and Water & Environmental Technologies.

Type of University/Institute	Private
Year Established	2002
Paid Up Capital	100 Million Kuwaiti Dinars (~350 Million USD)
Assets under Management	Enertech, Impulse, Kuwait Life Sciences Company (KLSC), Global Innovations Company and National Advisory Services Company (NASCO)
Investment Sector	Energy, Information Technology and Healthcare
Notable Investments	Plug power, Heliocentris, Luminus, Immatix, Stemcyte, Futuretec
Notable Partnerships	Massachusetts institute of technology unit-USA, KFSA, GUST,
Website	https://www.ntec.com.kw

Kuwait Life Science Company (KLSC)



Kuwait Life Science Company is a fully owned subsidiary of (NTEC) that focuses on healthcare innovative concepts and demanded services which have a clear unmet need. KLSC supports both public and private sectors to access emerging technologies and operates in healthcare investment, medical technologies and training.

Type of University/Institute	Private
Year Established	2010
Paid Up Capital	15 Million Kuwaiti Dinars (~53 Million USD)
Portfolio Companies	eCore MENA, Clinart, Life science Academy (LSA), Innomedics, NewBridge Pharmaceuticals
Investment Sector	Healthcare
Other Notable Investments	Quanta and Immatix Biotechnology
Notable Partnerships	QuintilesIMS, Cerner Corporation, GE Global Innovations Council. UK Healthcare
Website	www.klsc.com.kw

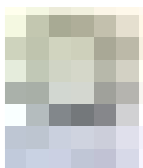
Impulse



Impulse International is a venture capital firm based in Safat, Kuwait. The firm invests in late stage and growth stage companies operating in the technology, ICT solutions and security solutions sectors. It also does direct investment to lead both government and private sectors.

Type of University/Institute	Private
Year Established	2010
Paid Up Capital	15 Million Kuwaiti Dinars (~53 Million USD)
Assets Under Management	Alien, Future Tec and Palringo
Investment Sector	Information Technology
Notable Investments	Adludio, Careem
Website	www.impulse.com.kw

Enertech



EnerTech Holding Company is a fully owned subsidiary of the National Technology Enterprises Company (NTEC) and was established in 2012 as a Kuwaiti Holding Company. The firm prefers to invest in the energy, clean tech, recycling, water, waste management and renewable energy sectors. It is based in Safat, Kuwait.

Type of University/Institute	Private
Year Established	2012
Paid Up Capital	15 Million Kuwaiti Dinars (~53 Million USD)
Assets under Management	Conduit Ventures, Element partners, CMEA capital
Investment Sector	Alternative energy and Energy efficiency, Water, Environment and Oil & Gas
Notable Investments	Red wave energy, Morgan solar, Tougas oilfield solutions
Website	www.enertech.com.kw

Taqnia



TAQANIA Investments is a venture capital firm based in Riyadh, Saudi Arabia. The firm prefers to invest in the life sciences and health, security and defense, information and communication technology, material sciences, energy and environment and water technology sectors.

Type of University/Institute	Private
Year Established	2011
Paid Up Capital	N/A
Assets Under Management	N/A
Investment Sector	Life Science, Health, Security & Defense, IT, Material Science and Energy,
Notable Investments	Manufacturer Satellite Equipment, Carbonics, Flux,
Website	www.taqnia.com

Dubai Silicon Oasis



Dubai Silicon Oasis Authority, a 100% government-owned free zone that promotes modern technology based industries with urban master-planned community, state-of-the-art infrastructure and in-house business services, with mission to create a universally recognized state-of-the-art "technology oasis" by facilitating and promoting technology-based industries, research and development within a fully integrated community

Type of University/Institute	Public
Year Established	2004
Paid Up Capital	N/A
Assets under Management	N/A
Investment Sector	Dubai smart city, Dubai Islamic development center
Notable Investments	N/A
Website	www.dsoa.ae

Masdar



Masdar Capital is a private equity and venture capital arm of the Abu Dhabi government-owned Mubadala Development Company. The firm manages the investments made in the energy sector with a focus on renewable energy, sustainable urban development, carbon capture and storage project development, and clean technology.

Type of Company	Private
Year Established	2006
Paid Up Capital	N/A
Assets under Management	N/A
Investment Sector	Renewable energy
Notable Investments	Dudgeon Offshore Wind, rePlanet holdings, FRX polymers, London Array1
Website	www.masdar.ae

Mubadala



Mubadala Investment Company is an investment firm formed by the merger of two Saudi sovereign wealth funds, International Petroleum Investment Company and Mubadala Development Company. The firm is based in Abu Dhabi, United Arab Emirates.

Type of Company	Private
Year Established	2006
Paid Up Capital	N/A
Assets under Management	N/A
Investment Sector	Renewable energy
Notable Investments	Dudgeon Offshore Wind, rePlanet holdings, FRX polymers, London Array1
Website	www.mubadala.com

Oman Technology Fund



With objective of the incubation funds is to support, accelerate and growth the successful development of angel or startup companies by providing entrepreneurs with an array of services.

Type of Company	Private
Year Established	2016
Paid Up Capital	150 Million USD
Assets under Management	N/A
Investment Sector	Early stage technology ventures
Notable Investments	N/A
Website	http://www.otf.om

Qatar Science and Technology Park



Qatar Science & Technology Park (QSTP) is a home for international technology companies in Qatar, and an incubator of start-up technology businesses.

Type of Company	Private
Year Established	2009
Paid Up Capital	800 Million USD
Assets under Management	N/A
Investment Sector	Startups
Notable Investments	N/A
Website	www.qstp.org.qa

Section IX: Scientific Thought Leadership in MENA

During the preparation of the report, we had reached out to 80 of the MENA regions top scientific minds. Unfortunately only 21 responded with significant contributions to the following section of the report. That represents a percentage of just below 30% and highlights the collective apathy many of the region's top minds have for actual scientific thought. It is our fervent hope that future editions of this report will gather higher levels of support from the top minds, top universities and the top scientific institutions of the region.

Selection of Qualitative Questions and Answers from MENA Thought Leaders (Anonymized)

Why is so important about science and technology?

Looking back through history, the world has experienced 4 industrial revolutions: the first saw the mechanization of production using water / steam power, the second was about mass production / assembly lines, the third enabled automation through computers and information technology, and finally today's fourth industrial revolution is bringing on the digital age through the convergence of physical, virtual/digital, and biological worlds. While each industrial revolution brought bigger and better advances, they all have one thing in common – i.e. they all enabled economic growth by increasing productivity and efficiency, driving inclusion / reducing poverty, improving quality of life / access to education and healthcare, and creating high-skill jobs / raising global income levels. In doing so, advances in science and technology have repeatedly transformed all aspects of business, society and human life.

What are some of the main challenges facing the science community in MENA?

A key challenge in MENA today is the lack of an end-to-end ecosystem that promotes advancement in science, technology and innovation. On one hand the region has a large youth population (~60% of population under 25 years of age) and at the individual level people are highly technologically savvy (high penetration of smartphones and social media usage). Simultaneously, however, there is relatively low adoption and investment in science and technology by governments and private sector. Furthermore, there is a lack of infrastructure, governance / policies, and funding available to promote advancement in these fields. This creates a huge bottle-neck in the system, making it difficult to achieve progress and capture the full potential at the speed needed.

Another key issue facing the science community in MENA relates to the talent pool / human capital. One aspect of this is the lack of leading local universities / research institutions that draw top science and engineering talent to the region. Another key aspect is the gender inequality and struggle to retain women in STEM fields. Today,

women comprise ~50% of the STEM graduates in MENA, yet less than ~20% women are actually working in STEM related fields.

What is the major regional challenge in MENA that you feel the science community must tackle as a top priority?

The ideology of science is what needs the utmost attention as an urging priority. The science community needs to consider looking at the relationship and analogy between science and ideology. In general the propositions of ideological knowledge when compared to the Scientific's are anti-empirical, confusing, shy away from counter-examples, and are underpinned by attitude that is potentially maniacal and omnipotent. On the other hand scientific knowledge is regulated by logic of methodology, empirical references, and is animated by a depressive attitude . It is therefore significant to highlight the importance of positioning scientific thinking in the ideology of nations of the MENA Region.

Development is inevitably linked with science. The argument here follows more or less a “science in science out” approach. If educational, cultural, and behavioral practices within a community are inter-linked with science as one core societal value, such practices would evolve and consequently reflect onto a viable politico-economic system that is both vitalizing and being vitalized by science. In other words we start and end with science (science in, science out). It is therefore the duty of the science community to work on reshaping science perception, and showcasing the unique role of science and technology in development of nations. Scientific thinking should be simplified and re-introduced into the community level. Tools to transform such knowledge into technology need to co-exist. Such tools maybe rising of new entrepreneurships, diffusion of new business models, transformations in health care provision systems, and unleashing leadership of young talents.

What are some of the top trending fields in science that are going to revolutionize the world in the next five years?

The digital age will bring several new advances in the field of science and technology. Some top trends that we should all look out for are

- Internet of Things & Big Data – Smart devices & sensors are collecting more real-time data than ever before and the ability to mine this data for real-time insights can create unprecedented value across industries. Leading companies have already started to embrace this (e.g. Amazon, Google, GE), and the full potential will continue to be realized as more and more corporations and governments start to implement it going forward.

- Additive Manufacturing – 3-D printing technology is revolutionizing all industries – including manufacturing, consumer goods, automotive, healthcare, etc. It will enable on-demand production of goods with exact specifications at the click of a button – practically eliminating waste, inefficiencies, and dependence on international sourcing.
- Artificial Intelligence & Robotics – Advances in AI and machine learning are creating technology that can mimic the human brain and behavior. In the future man-made machines will be able to make split-second, human-like decisions, solve problems, interact socially, and learn / process new information. The application of such technology will be far-reaching and transformational.

The impact of each of these trends will be enormous both at a macro and micro level – it will touch governments / policy, industries / private corporations, as well as individual households. Ultimately, how we, as a society, manage the ethical and human implications and risks of these technologies will define their long-term viability and sustainability.

Which of those fields of science do you see the MENA region become globally competitive in?

- Robotics and Drones
- Space sciences
- Personalized Medicine
- Cloud Technology
- Data security
- Consumer driven healthcare

How can we improve STEM education in MENA?

Improving STEM education and developing a robust talent pipeline is critical for MENA. To do this, we need investment & commitment from both public and private sector champions to ensure highest levels of impact and visibility. We need to set tangible short and long-run targets for the region to drive momentum and ensure long-term commitment to this priority. Secondly, we need to foster collaboration and increase communication to raise awareness and promote the sciences amongst the youth. For example, this can be done through the development of specialized science & technology focused communities and curriculums that are committed to talent development. Lastly, we need to be inclusive and ensure the next-generation of female talent is given equal opportunity to advance in STEM related fields. This will require us to change the current mindset and establish the right support networks by encouraging today's female leaders to serve as role models and mentors for the youth.

