

SCIENCE, TECHNOLOGY & INNOVATION in Saudi Arabia

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We all agree that intellectual property (IP) is a stimulus for creativity and innovation in the world. It positively influences the global economy by encouraging fair competition, and developing innovative products and methods, as well as increasing literary creation.

In Saudi Arabia, IP laws have been regularly revised and updated to ensure that an effective legal framework is in place both to encourage innovation and creativity and to enforce IP rights. This has created a fertile seedbed for creativity and innovation and attracted higher levels of investment in these areas.

Innovation and technology development are integral to Saudi Arabia's long-term vision as set out in the National Science, Technology and Innovation Plan (NSTIP).

TOWARDS A KNOWLEDGE-BASED ECONOMY

The aim of the NSTIP is to build a knowledge-based economy by developing the country's human resource capacities; supporting research and innovation activities in universities and research centers; funding innovative techniques; transferring and localizing technology; and enhancing the legislative and institutional framework to stimulate creativity and innovation.

Implementation of the NSTIP falls to the King Abdulaziz City for Science and Technology (KACST) and various Science, Technology and Innovation (STI) institutions; including 17 ministries, 10 universities, and 13 national agencies and commissions. The private sector also plays an important role and is involved in a number of projects. For example, the Saudi Arabian oil company ARAMCO is cooperating with KACST to advance research in oil and gas technology, particularly in the production of clean fuel. Similarly, SABIC, one of the world's largest petrochemicals manufacturers, is participating in a project to transfer and localize petrochemicals technology in communities across the country.

TARGETING STRATEGIC AREAS

Various programs have been established under the NSTIP targeting strategic areas, including water technologies, biotechnology, advanced materials, nanotechnology, information technology, electronics, communication, oil and gas, petrochemicals technology, medical and health, space, energy, environment, agriculture, and construction. Mathematics and physics are also given emphasis to provide a strong basis for the other targeted technologies to flourish.

ABOUT THE NSTIP

The NSTIP is a comprehensive strategy to boost innovation. It covers a range of activities, these include:

The Capacity Building Program for Scientific Research and Technology Development which aims to establish research centers focusing on high priority fields of development such as oil and gas, environment, agriculture and medical and health.

The Technology Transfer and Localization Program which develops and implements strategies to support innovation and technology development and identifies hubs for the development of advanced industrial technologies. A range of initiatives are being rolled out under this program to establish:

- an SMEs development center;
- five technology incubators; and
- a development and localization city to provide infrastructure for technical industry.

The STI Human Resources Program which is responsible for:

- establishing and supporting creativity and scientific innovation centers;
- granting higher education scholarships for strategic technologies;
- designing a curriculum for research methods, creativity and innovation in public education; and
- honoring Saudi inventors and distinguished scientific researchers.

The Knowledge Society Program which oversees a range of initiatives including:

- publishing scientific journals for strategic technologies;
- developing national databases for STI indicators;
- developing a database for information technology, commercial and industrial services; and
- promoting culture awareness within schools and universities.

The STI Laws Program which is responsible for providing assistance in:

- drafting laws for the competent bodies; and
- drafting IP regulations for national research programs.

The STI Organizational Structure Program which handles STI management and investment and is working to establish science and technology units within the universities and institutions that are involved in implementing the NSTIP.

The Diversification of STI Funding Sources Program which is responsible for:

- establishing a fund for technology development;
- designing self-funding policies for R&D centers; and
- creating financial products to fund STI activities.

The government-owned Technology Development and Investment Company (TAQNIA), set-up specifically to leverage the results of national research, both commercially and industrially, is yet another indication of Saudi Arabia's commitment to innovation and technology development.



A range of projects, such as the King Abdullah's Initiative for Water Desalination using Solar Energy, implemented in collaboration with IBM, aim to ensure water security for the Kingdom through the development of advanced environmentally-friendly technological solutions.

Specialized research centers within national universities and other relevant government agencies provide an efficient and integrated system for transferring and localizing technology and play an important role in supporting the activities of technology incubators, science parks and technology development centers.