Scientists must put heavy emphasis on developing innovation and entrepreneurship. How can we encourage innovation to all across MENA?

Given the current focus on economic diversification across MENA, driving innovation and entrepreneurship is increasingly relevant and critical. Silicon Valley is successful because it is a complete ecosystem that brings together a clustering of the brightest minds and all necessary enablers in a single hub to realize the power of innovation and entrepreneurship. Re-creating this type of an ecosystem to support successful innovation requires several key ingredients to come together and work in harmony.

- Robust and diverse talent pool ... this requires local / regional universities and research institutions to train the brightest minds & enable a healthy talent pipeline
- Funding and investors that can enable scale and high impact execution
- Partnership and collaboration from private sector / industry to ensure ideas are commercially viable and relevant
- Government support, infrastructure, as well as the necessary governance frameworks and policies needed to support an entrepreneurial, innovation driven ecosystem

As a tool to inspire future generations, what do you see as your greatest achievement when it comes to science?

The greatest achievement in science that novel technique to test human DNA and accurately predict any given patient's response / sensitivity level to radio-therapy and chemo-therapy ahead of treatment being administered. By using science to correlate outcomes with treatment plan, this innovation delivers great impact in reducing morbidity rates and improving overall patient outcomes, as well as providing a more efficient approach for all stakeholders (i.e. patients, doctors, insurers) from a healthcare economics perspective.

Word Cloud Qualitative Analysis of MENA Scientific Thought Leader Contributions

The Importance of Science and Technology in the Middle East



Main Challenges Facing the Science Community in MENA



Top Trending Fields in Science -Revolutionize the World in the Next Five Years



Science & Technology Fields –MENA Becoming Globally Competitive



Ways to Improve STEM Education in MENA



Ways to Encourage Innovation to Across MENA



Greatest Achievement of Top MENA Science Thought Leaders



Section X: Discussion and Conclusion – STI as a Catalyst of Change

The Scientific Revolution’s feedback loop needs more than just research to make progress. It depends on the mutual reinforcement of science, politics and economics. Political and economic institutions provide the resources without which scientific research is almost impossible. In return, scientific research provides new powers that are used, among other things, to obtain new resources, some of which are reinvested in research^[20].



It therefore seems appropriate that the final section of this report is represented by the symbol X. As any high school graduate can proudly proclaim, Algebra was born in books of Baghdad, during the Golden Age of the medieval Middle East (750 to 1258 AD), and its early form can be seen in the work of **Muhammad Al-Khwarizmi** and his 9th century book, *Kitab al-jabr wal-muqabala* (*Al-Jabr* later morphing into Algebra in English).

In a recent TED talk, the director of *The Radius Foundation*, **Terry Moore**, posited that the use of “x” in this way began with the inability of Spanish scholars to translate certain Arabic sounds, including the letter sheen "ش" (or shin). Indeed, the word for an “unknown thing” in Arabic is *shay’a* “شيء” which appeared many times in early mathematical works.

Now, since Spanish scholars had no corresponding sound for “sh,” they went with the “ck” sound, which in classical Greek is written with the chi symbol, X. Moore theorizes, as many others before him have done, that when this was later translated into Latin, the chi (X) was replaced with the more common Latin x.

This Middle East Science Report covers many of the important trends and scientific aspiration for the region, and like the work of Terry Moore, builds on research already published. But it is certainly is nowhere near a complete appreciation. Thankfully there is a willingness and a growing acceptance from within the Middle East to follow the worldwide trend of STI as a driver of development – a catalyst of change. At the same time, the statistical data on basic STI indicators remain patchy, especially within the MENA countries. Nevertheless, there is a growing awareness of the need for reliable data to enable monitoring of national science and innovation systems and inform policy.

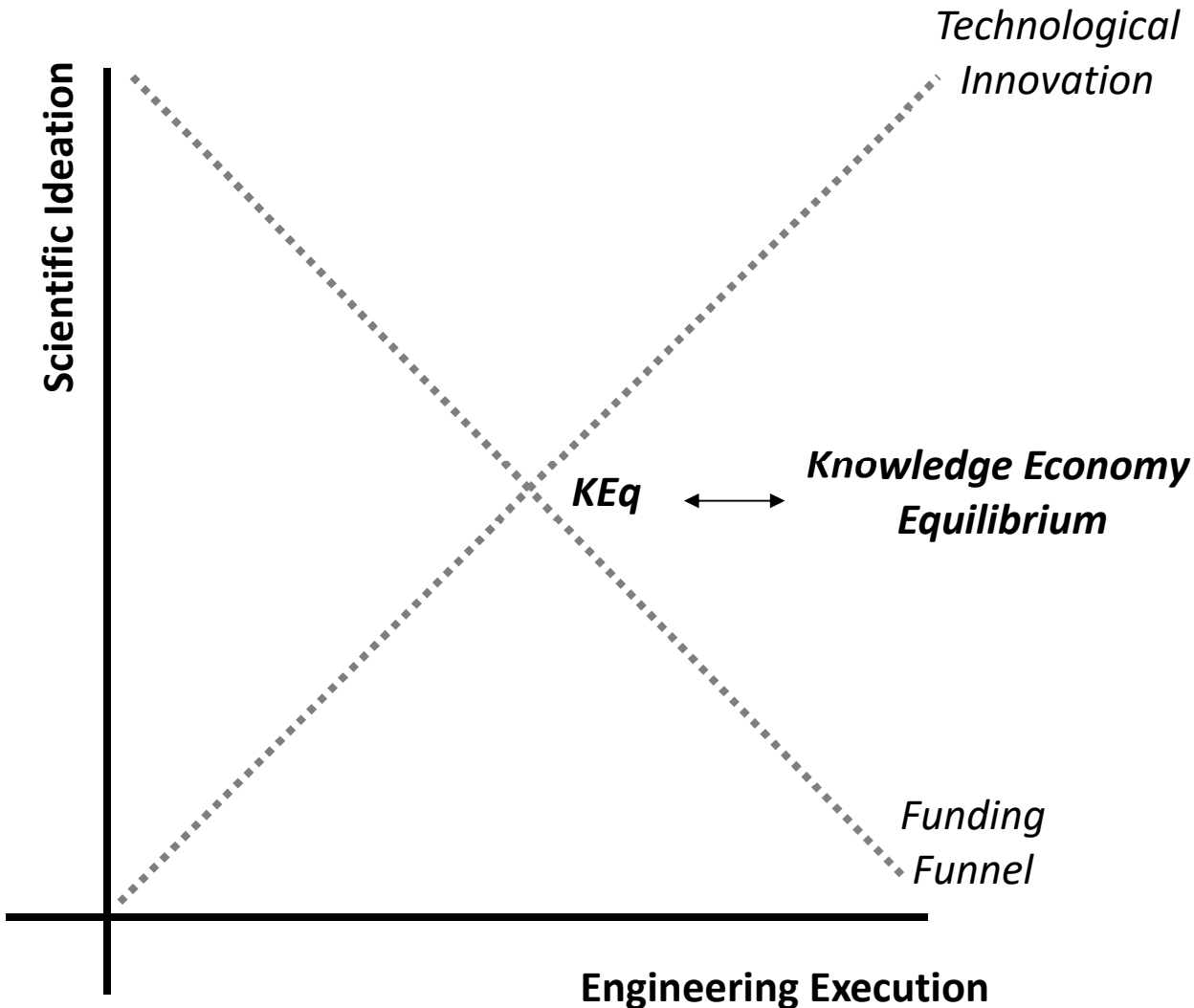
Developing a successful national science and innovation policy remains a very difficult task. Realizing the full benefit from science- and innovation-driven economic development requires moving in the right direction in a number of different policy fields simultaneously, including those affecting education, basic science, technological development and its consequence of mainstreaming green technologies, business R&D and economic framework conditions

The MENA Strategy for Science, Technology and Innovation endorsed by the Council of Ministers of higher Education and Scientific Research in the Arab World in 2014 proposes an ambitious agenda. Countries are urged to engage in greater international co-operation in 14 scientific disciplines and strategic economic sectors, including nuclear energy, space sciences and convergent technologies such as bio-informatics and Nano-biotechnology. However, we believe that we need more than just mere works, the region is hungry for concrete and decisive decision making, and most importantly – action. Only in this respect, can Middle Eastern government’s help propel their hydrocarbon and tourism based economies past the *KEq* or Knowledge Economy Equilibrium into a new epoch focused on Technological Innovation.

Surpassing the Knowledge Economy Equilibrium

(Notice the return of the all-important 'X')

ILLUSTRATIVE



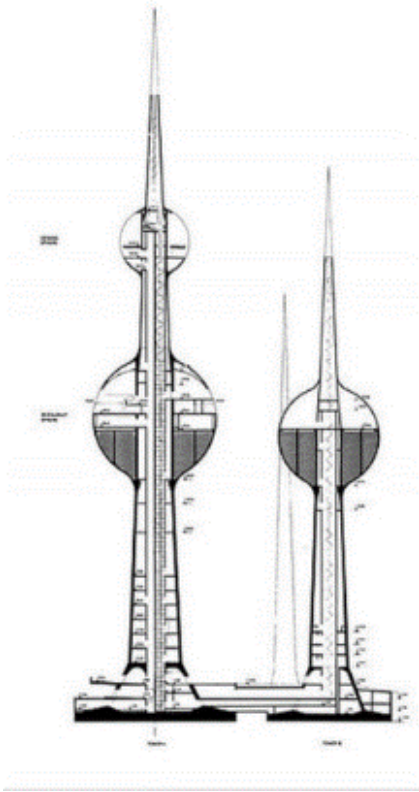
The above illustrative chart highlights an important take away that large funds (primarily from the public sector, including the military) are required during the initial stages of technological innovations, where scientific ideation is at its highest. Anecdotally, thousands of ideas must be carefully fostered and selectively funded to generate a handful of innovative technologies that can dynamically grow the economy and help transform it from an economy dying of consumption into a Knowledge Economy thriving on innovation.

The private sector must also be encouraged to not only contribute to the R&D effort by investing early in the funding funnel, but also then taking over the proverbial baton from the public sector and leading the engineering execution of new technologies and innovations through commercialization.

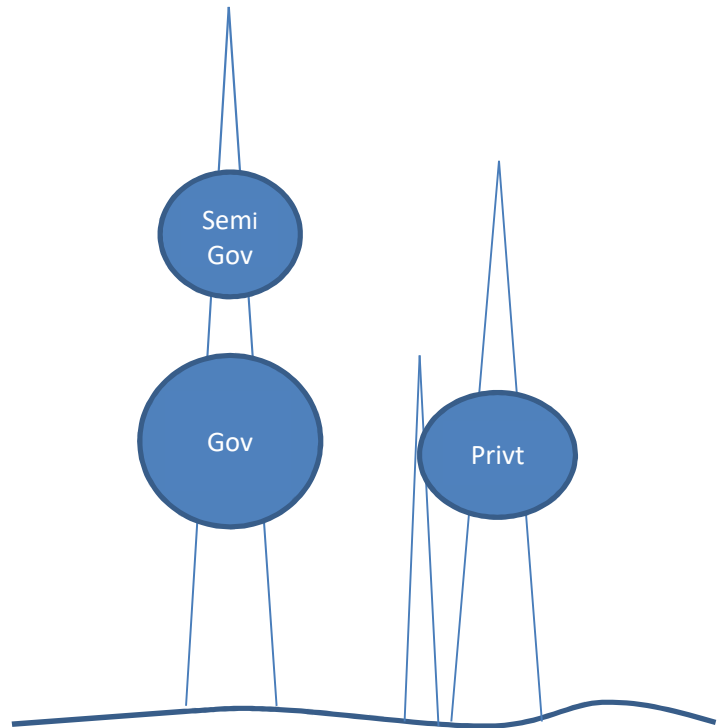
For the Middle East countries, it is imperative to accelerate the transfer of innovative technologies by developing educational large-scale pilot projects in priority areas, including renewable energy systems. This will also help to build up a critical mass of technologists in the region. The MENA region needs more champions of science and technology, including in the political arena, to bring about the positive change to which it aspires.

Throughout the report, we have uncovered noble individual efforts across each of the countries and institutions profiled, however, there remains a festering lack of coordination between different important stakeholders within each of the nation states in the Middle East. With the exception of Jordan, none of the countries profiles has a Higher Scientific Council or Ministry of Science and Technology (like in Pakistan). This is certainly an area of ‘low-hanging fruit’ for many a Middle Eastern government, as developing a National Science Roadmap or a Higher Council focused on fostering scientific research across different government agencies is a simple matter of political willpower. Below is a high level example of a future envisioned cooperative state for the Kuwaiti Science Ecosystem.

Spheres of Science: Future Envision State of Kuwaiti STI Ecosystem



**“Inspirational
Architecture of the
1980s”**

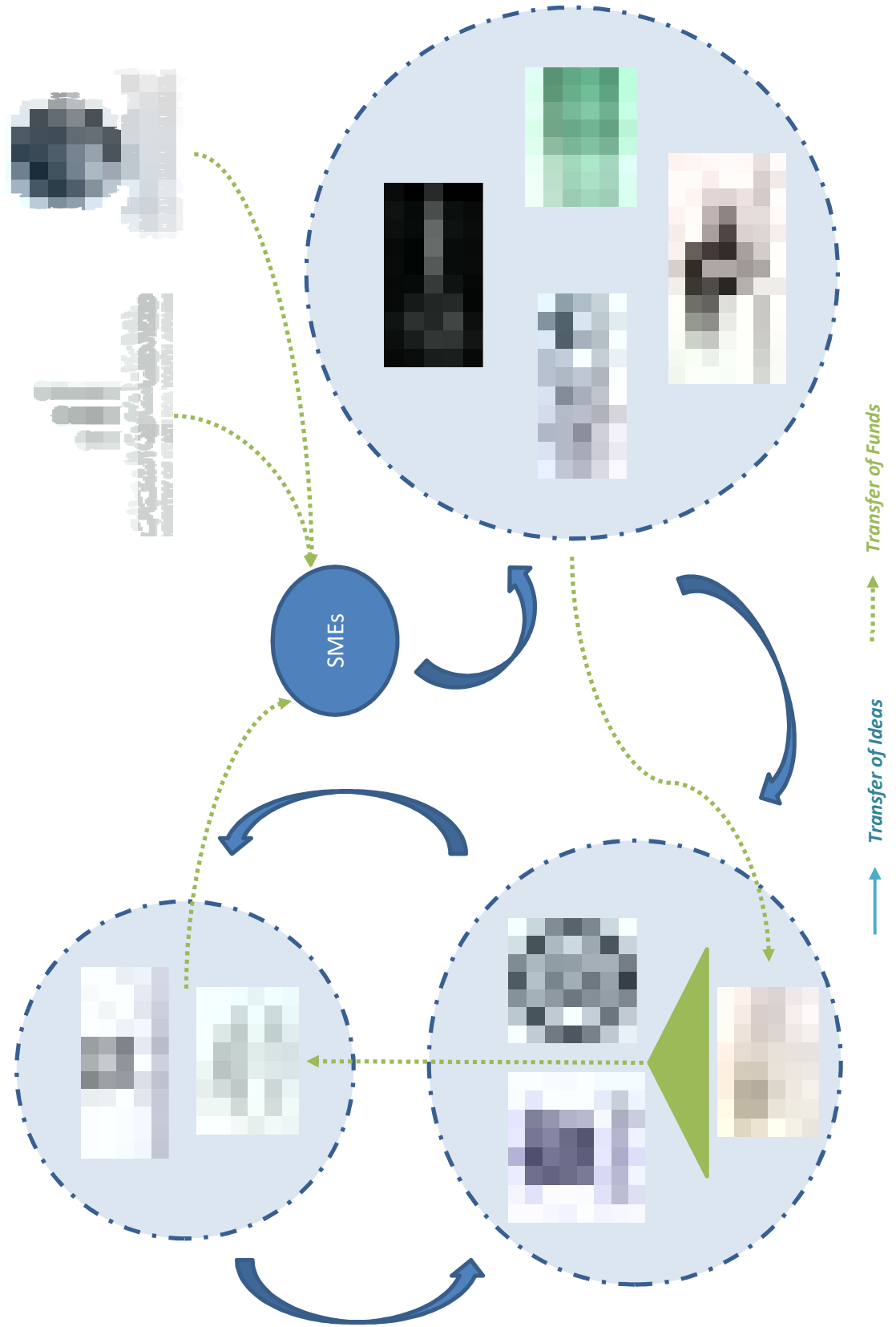


**“Inspirational
Ecosystem of the
2020s”**

Kuwait’s most famous spheres are arguably those that adorn the Kuwait Towers, the country’s national landmark and the inaugural recipient of the Aga Khan Award for Architecture in 1980. 37 years later, the most important spheres to develop and inspire the future youth of Kuwait are the three spheres of Government, Semi-government and Private contributions to the science, technology and innovation sector – who have chosen not to work in individual siloes, but intermurally with a singular vision to elevate Kuwait into a Knowledge Economy.

National STI Roadmap: Suggested Example from Kuwait

Spheres of Science National Ecosystem Example: Kuwait (Select Entities)



The Scientists Journey – Kuwait Example Continued

Today in Kuwait, a scientist's journey is indirectly supported by multiple public, semi public and private entities. Also cross collaboration between these entities does exist in a limited fashion, STI in Kuwait is not as of yet governed or coordinated by a single entity. A Kuwaiti scientists may apply for a grant provided by the Kuwait Foundation for the Advancement of Sciences and conduct his or her research at the Kuwait Institute for Scientific Research or one of the many faculties at Kuwait University. Research grants in Kuwait typically fall in the one to two million KD (~3.3 USD to 6.6 mn USD) range. That same scientist may then apply separately to the KFAS funded Sabah Al Ahmad Center for Creativity and Giftedness (SACC) who would help protect any innovation generated by the research by internationally licensing the Intellectual Property (IP) and developing an early prototype in exchange for a small equity stake or licensing fee. SACC essentially covers all these costs up to ~400,000 KD (~1.33 mn USD). SACC in turn, works closely with the government owned by privately managed National Technology Enterprises Company (NTEC) to both initially vet and continuously commercialize different science and technology inventions that are now patent protected. NTEC and SACC would help said scientist incubate a company, which could then receive further financing either via the *Mubadarat* program of the Ministry of State for Youth Affairs (if the scientists happens to be between the ages of 14 to 34) which provides up to 25,000 KD (~82,500 USD) in grants, or the National Fund for SME Development which provides low interest loans of up to 500,000 KD (~1.65 mn USD) for any company owned by a Kuwaiti entrepreneur.

All in all, the Kuwaiti public and private sector provides close to three million KD or ~10 million USD in total financial funding funnel support per scientist, almost one million KD (~3.3 million USD) is earmarked for commercial development. Unfortunately, many of Kuwait's current and future scientists are either unaware that these programs exists or do not know where to get started.

Furthermore, once this Kuwait scientific SME is properly incubated and developed, it will then grow into a large private company that could eventually list its shares to back to the public on the Kuwait Stock Exchange (KSE), in turn spawning more local jobs and economic value, which would then circle back into the 1% taxation on scientific funding collection by KFAS from profitable companies listed on the Kuwait Stock exchange. The foundation of the Knowledge Economy of Kuwait has indeed been set in motion, yet still requires further coordination and collaboration.

..A Final Thought

Despite many Middle Eastern Heads of State having committed to raising GERD to 1% of GDP more than 25 years ago, not a single Arab country has yet reached that target. Several MENA governments are setting up observatories to improve the monitoring of their science systems through data collection and analysis. Others should follow suit, in order to monitor the effectiveness of national policies and form a network of observatories to ensure information- sharing and the development of common indicators. Some are already taking this course of action; Lebanon, for instance, is participating in a platform linking Mediterranean observatories of STI. A great example from the developing world is the African Science and Technology Indicators Initiative, which has spawned an observatory based in Equatorial Guinea. A number of MENA economies are also establishing observatories of STI, including Egypt, Jordan, Lebanon and Tunisia.

Perhaps it is time to consider a similar pan-Arab or pan-MENA initiative. Perhaps it is time for us to pool our collective MENA resources rather than operating in the aforementioned individualized siloed efforts. Who will build the next circular city? Which city will be the Baghdad of the 21st century and help light humankind's seventh millennia.

The burning question remains, who will take the lead on hosting the new House of Wisdom?

About the Principal Author – Dr. Mussaad M. Al-Razouki (mussaad@klsc.com.kw)

[Dr. Razouki](#) has over 15 years of experience in venture capital and private equity investment with a focus on healthcare and technology, shifting from an excellence in clinical practice and research to the management and financing of healthcare and education systems. A graduate of **Columbia Business School**, Dr. Razouki is the first ever Arab national to receive an MBA with a focus on Healthcare Management and Finance. Dr. Razouki is a member of the **Hermes Honors Society** of Columbia Business School, an honor bestowed on the top 1000 global alumni of the university. An Oral and Maxillofacial surgeon by training, Dr. Razouki has completed clinical rotations at New York Presbyterian Hospital of **Columbia University Medical Center**, Harlem Hospital, **Cleveland University Hospital** of Case Western Reserve University and Mass General Hospital of **Harvard University**. Dr. Razouki graduated with Cum Laude Honors from **Creighton University** with Bachelors in Biology (Ethology) and TPP (Theology, Philosophy and Political Science).