To bolster domestic innovative capacities, the government has been seeking to recruit competent scientific and technical academics in all of the strategic areas of technology. A number of scientific and technical cooperation agreements have also been signed with reputable international institutions to build up experience and acquire know-how.

PROMOTING IP AWARENESS

With a view to promoting broader awareness and use of IP within Saudi society the government has launched a number of initiatives. These include:

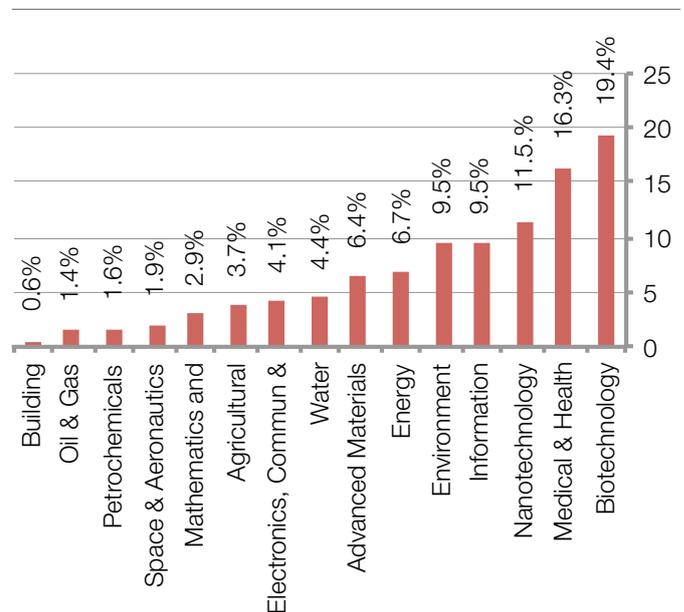
- an annual IP forum to promote discussion and improve understanding of IP issues within the academic and business communities;
- a website hosted by the Saudi Patent Office at KACST (<http://fikratech.kacst.edu.sa/>) that provides useful information and services for inventors, innovators, and others interested in IP rights;
- an animated film about inventions and the importance of protecting them;
- a series of IP awareness workshops targeting universities, research centers, and the industrial sector, with the support of WIPO.

SUPPORTING SAUDI INVENTORS

We have also launched a number of initiatives to support and encourage individual Saudi inventors. These include the King's Award which honors distinguished inventors and other talented individuals. The Award is designed to encourage a spirit of creativity and innovation within the community and thereby to contribute to the development of science and technology in Saudi Arabia as it becomes an increasingly knowledge-based society. In 2012, the winning inventions were in several fields including biotechnology, medical and health, advanced materials and petrochemicals technology.

The King Abdulaziz and His Companions Foundation for Giftedness and Creativity (MAWHIBA), also supports talented innovators by showcasing their work in international exhibitions, such as iEna in Nuremberg (Germany), the International Exhibition of Inventions in Geneva (Switzerland) and the International Invention Fair in the Middle East (Kuwait). The national IBTI-KAR exhibition organized by MAWHIBA is an opportunity for individual inventors to present their work and to attract financial backing to develop it.

Figure 1
The percentage of funded projects in various technology areas



Source: (NSTIP Annual Report: 2012, <http://nstip.kacst.edu.sa>)

NEW DEVELOPMENTS

In an endeavor to further catalyze interest in innovation and support the development of scientific endeavor in Saudi Arabia, an Arabic language version of the international scientific journal *Nature* has recently become available along with an Arabic version of the French journal *Science & Vie Junior*.

Since its establishment in 1982, the Saudi Patent Office has received over 18,670 patent applications. In 2012, the office granted 213 patents and 605 industrial design certificates. It also received 1,041 patent applications, 404 of which were national applications resulting from on-going research.

In May 2013, Saudi Arabia joined the Patent Cooperation Treaty (PCT). This important development promises to further boost the country's innovation landscape and to put us squarely on the global patenting map. While there is still much to accomplish, Saudi Arabia's strong commitment to innovation and technology development is catalyzing efforts for the country to become a fully-fledged knowledge economy in the coming years. ♦