In 2007, Dr. Razouki joined the world’s largest and oldest strategic consulting firms, **Booz Allen Hamilton**, which at the time was operating in over 100 countries across six continents with four billion dollars in revenue. Dr Razouki had the honor of working with all six GCC Ministers of health and completed health and public sector projects across the GCC, Lebanon and Egypt.

In 2009, Dr. Razouki was selected to join the **Office of Tony Blair** to lead the development of the Kuwait 2030 Vision for Health, Education and Entrepreneurship together with the Council of Minister of Kuwait. Dr. Razouki was also selected to head the Prime Minister’s Early Warning System Committee on Health and played an integral part in the establishment of the Kuwait Talent Bank.

In 2011, Dr. Razouki and his partners completed the purchase of a Kuwait based healthcare development company, which was rebranded as [Kleos Healthcare](#). Today, Kleos is widely recognized as a regional thought leader on Middle East healthcare, with a variety of projects in its pipeline ranging from developing a Medical Takaful Insurance company to working on a 750 mn USD government PPP.

In 2015, Dr. Razouki was the first ever Kuwaiti doctor to complete the “*Reforming of Public Systems: Health, Higher Education and Finance*” Executive Education course at the prestigious Grande École, **Paris Institute of Political Studies** (“Sciences Po”).

Dr. Razouki believes that the future of healthcare is approaching the singularity of coalescing the physical world with the digital. As a result, Dr. Razouki has incubated, funded and developed multiple local, regional and international digital health platforms including the [2014 LTE MENA winner](#) for best mobile application - [AbiDoc](#) - the region's first online appointment booking platform and call center and Kuwait's largest network of private hospitals, clinics and doctors, [MEDtrip](#) – the world's top medical tourism platform with offices in Denver, Colorado and Cebu, Philippines, and [Cera Care](#), a London based digital health company focused on excellence in elder care across Europe, which was [awarded](#) the Healthcare Startup of the Year 2016 at the Healthcare Startup Awards, from over 1000 entries.

In 2015, Dr. Razouki was presented with the **Kuwait e-Award** for best eHealth application by His Highness Sheikh Sabah Al Ahmed Al Sabah, the Emir of Kuwait. Dr. Razouki was also selected by **Stanford Medicine** as part of a group of 20 global authors to write a chapter on digital health investing in the upcoming Springer published book: ***Digital Health: Scaling Healthcare to the World***. He is the only author from the Arab World. During 2015, Dr. Razouki was also an **Industry Expert Board Member** at Al Ayadi Al Baytha Health Company, a 50 mn USD fully owned company of [Al Khabeer Capital](#), which is one of Saudi Arabia's largest and most active private equity investors with over **three billion dollars of assets under management**. Dr. Razouki worked together with the turnaround team at Al Khabeer and the asset's management to unlock unrealized value in one of Saudi Arabia's fastest growing medical services companies.

In 2016, Dr. Razouki was selected by the Abdul Rahman Al Sumait Award Executive Committee to represent the science community in Kuwait and present at the first ever meeting of the committee. The Committee is co-chaired by His Excellency Sheikh Sabah Khalid Al Hamad Al Sabah, Kuwait's Minister of Foreign Affairs and Mr. Bill Gates. At one million USD it is the largest science prize awarded in for scientific achievement in Africa. Dr. Razouki was also nominated as one of the [top five venture capital investors](#) in the Middle East and North Africa by Arabian Business. Dr. Razouki also [won two awards](#) at the seventh annual **Middle East Healthcare Leadership Awards** for both **Middle East Public Private Partnership of the Year** for the Jaber Hospital PPP Sustainable Hospital Project as well as **Healthcare Entrepreneur of the Year**.

In 2016, Dr. Razouki was also selected to participate in the prestigious [World Economic Forum Global Health and Healthcare Community](#) Meeting as part of the [Future Trends in Health Task Force](#) which was Chaired by Dr. Melanie Walker, Advisor to the President of the World Bank, Dr. Jim Young Kim. Dr. Razouki was the only participant from Kuwait and had the honor of having **seven out the 10 final key technological trends and themes** accepted in the final outcome report of the forum.

[Dr. Razouki](#) is the current Chief Business Development Officer of [Kuwait Life Sciences Company](#) (KLSC) where he is part of a team that manages over 100 million dollars in assets under management including local, regional and international investments on behalf of the Kuwait Investment Authority, the sovereign wealth fund of Kuwait. Dr. Razouki is a regional thought leader within the Middle East life sciences industry and has championed the building of strong pillars of the local life sciences ecosystem including the region's premiere pharmaceutical licensing and distribution platform; [NewBridge](#) - a 50 mn USD revenue company operating across all 22 MENA countries including Iraq, Iran and Turkey as well as South Africa, [Clinart](#) – the region's top Clinical Research Organization (CRO) and host of the first ever Phase II Clinical Trial in the history of Kuwait at the Dasman Diabetes Institute, [eCore](#) – the region's top active pharmaceutical ingredients licensor and distributor, the [Life Sciences Academy](#) – the region's first ever training and development company focused on the healthcare and life sciences industry as well as [Innomedics](#) – one of Kuwait's top medical device distribution companies that pioneered the distribution of personalized digital health products in the region.

At KLSC, Dr. Razouki and his team have partnered with some of the world's top life science venture capital funds including, [New Leaf Venture Partners](#) in New York, [Wellington Partners](#) in Munich and [Kearny Venture Partners](#) and [Presidio Partners](#) both of which are based in San Francisco. Notable direct and indirect investments include: [CRISPR Therapeutics](#) - a leading personalized genomic medicine company based in Cambridge, Massachusetts (NASDAQ: [CRSP](#)), [iRhythm Technologies](#), based in San Francisco, which closed 56% above its listed stock price on the first day of its IPO (NASDAQ: [IRTC](#)), [Quanta Fluid Solutions](#) – one of the world's first home hemodialysis manufacturers, [Median Technologies](#) – a leading global provider of medical imaging solutions, especially in the field of oncology based in France (EPA: [ALMDT](#)) and SuperSonic Imagine – a leading global provider of medical ultrasound solutions also based in France (EPA: [SSI](#))

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For more in depth KLSC report please visit: www.klsc.com.kw/reports

Profiles of Guest Contributors

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Mustafa Ergen is Chief Technology Advisor in Türk Telekom and president of venture funded Ambeent Wireless focusing 5G WiFi. Previously, Mustafa co-founded Silicon Valley startup WiChorus Inc. to focus on 4G technologies and company is acquired by Tellabs \$200M. Previously, he was a National Semiconductor Fellow [now TI] at the University of California Berkeley, where he co-founded the Distributed Sensing Lab, focusing on statistical sensor intelligence and vehicular communication. Mustafa completed PhD and MS degrees in electrical engineering in UC Berkeley.. He has more than 39 patent applications, many publications and authored three books and he is recently awarded Doçent title. He serves in boards of public and private holdings. He is also national delegate in 5G Infrastructure Association and Horizon2020 ICT Program of European Union and advisor at Berkeley Program on Entrepreneurship and Development. He is also an adjunct associate professor at KOC University. He also served in the board of trustees of TOBB University of Economics and Technology and was co-host in TV show on Bloomberg HT about entrepreneurship.

Ms. Valentina Qussisiya

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Valentina Qussisiya, CEO of Abdul Hameed Shoman Foundation (AHSF), an active member of The Scientific Research Fund board of trustees and a member of Al-Balqa' Applied University board of trustees, and a member of College Council at faculty of Arts and Design at University of Jordan. As the CEO of AHSF, Valentina is leading the Foundation's efforts to invest in cultural and social innovation to positively impact the communities through its three pillars; thought leadership, arts and literature, and employment and innovation. Before joining AHSF, Valentina held the position of Director General of Jordan River Foundation where she played a key role in initiating and supporting youth empowerment, entrepreneurship, and child safety programs. Her career spanned the areas of cultural promotion, social development focusing on poverty alleviation, local governance, child protection, economic development and women/youth empowerment in addition management, planning, and communications. Valentina holds a Master's degree in management studies with a focus on applying business process re-engineering on income-generating projects. In 2010, Valentina was awarded the Eisenhower Fellowship and was named as 2010 Ward Wheelock Fellow.

Mr. Joe W. Henein

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Joe Henein is a senior executive with an accomplished career extending over 30 years in the pharmaceutical industry, and covering many geographies including; USA (Global), Europe, and the Middle East/Africa. Joe holds a Pharm D Degree. Joe joined NewBridge as President and CEO. Prior to that Joe worked in Corporate Pharma, mostly Wyeth Pharmaceuticals which ended up in Pfizer, after which he immediately joined NewBridge. He worked in many disciplines in the industry, most notably as Vice President and Global Commercial Chair for number of therapeutic areas in Wyeth, like Infectious Diseases, and Women's Health Care. He also assumed the role of VP & Regional Managing Director for Wyeth in MEA from 2005-2010. Joe served in various Wyeth executive committees during his tenure as; Global Development Council, Global Development Strategy Board, and European Operation Council. On the industry level, he also served as the Vice Chair for the PhRMA MEA Committee and the Chair for the PhRMA MEA Ethics Review Board. Joe often speaks in many Pharma Conferences including International Market Access and Compliance Forums.

Prof. Fahd Al-Mulla

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Fahd Al-Mulla is professor of molecular pathology and genomic medicine at Kuwait University and adjunct Faculty at Marshall University, Joan C. Edwards School of Medicine USA. Fahd established 2 laboratories at Kuwait University. Fahd is the Founder and Director of a private diagnostic genomic medicine center called Genatak, he has pioneered the use of next generation sequencing and microarrays in diagnostics and precision medicine. His research led to the identification of two novel metastasis suppressor genes, namely Carbonyl Reductase and Raf Kinase Inhibitory Proteins, which he and his team characterized further and their therapeutic roles in cancer. He has spearheaded and initiated the 'Genome Arabia' project. Fahd received his Medical Doctorate and Ph.D. from Glasgow University. He is a Fellow of the Royal College of Physicians of Edinburgh. He currently holds 4 patents related to diabetes, wound healing and cancer. He established Technology Transfer and Patenting office in Kuwait University; also he serves as Chair of the Evidence group in the Global Genomic Medicine Collaborative and served as a Chair of the International Confederation of Countries Advisory Council of the Human Variome Project.

Dr. Riad Hartani

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Riad has spent the last two decades contributing to the development of Internet, Mobile and Artificial Intelligence (AI) technologies, mostly out of the Silicon Valley as a hub, building multiple leading technology startups, advising on strategic investments and rolling out innovative technologies all over the world. Most recently, he jumpstarted “Padovani Ventures”, a multi-disciplinary advanced technology initiative. He co-founded Companies such as Xona Partners, iValley.co. He has been in the leadership team of various Silicon Valley technology startups, including: Wichorus, Inc., Anagran, Inc. and Caspian, Inc. He lead and contributed to advanced research teams in prestigious R&D labs in University California at Berkeley-USA, National Research Council- Canada, France (Scientific National Research Center), Korea (Telecommunications Research Institute) and Japan (Hitachi Central Research Labs & AI Labs). Riad was born and grew up in Algiers. He published/presented over 200 research, industry and Internet standards papers. He holds Doctorate in Computer Science (AI) with highest honors from the University of Paris, and was a post-doctoral fellow at University of California at Berkeley.

Dr. Hasan Al-Nashash

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Hasan Al-Nashash is a professor and former chair of the department of Electrical Engineering at the American University of Sharjah. The main themes of Dr. Al-Nashash's research work are in the areas of neuroengineering and analog microelectronics. Dr. Al-Nashash has received a number of awards. In addition, he designed and developed several electronic instruments to measure various biodynamic parameters. He is the author of more than 120 refereed journal and conference papers, 5 book chapters and 2 issued US patents. He was involved in establishing several electrical engineering departments and biomedical engineering specialization in Jordan, Oman and the UAE. He is a senior member of the IEEE and the former Middle East and Africa representative on the IEEE-EMBS Administrative Committee. He worked closely with several biomedical engineering departments and hospitals at the National University of Singapore, Johns Hopkins University, the American Hospital in Dubai, Khlifia Hospital in Ajman and Jordan University Hospital.

Dr. Bahareh Azizi

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Dr. Bahareh Azizi is currently a Consultant for the Kuwait Foundation for the Advancement of Sciences (KFAS) working on strategic initiatives with the Strategic Planning and Evaluation Unit and the Research Directorate at KFAS. Prior to joining KFAS in 2016, Dr. Azizi was working at the Dasman Diabetes Institute in Kuwait since 2012, where she was the Head of Basic Science and Director of Business Development. Besides working on research administration, Dr. Azizi was engaged in research involving the understanding the prevalence of childhood obesity among school children. Prior to moving to Kuwait, Dr. Azizi was a general faculty member at the Georgia Institute of Technology (Georgia Tech), where she was engaged in research and teaching, and continues to maintain those research activities to date. Advising her graduate student, Dr. Azizi's research focuses on trying to understand the molecular relationships between ligand and protein, on a structural level, by designing ligands to activate nuclear receptors, a subfamily of proteins involved in gene regulation and consequently, implicated in several complications, such as cancer and diabetes. On a personal front, in 2016, she started volunteering at one of the local museums, *Dar Al-Athar Al-Islamiyah*, and teaches science and math to children and adults on the weekends. Dr. Azizi is a Tseu Cruddas Senior Fellow at Harris Manchester College, at Oxford University.

Mr. Najati Ali-Hasan

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Najati Ali-Hasan is the founder of Anchor I.T. Consultancy – a company established in Dubai to advise and assist Middle East healthcare organizations deliver on its goals and achieve its missions via the effective use of technology. Najati is considered a thought leader on healthcare automation, value-based care, revenue cycle management. Najati's experience spans the United States, the G.C.C. and Africa having worked at major providers of care and later suppliers of health I.T. services & solutions. Najati is well versed on current G.C.C. market & industry trends and is known to deliver trusted assessments and recommendations to his clients. Najati has a Masters in Business Administration degree from Southern Illinois University with emphasis on hospital administration and I.T.

Dr. Shadi Abu-Hayyeh

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Dr. Shadi Abu-Hayyeh is currently working as Assistant Director (Middle East) at Healthcare UK, part of the British Government, Department for International Trade, In parallel, he is an Honorary Research Fellow at King's College London where he is developing a program of translational research to understand how brown fat (good fat) can be pharmacologically manipulated to improve clinical markers of obesity. Shadi completed his undergraduate studies in Molecular Biology at King's College London, where he was inspired to pursue postgraduate studies in translational medicine, undertaking an MSc in Molecular Medicine and a PhD in Clinical Genetics at Imperial College London. His postdoctoral research interests have focused on energy metabolism, where he has published extensively about the liver's role in altered metabolism of bile acids, fats, and sugars under certain disease conditions. Early on in his scientific career, Shadi recognized the importance of private sector participation in clinical and scientific research. He spent several years at Accenture London, as a Health and Life Sciences Consultant where he successfully led on projects to redesign FTSE100 pharmaceutical company R&D processes, as well as driving strategic programs of work to identify high performance factors of the top 10 global pharmaceutical companies. He took his commercial experiences back into academia by becoming a London Business School Technology Transfer Fellow, actively working with scientific researchers and clinicians to commercialize their intellectual property.

Dr. Sameer Fahed Al-Zenki

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Dr. Sameer is the Director of Science and Technology Environment and Life Sciences Research Center, he holds Ph.D. in Food Science and Agricultural Chemistry and Member of the Institute of Food Technologists (IFT), Member of the Canadian Institute of Food Science and Technology (CIFST) and KISR representative in the Food Safety Committee (2003 to date). He has published work in 30 national and international journals.

Ms. Zeina Ali Siam

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Eng. Zeina Ali Siam is a PhD candidate in Population Health Sciences at Harvard University. Her research focuses on health financing and health systems strengthening in the Middle East and North Africa Region. Siam obtained her Masters in Epidemiology and Statistics from Harvard University, after acquiring a Bachelor of Science Degree in Biological Engineering from Massachusetts Institute of Technology (MIT). Prior to joining Harvard, Siam was an officer at the World Health Organization Eastern Mediterranean Regional Office in Cairo working on health systems development. Siam was also a consultant at the World Bank Middle East and North Africa HNP Unit in Washington DC in 2013, and a member at Microclinic International between 2014 and 2015. Siam is a former fellow at the FXB Center for Health and Human Rights in Harvard. She has been actively engaged with the online educational platform, *Edraak*, as an instructor for courses on various public health topics. Zeina Siam obtained several awards throughout her academic pursuit. She is a *Tau Beta Pi Engineering Honor Society* member. She was three times the recipient of the *Harvard Presidential Scholarship*. She has several publications on public health in the Middle East.

Dr. Mohamed Gad

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Mohamed Gad is a Medical doctor, and currently a Health Economist in Global Health Development Group at Imperial College London. He has previously worked as a NICE International Associate, in leading research work that studies the needs and the steps required towards capacity building for Health Technology Assessment (HTA) in healthcare systems for developing Evidence-Based Policy Making capabilities. He studied medicine and surgery and graduated from Ain Shams University in Cairo, Egypt. He has master's degree in Health Economics and Management at Erasmus University Rotterdam and Management Center Innsbruck. He has also worked at the World Health Organization (WHO) where he participated in developing the 2015 Global survey on Health Technology Assessment by National authorities. Consequently, he participated in the WHO Eastern Mediterranean Offices' Second Inter-Country Meeting on HTA where the first EMRO-HTA network launch took place. Mohamed is an associate member of the World Medical Association (WMA), member of Junior Doctors Network, and Ex-president & Alumni of Egyptian Medical Students Association (EMSA).

Dr. Manar Al Moneef

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Dr. Manar Al Moneef currently working as Chief Growth Officer for GE in the Middle East, North Africa, and Turkey (MENAT) region. Responsible for driving the growth strategy for GE by creating and executing on growth initiatives; identifying and developing new business opportunities; building capacity and capabilities. Prior to that she led marketing for the downstream business at GE Oil & Gas globally based out of Florence, Italy. She was responsible for driving the commercial strategy for GE Oil & Gas downstream business. Prior to that, I was the Managing Director of Imagination Breakthrough in the Middle East region. Also she was responsible for leading the business development efforts for GE healthcare. Prior to joining GE, She was the Director General of Health Care & Life Sciences at the Saudi Arabian General Investment Authority (SAGIA). She led all health care and life sciences investments in Saudi Arabia and positioning Saudi Arabia globally as a premier investment destination. Monar hold an MBA from Harvard Business School, a Doctoral Degree in Molecular Oncology from Oxford & Leicester University and a Master Degree in Molecular Medicine form Cambridge University, United Kingdom.

Dr. Malek El Hussein

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Malek El Hussein serve as Healthcare Operating partner, Alternative investments at Qatar first Bank, a healthcare platform who invest into healthcare industry across the MENA region since March 2016. Prior to Qatar first bank, he was worked seven (2009 to 2016) years in GE Healthcare, Middle East, Africa, Turkey & CA, Russia & CIS, where he positioned various position such as the General Manager, Manager and Business development Director. Prior to joining GE Healthcare, Malek spent seven years as the Director for ECRI Institute a collaborating center for the World Health Organization in the Middle East. Malek serves as board member for American University of Sharjah, Engineering Department and board member at Khalifa university, Abu Dhabi, Biomedical Engineering Department. Malek is a lead reviewer for the Central Board for Accreditation of Healthcare Institutions in Saudi Arabia. Malek was appointed as an external advisor for IFC/Worldbank for medical devices manufacturing investment committee. Malek holds a Bachelor of Engineering from the Lebanese University and Master Degree in Biomedical Engineering.

Dr. Hayat Sindi

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Hayat Sindi is a leading biotechnologist and a champion of science and technology in the Middle East. She has PhD in biotechnology from Cambridge and degree in pharmacology with honors from King's College London. In 2011 she launched i2, the Institute for imagination and Ingenuity, In 2013 Sindi was one of the first 30 women to be appointed to the Saudi Arabia's highest consultative body, the Shura Council, and is one of 25 global experts selected by United Nations (UN) Secretary General Ban Ki Moon to be a member of the newly constituted UN Scientific Advisory Board. Sindi is also a Goodwill Ambassador for Sciences at UNESCO. In 2012, she was chosen by National Geographic as Explorer. Also she was named one of Newsweek's "150 Women Who Shake the World". Hayat was named by Forbes number 2 the most powerful Arab women in kingdom of Saudi Arabia. Sept 2014 Hayat Sindi received Clinton Global Citizen Awards "leadership in Civil Society" for her work to encourage innovation and entrepreneurship among young people in the Middle East. 2015 Sindi was invited by UN Environment programme to be an Honorary Advisor for the Eye on Earth Summit. She was selected among the think tank of 50 scholars by Robert boch academy in Berlin. Recently, Dr Sindi was asked by Prime Minister of Malaysia to join his Science and Innovation advisory council to support the country vision 2020".

Dr. Saba Alzabin

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Saba received her BSc and BA in pre-medicine and architecture from New York University. She was then awarded a scholarship by the National Institutes of Health in the USA to pursue a PhD which she has completed at New York University School of Medicine in Basic Medical Science with a focus on molecular oncology and immunology. As a post-doctoral associate, Saba joined the Kennedy Institute of Rheumatology at Imperial College London, U.K., where she conducted a translational research project that resulted in the identification of the basis for patients who are non-responders to TNF- α blockade, leading to the development of combinatorial immuno-therapy for a range of autoimmune diseases such as arthritis and psoriasis. In 2012, she joined the University of Oxford where, in collaboration with a UK-based biotech company Epistem Ltd., she has been responsible for translating *in vitro* and *in vivo* platforms for inflammatory diseases from academia into industry to support the pre- and early clinical phases of drug development. Saba is an avid promoter of cross academic-industrial collaborations and education. In addition to her role as a senior scientist, she is an honorary lecturer and co-supervisor of doctoral students.

Prof. Dato' Dr. Syed Mohamed Aljunid

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Dr. Syed Aljunid is currently appointed as the Founding Professor in the Department of Health Policy and Management, Faculty of Public Health, Kuwait University from 1st January 2016. He also serves a Senior Research Scientist in Kuwait Institute for Scientific Research. He was the Founding Head of International Centre for Casemix and Clinical Coding, a centre of excellence on casemix and health economics research in Faculty of Medicine UKM, which was established in 2011. He is the first Malaysian to obtain PhD in Health Economics from London School of Hygiene and Tropical Medicine in 1995. He was appointed as the first Professor of Health Economics in Malaysia by UKM in 2000. Prior to this he served as a Senior Research Fellow of United Nations University International Institute for Global Health from 2006 to 2014. He obtained his MD from National University of Malaysia and Master of Science in Public Health from National University of Singapore. He has conducted more than 50 research projects.

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Majid Alghaslan is a recognized technology and thought leader in Saudi Arabia. Majid now is in the private sector as a serial entrepreneur engaged in the transformation of the Kingdom towards a Knowledge Based Economy and Society given his background and experience in Technology and the Energy Industry. He was a founding member of the King Abdullah University of Science & Technology (KAUST). He leads developmental projects in KAUST such as “Shaheen” supercomputer and KAUST IBM Center for Extreme Computing Research. He was also a key architect for the KAUST partnership with University California San Diego (UCSD). Majid was also instrumental in creating the Saudi Arabian Advanced Research & Education Network (SAAREN) with a 10Gbps link speed across Saudi Arabia and connected to the research & education networks around the globe. Majid also brought into the Kingdom MIT Media Labs “FabLab” that has now grown into multiple labs within Saudi Arabia to empower the youth of the country into next generation technologies and digital fabrication. Prior to KAUST Majid worked in Saudi Aramco as Vice President in USA. He has bachelor’s degree in Computer Science in University of the Pacific, Stockton, Calif.

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Appendix

The World's Richest Universities - Top 20 Universities Globally Ranked by Size of Endowment

S. No.	University Name	Endowment Size	Location
1	Harvard University	\$32.7 Billion	Cambridge, MA
2	University of Texas System	\$25.4 Billion	Austin, TX
3	Yale University	\$23.9 Billion	New Haven, CT
4	Stanford University	\$21.4 Billion	Stanford, CA
5	Princeton University	\$20.7 Billion	Princeton, NJ
6	King Abdullah University of Science and Technology	\$20 Billion	Thuwal, Saudi Arabia
7	University of California System	\$13.141 Billion	Oakland, CA
8	Massachusetts Institute of Technology	\$12.4 Billion	Cambridge, MA
9	Texas A&M University	\$11.1 Billion	College Station, TX
10	Northwestern University	\$9.78 Billion	Evanston, IL
11	University of Michigan	\$8.27 Billion	Ann Arbor, MI
12	Columbia University	\$8.2 Billion	New York, NY
13	University of Cambridge	\$8.1 Billion	Cambridge, UK
14	University of Pennsylvania	\$7.7 Billion	Philadelphia, PA
15	University of Chicago	\$7.55 Billion	Chicago, IL
16	Washington University in St. Louis	\$7.2 Billion	St. Louis, MO
17	Duke University	\$7 Billion	Durham, NC
18	University of Notre Dame	\$7 Billion	South Bend, IN
19	University of Oxford	\$7 Billion	Oxford, UK
20	Emory University	\$6.7 Billion	Druid Hills, GA

List of Notable Historic Middle Eastern Scholars and Polymaths

Arabic Name	Greek Name	Dates	Accomplishments	Publications
Hunayn ibn Ishaq	<i>Johannitius</i>	809–873	Assyrian scholar and physician renowned for his work in translating Greek scientific and medical works into Arabic	<i>Ten Treatises on Ophthalmology</i> ; Arabic translations of Galen's Commentary
Al Tabari		838 – c. 870 CE	Wrote the first encyclopedia of medicine and was an early pioneer of pediatrics. Known notably as a teacher of Al Razzi	<i>Firdous al-Hikmah (Paradise of Wisdom)</i>
Al Razzi	<i>Rhazeus</i>	865-925	Persian physician, alchemist and chemist who was the first to differentiate smallpox from measles and who discovered kerosene	<i>Kitab al- Mansoori; Al-Hawi; Kitab al-Mulooki; Kitab al-Judari wa al- Hasabah</i>
Al Zahrawi	<i>Abulcasis</i>	936–1013	Known as the inventor of modern surgery . Performed the first caesarean operation and created the first pair of forceps	<i>Kitab al-Tasrif</i>
Ibn Sina	<i>Avicenna</i>	980-1037	Regarded as the " Father of of modern medicine and clinical pharmacology. " Published <i>Al-Qanoon Fil Tibb</i> , the pre-eminent medical encyclopedia of that time. It remained a standard textbook of medicine for the next 700 years	<i>Al-Qanoon Fil Tibb ("The Canon of Avicenna")</i> ; <i>al-Isharat wa-'l-tanbihat (Remarks and Admonitions)</i> , <i>Danishnama-i 'ala'i (The Book of Scientific Knowledge)</i>

Ibn Zuhr	<i>Avenzoar</i>	1091– 1161	Pioneered experimental surgery and postmortem autopsy. His conclusion that the disease scabies was caused by a parasite established him as the first parasitologist	<i>Kitab al-Taisir fi al-Mudawat wa al-Tadbir (Book of Simplification concerning Therapeutics and Diet); Kitab al-Iqtisad fi Islah al-Anfus wa al-Ajsad</i>
Ibn Rushd	<i>Averroes</i>	1126- 1198	Influential Islamic religious philosopher who integrated Islamic traditions and Greek thought. His commentaries on Aristotle's works reintroduced Aristotle to the West	Wrote over 67 original works, including, <i>The Incoherence of the Incoherence (Tahafut al-tahafut)</i> .
Ibn Al Nafis		1213 – 1288	Known as the "Father of Circulatory Physiology", with his most notable discovery being the discovery of Pulmonary Circulation	<i>The Comprehensive Book on Medicine; Commentary on Anatomy in Avicenna's Canon; The Polished Book on Experimental Ophthalmology</i>
Ibn Khaldun		1332 - 1406	North African Arab historiographer and historian. He is claimed as a forerunner of the modern disciplines of sociology and demography	<i>Muqaddimah or Prolegomena</i>
Al Ruhawi		1200's	Wrote the first medical ethics book	<i>Adab al-Tabib (Practical Ethics of the Physician" or "Practical Medical Deontology)</i>
Sabuncuoğlu Şerafeddin		1385– 1468	Ottoman surgeon and physician who authored one of the earliest surgical books	<i>Cerrahiyyetu'l-Haniyye (Imperial Surgery)</i>

List of Stars and Star Systems with Arabic Names

S. No.	Common name	Arabic name (Transliteration)	Meaning	Arabic name
1	Acamar	<i>Ākhir un-Nahr</i>	End of the river	آخر النهر
2	Achernar	<i>Ākhir un-Nahr</i>	End of the river	آخر النهر
3	Acrab	<i>al- 'Aqrab</i>	the Scorpion	عقرب
4	Açubens	<i>az-Zubānā</i>	the Claw	الزباني
5	Adhafera	<i>aḍ-Ḍafīrah</i>	the Braid or Curl (of the lion's mane)	الصفيرة
6	Adhara	<i>al- 'Adhārā</i>	the Virgins	العذارى
7	Adhil	<i>adh-Dhayl</i>	the Tail	الذيل
8	Adib	<i>adh-Dhi'b</i>	The wolf	الذئب
9	Ain	<i>'Ayn</i>	the Eye (of the bull)	عين
10	Albali	<i>al-Bālī</i>	the Swallower	البالع
11	Alchibah	<i>al-Khibā'</i>	the Tent	الخباء
12	Alcor	<i>al-Khawwār</i>	the Faint One	الخوار
13	Aldebaran	<i>ad-Dabarān</i>	the Follower (of the Pleiades)	الدبران
14	Alderamin	<i>adh-Dhirā 'u l-Yamīn</i>	the Right Arm (of Cepheus)	الذراع اليمين
15	Alfirk	<i>al-Firqah</i>	the Flock of sheep	الفرقة
16	Algebar	<i>(Rijl) ul-Jabbār</i>	(Foot of) the Giant	رجل الجبار
17	Algedi	<i>al-Jady</i>	the Goat	الجدى
18	Algenib	<i>al-Janb</i>	the Flank (of Pegasus)	الجنب
19	Algieba	<i>al-Jab'hah</i>	the Forehead (of the Lion)	الجبهة
20	Algol	<i>(Ra'as) al-Ghūl</i>	(Head of) the Ghoul	رأس الغول
21	Algorab	<i>al-Ghurāb</i>	the Crow	الغراب
22	Alhena	<i>al-Han 'ah</i>	the Brand (on the neck of the camel)	الهنعة
23	Alioth	<i>Al-Jawn</i>	The black horse "John"	الجون
24	Alkaid	<i>al-Qā'id (banāt na 'ash)</i>	the Leader (of the mourning maidens)	القائد بنات نعش
25	Alkes	<i>al-Ka's</i>	the Cup	الكأس
26	Almak	<i>al- 'Anāq al-Arḍ</i>	the Caracal	عناق الأرض
27	Almeisan	<i>al-Maysān</i>	the Shining one	الميسان
28	Alnair	<i>an-Nayyir</i>	the Bright one	النير
29	Alnasl	<i>an-Naṣl</i>	the Blade	النصل
30	Alnilam	<i>an-Niẓm</i>	the String of Pearls	النظم

31	Alnitak	<i>an-Niṭāq</i>	the Girdle (Orion's Belt)	النطاق
32	Alphard	<i>al-Fard</i>	the Solitary one	الفرد
33	Alphecca	<i>(Nayyir) al-Fakkah</i>	(the Bright one of) the Broken (Ring)	نير الفكّة
34	Alpheratz	<i>(Surrat) al-Faras</i>	(Navel of) the Mare	سُرّة الفرس
35	Alrescha	<i>ar-Rishā'</i>	the Well-Rope	الرشاء
36	Alsafi	<i>ath-Athāfiyy</i>	the Tripods	الأثافيّ
37	Alsu hail	<i>Suhayl</i>	Glorious	سهيل
38	Altair	<i>(an-Nisr) uṭ-Ṭā'ir</i>	the Flying (Eagle)	النسر الطائر
39	Altais	<i>at-Tays</i>	the Goat	التيس
40	Alterf	<i>aṭ-Ṭarf</i>	the View (of the Lion)	الطرف
41	Aludra	<i>al-'Udhrah</i>	Virginity	العذرة
42	Alula Australis, Alula Borealis	<i>(al-Qafzat) ul-Ūla'</i>	the First (Leap)	القفزة الأولى
43	Alya	<i>al-Alyah</i>	the fatty Tail of a sheep	الألية
44	Angetenar	<i>'Arjat un-Nahr</i>	Curve of the River	عرجة النهر
45	Ankaa	<i>al-'Anqā'</i>	Phoenix	العنقاء
46	Arkab	<i>al-'Arqūb</i>	the Hamstring	العرقوب
47	Arneb	<i>al-Arnab</i>	the Hare	الأرنب
48	Arrakis	<i>ar-Rāqiṣ</i>	the Dancer	الراقص
49	Atik	<i>al-'Ātiq ath-Thurayyā</i>	the Shoulder (of Perseus)	عائق الثريا
50	Auva	<i>al-'Awwā'</i>	the Barking (Dog)	العواء
51	Azha	<i>(Persian: Ōshyōneh) Āshiyānah</i>	(Ostrich) Nest	اشيانه
52	Baham	<i>Sa'ad ul-Biham</i>	Luck of the Young Beasts	سعد البهام
53	Baten Kaitos	<i>Baṭni Qayṭus</i>	Belly of Cetus	بطن قيطس
54	Beid	<i>Bayḍ</i>	Eggs	بيض
55	Benetnash	<i>Banāt un-Na'ash</i>	Daughters of the bier	بنات النعش
56	Betelgeuse	<i>Ibṭ ul-Jawzā'</i>	Armpit of the Central One	إبط الجوزاء
57	Botein	<i>al-Buṭayn</i>	the Belly (of the ram)	بطين
58	Caph	<i>al-Kaff ul-Khaḍib</i>	the Palm (reaching from the Pleiades)	الكف الخضيب
59	Celbalrai	<i>Kalb ur-Rā'ī</i>	the Shepherd's Dog	كلب الراعي
60	Chort	<i>al-Kharat</i>	the Rib	الخرت

61	Cursa	<i>Kursiyy al-Jauzah</i>	the Chair or Footstool (of Orion)	الكرسي
62	Dabih	<i>Sa'ad udh-Dhābiḥ</i>	the lucky star of the Slaughterer	سعد الذابح
63	Deneb	<i>Dhanab ud-Dajājah</i>	Tail of the hen	ذنب الدجاجة
64	Deneb Algedi	<i>Dhanab ul-Jady</i>	Tail of the goat	ذنب الجدي
65	Deneb Dulfim	<i>Dhanab ud-Dulḥīn</i>	Tail of the Dolphin	ذنب الدلفين
66	Deneb Kaitos	<i>Dhanab ul-Qaitos (ul-Janūbīyy)</i>	(Southern) Tail of Cetus	ذنب القيتوس الجنوبي
67	Denebola	<i>Dhanab ul-Asad</i>	Tail of the lion	ذنب الاسد
68	Diphda	<i>aḍ-Ḍiḍḍa' ath-Thānī</i>	the (second) Frog	الضفدع الثاني
69	Dschubba	<i>al-Jab'hah</i>	the Forehead (of the scorpion)	الجبهة
70	Dubhe	<i>Kāhil ud-Dubb</i>	(the back of) the Bear	كاهل الدب
71	Dziban	<i>adh-Dhi'ban</i>	the Two Wolves or Jackals	الذئبان
72	Edasich	<i>adh-Dhikh</i>	the Hyena	الذئخ
73	El Nath	<i>an-Naḥ</i>	the butting (of the bull's horns)	النطح
74	Eltanin	<i>at-Tinnin</i>	the Great Serpent	التنين
75	Enif	<i>al-Anf</i>	the Nose (of Pegasus)	الأنف
76	Errai	<i>ar-Rā'ī</i>	the Shepherd	الراعي
77	Fomalhaut	<i>Fum al-Hūt</i>	Mouth of the Whale	فم الحوت
78	Furud	<i>al-Furud</i>	the bright Single ones (but see that article)	الفرد
79	Gienah	<i>al-Janāḥ</i>	the Wing	الجناح
80	Gomeisa	<i>al-Ghumaiṣā'</i>	the Bleary-eyed one	الغميصاء
81	Hadar	<i>Ḥaḍār</i>	Settlement	حضار
82	Hamal	<i>Rā's al-Ḥamal</i>	(head of) the Ram	رأس الحمل
83	Heka	<i>al-Haq'ah</i>	the White Spot	الهقعة
84	Homam	<i>Sa'ad al-Humām</i>	the Lucky star of the High-minded	سعد الهمام
85	Izar	<i>Al-Izar</i>	The girdle, or, The loin-cloth	الإزار
86	Jabbah	<i>al-Jab'hah</i>	the Forehead (of the scorpion)	الجبهة
87	Kabdhilinan	<i>Ka'ab Dhiy l-'Inān</i>	the Shoulder of the Rein-holder	كعب ذي العنان

88	Kaffaljdhma	<i>al-Kaff al-Jadhmā'</i>	the Cut-short Hand	الكف الجذماء
89	Kaus Australis, Kaus Media, Kaus Borealis	<i>al-Qaws</i>	the Bow	القوس
90	Keid	<i>al-Qaiḍ</i>	the (broken egg) Shells	القيض
91	Kitalpha	<i>Qiṭ'at al-Faras</i>	Part of the Horse	قطعة الفرس
92	Kochab	<i>al-Kawkab</i>	the Star	كوكب
93	Kurhah	<i>al-Qurḥah</i>	the Blaze on a horse's brow	القرحة
94	Lesath	<i>al-Las'ah</i>	The sting	اللسعة
95	Luh-Denebola / Denebola	<i>Dhanab al-Asad/al-Layth</i>	the lion's tail	ذنب الاسد/الليث
96	Maasym	<i>al-Mi'asam uth-Thurayyā</i>	the Wrist (of Hercules)	معصم الثريا
97	Maaz	<i>al-Mā'az</i>	the he-Goat	المعز
98	Mankib	<i>Mankib (ul-Faras)</i>	the Shoulder (of the Horse)	منكب الفرس
99	Marfik	<i>al-Mirfaq</i>	the Elbow	المرفق
100	Markab	<i>Markab (ul-Faras)</i>	the Saddle (of the Horse)	مركب الفرس
101	Matar	<i>al-Sa'ad ul-Maṭar</i>	the lucky star of Rain	سعد مطر
102	Mabsuta	<i>adh-Dhirā'u l-Mabsūṭah</i>	the Outstretched (Paw)	الذراع المبسوطه
103	Megrez	<i>al-Maghriz</i>	the Base of the bear's tail	مغرز
104	Meissa	<i>al-Maysān</i>	the Shining one	الميسان
105	Mekbuda	<i>adh-Dhirā'u l-Maqbūḍah</i>	the Folded (Arm)	الذراع المقبوضة
106	Menkalinan	<i>Mankib Dhiyi l-'Inān</i>	Shoulder of the Rein-holder	منكب ذي العنان
107	Menkar	<i>al-Minkhar</i>	the Nostril	المنخر
108	Menkent	<i>Mankib ul-Qanṭūris</i>	the Shoulder of the Centaur	منكب قنطورس
109	Menkib	<i>Al-Mankib uth-Thurayyā</i>	"The shoulder" of the Pleiades	منكب الثريا
110	Merak	<i>al-Marāq</i>	the loins (of the bear)	المراق
111	Mintaka	<i>al-Minṭaqah</i>	the Belt (of Orion)	المنطقة
112	Mirak	<i>al-Marāq</i>	the Loin-cloth	المراق

113	Mirfak	<i>al-Mirfaq uth-Thurayyā</i>	the Elbow	مرفق الثريا
114	Mizar	<i>al-Mi'zar</i>	the Apron	المئزر
115	Mothallah	<i>Ra'as ul-Muthallath</i>	(Head of) the Triangle	الرأس المثلث
116	Muphrid	<i>Mufrid ur-Rāmiḥ</i>	the Solitary one of the Lancer	المفرد الرامح
117	Murzim	<i>al-Murzim</i>	the Herald	المرزم
118	Nashira	<i>Sa'ad Nāshirah</i>	Lucky star of Nashirah	سعد ناشرة
119	Nekkar	<i>al-Baqqār</i>	the Cattleman	البقار
120	Nihal	<i>an-Nihāl</i>	(camels) Quenching their thirst	النهال
121	Nusakan	<i>an-Nasaqān</i>	The two arrays	النسقان
122	Nushaba / Alnasl	<i>Zujji n-Nashshāba [Zujji n-Nashāba?] / an-Naṣl</i>	the Arrowhead	رُجج النشابية / النصل
123	Okda	<i>al-'Uqdah</i>	the Knot	العقدة
124	Phact	<i>(al-)Fākhitah</i>	the Dove	فاخئة
125	Phad	<i>(al-)Fakhidh</i>	the Thigh	فخذ
126	Pherkad	<i>(al-)Farqad</i>	the Calf	فرقد
127	Rasalased	<i>Ra'as ul-Assad</i>	Head of the lion	رأس الأسد
128	Rasalgethi	<i>Ra'as ul-Jathī</i>	Head of the Kneeler	رأس الجاثي
129	Rasalhague	<i>Ra'as ul-Ḥawwā'</i>	Head of the Snake-man	رأس الحواء
130	Rastaban	<i>Ra'as uth-Thu'abān</i>	Head of the Snake	رأس الثعبان
131	Rigel	<i>Rijl ul-Jabbār</i>	Foot of the Giant	رجل الجبار
132	Rigilkent	<i>Rijl ul-Qanṭūris</i>	Foot of the Centaur	رجل القنطورس
133	Risha	<i>ar-Rishā'</i>	the Well-Rope	الرشاء
134	Rukbah	<i>ar-Rukbah</i>	the Knee	الركبة
135	Rukbat	<i>Rukbat ur-Rāmī</i>	Knee of the archer	ركبة الرامي
136	Sabik	<i>as-Sābiq</i>	the Preceding	السابق
137	Sadachbia	<i>Sa'ad ul-Akhbiyyah</i>	Lucky star of the Tents	سعد الاخبية
138	Sadalbari	<i>Sa'ad ul-Bāri'</i>	Lucky star of the Splendid one	سعد البارع
139	Sadalmelik	<i>Sa'ad ul-Malik</i>	Lucky star of the King	سعد الملك
140	Sadalsuud	<i>Sa'ad us-Su'ūd</i>	Luck of Lucks	سعد السعود
141	Sadr	<i>aṣ-Ṣadr</i>	the Breast (of the hen)	الصدر
142	Saiph	<i>as-Sayf</i>	the Sword (of Orion)	السيف
143	Scheat	<i>as-Sā'id</i>	the Shoulder	الساعد

144	Shaula	<i>ash-Shawlāh</i>	the Raised (tail of the scorpion)	الشولة
145	Shedir	<i>as-Ṣadr</i>	the Breast	الصدر
146	Sheliak	<i>ash-Shiliyāq</i>	Lyra	الشلياق
147	Sheratan	<i>ash-Sharāṭān</i>	the Two Signs	الشرطان
148	Sirrah	<i>Surratu l-Faras</i>	Navel (of the Mare)	سُرَّةُ الفرس
149	Skat	<i>as-Sāq (or Shi'at)</i>	the Leg (or the Wish)	الساق / شئت
150	Sulafat	<i>as-Sulḥafāh</i>	the Tortoise	السلحفاة
151	Talitha Australis, Talitha Borealis	<i>al-Qafzat uth-Thālathah</i>	the Third Leap (of the ghazal)	القفزة الثالثة
152	Tania Australis, Tania Borealis	<i>al-Qafzat uth-Thāniyah</i>	the Second Leap (of the gazelle)	القفزة الثانية
153	Tarf	<i>aṭ-Ṭarf</i>	"The glance" of the lion	الطرف
154	Thuban	<i>ath-Thu'abān</i>	the Snake	الثعبان
155	Unukalha	<i>'Unuq ul-Ḥayyah</i>	Neck of the Snake	عنق الحية
156	Vega	<i>an-Nisr ul-Wāqi'</i>	the Falling Eagle	النسر الواقع
157	Wasat	<i>Wasṭ us-Samā'</i>	"Middle" of the sky	وسط السماء
158	Wezen	<i>al-Wazn</i>	the Weight	الوزن
159	Yed Posterior	<i>Mu'akhhir Yad ul-Ḥawwā'</i>	(Back of the Snake Man's) Hand	مؤخر يد الحواء
160	Yed Prior	<i>Muqaddim Yad ul-Ḥawwā'</i>	(Palm of the Snake Man's) Hand	مقدم يد الحواء
161	Zaurac	<i>az-Zawraq</i>	the Boat	الزورق
162	Zavijava	<i>Zāwiyat ul-'Awwā'</i>	the Angle of the Barking Dog	زاوية العواء
163	Zawiah	<i>az-Zāwiyah</i>	The angle	الزاوية
164	Zubenelgenubi	<i>az-Zubān ul-Janūbiy</i>	Southern Claw (of the scorpion)	الزبان الجنوبي
165	Zubeneshamali	<i>az-Zubān ush-Shamāliy</i>	Northern Claw (of the scorpion)	الزبان الشمالي
166	Andromeda Galaxy	<i>as-Saḥābat uṣ-Ṣaghīrah ("small cloud")</i>	"little cloud" was the Arabic name for the Andromeda Galaxy, which was first mentioned by Al-Sufi in his Book of Fixed Stars	السحابة الصغيرة

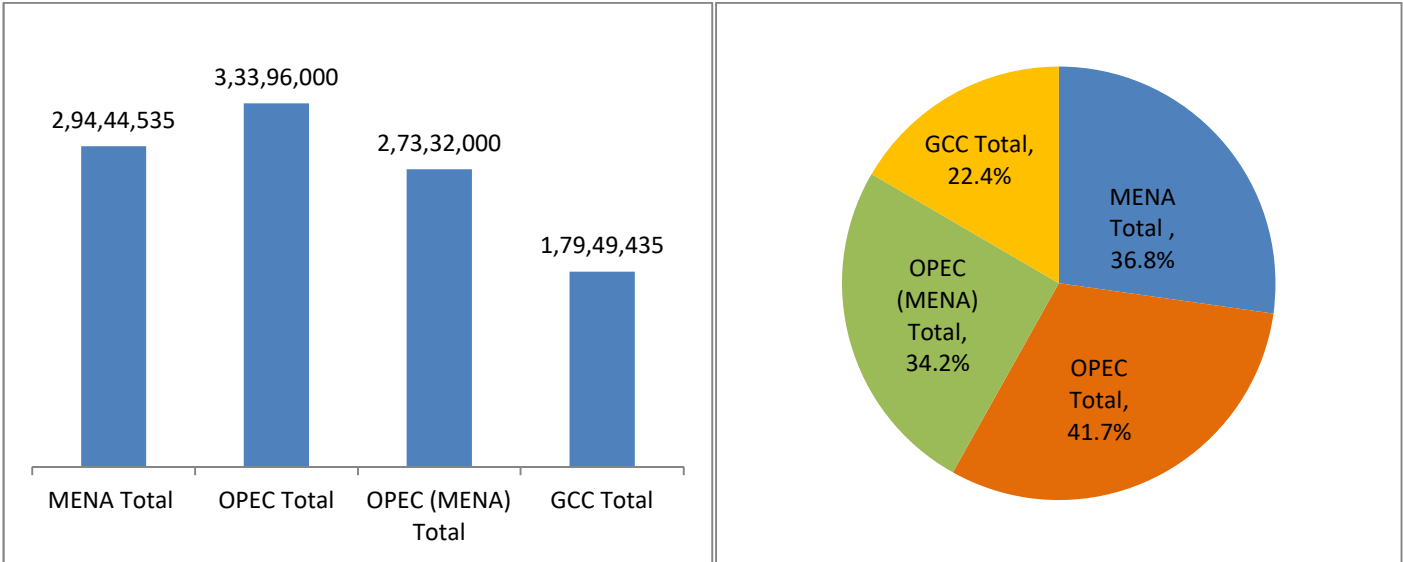
Global Ranking List of Oil Producing Nations and Per Barrel Output

No.	Country	Production (bbl/day)
1	Russia	10,250,000
2	Saudi Arabia(OPEC)*	10,050,000
3	United States	8,744,000
4	Iraq (OPEC)*	4,836,000
5	People's Republic of China	3,938,000
6	Iran (OPEC)*	3,920,000
7	Canada	3,893,000
8	United Arab Emirates (OPEC)*	3,188,000
9	Kuwait (OPEC)*	3,000,000
10	Brazil	2,624,000
11	Venezuela (OPEC)*	2,316,000
12	Mexico	2,193,000
13	Norway	1,763,000
14	Kazakhstan	1,746,000
15	Nigeria (OPEC)*	1,476,000
16	Angola (OPEC)*	1,507,000
17	Algeria (OPEC)*	1,171,000
17	Oman	1,008,435
18	United Kingdom	978,000
19	Colombia	955,000
20	Azerbaijan	876,000
21	Indonesia	847,000
22	India	736,000
23	Malaysia	668,000
24	Qatar (OPEC)*	639,000
25	Egypt	582,000
26	Ecuador (OPEC)*	555,000
27	Argentina	536,000
28	Libya (OPEC)*	528,000
29	Congo, Republic of the	317,000
30	Vietnam	312,000
31	Australia	292,000
32	Thailand	265,000
33	Sudan and South Sudan	255,000
34	Turkmenistan	235,000
35	Equatorial Guinea	227,000
36	Gabon (OPEC)	210,000

37	Denmark	149,000
38	Chad	115,000
39	Brunei	113,000
41	Italy	90,000
40	Pakistan	96,600
42	Uzbekistan	85,000
43	Cameroon	81,000
44	Romania	80,000
45	South Korea	79,000
46	Timor-Leste	76,000
47	Trinidad and Tobago	75,000
48	Bolivia	67,000
49	Ukraine	66,000
50	Bahrain	64,000
51	Netherlands	64,000
52	France	61,000
53	Turkey	61,000
54	Ghana	59,000
55	Tunisia	59,000
56	New Zealand	50,000
57	Cuba	49,000
58	Germany	48,000
59	Spain	40,000
60	Poland	39,000
61	Peru	39,000
62	Ivory Coast	37,000
63	Papua New Guinea	34,000
64	Syria	33,000
65	Belarus	32,000
66	Austria	27,000
67	Philippines	26,000
68	Hungary	25,000
69	Taiwan	22,000
70	Yemen	22,000
71	Albania	21,000
72	Myanmar	21,000
73	Democratic Republic Congo	20,000
74	Niger	20,000
75	Singapore	20,000
76	Croatia	18,000
77	Chile	15,000

78	Virgin Islands, U.S.	15,000
79	Guatemala	14,000
80	Suriname	14,000
81	Belgium	13,000
82	Estonia	13,000
83	Sweden	12,000
84	Czech Republic	11,000
85	Finland	10,000
86	Lithuania	9,100
87	Slovakia	9,100
88	Greece	8,700
89	Portugal	7,100
90	Mauritania	6,000
91	Israel	5,800
92	Morocco	5,100
93	Bangladesh	4,800
94	Japan	4,000
95	Switzerland	3,900
96	Bulgaria	3,400
97	Aruba	2,800
98	Jamaica	2,100
99	Paraguay	2,000
100	South Africa	2,000
101	Belize	1,800
102	Netherlands Antilles	1,500
103	Uruguay	1,200
104	Barbados	1,000
105	Georgia	1,000
106	Latvia	1,000
107	Ireland	900
108	Puerto Rico	700
109	Costa Rica	300
110	Slovenia	300
111	Jordan	200
112	Malawi	200
113	Tajikistan	200
114	Zambia	200
115	Ethiopia	100
116	Hong Kong	100
117	Zimbabwe	100

Oil Producing Nations Analysis



Further Background on NTEC and KLSC

[Kuwait Life Sciences \(KLSC\)](#) was established in 2010, with a paid up capital of 15 million Kuwait Dinars (KD) which is equivalent to approximately \$53 million US Dollars. KLSC is fully owned by [National Technology Enterprises Company](#). National Technology Enterprises Company (NTEC) was incorporated in November of 2002, by the Kuwait Council of Ministers as a fully owned company by the Kuwait Investment Authority (KIA), the sovereign wealth fund of the State of Kuwait. Capitalized at 100 million Kuwait Dinars (KD) which is equivalent to approximately \$350 million US Dollars, NTEC aims to play a vital role in servicing major stakeholders in Kuwait and the Middle East region with their technology requirements.

KLSC focuses on healthcare innovative concepts and demanded services which have a clear and unmet need in the Middle East and North Africa (MENA) region. KLSC has been designed as an integrated healthcare company building unique projects and is considered one of the pioneer venture capitalist and private equity companies in the Middle East that invests globally and operates regionally seeking to advance healthcare services and systems within the region. KLSC supports both public and private sector stakeholders to access emerging technologies, establish unique projects and adapt best practices prevailing in today's healthcare field. KLSC operates in healthcare investment, life sciences training, medical technology and pharmaceutical distribution.