# The Leader toured Nuclear Industry Accomplishments Exhibition for 1.5 hours - 11 /Jun/ 2023

This morning (Sunday), His Eminence Ayatollah Khamenei, the Supreme Leader of the Islamic Revolution, spent an hour and a half visiting the National Nuclear Industry Accomplishments Exhibition at Imam Khomeini (r.a.) Husayniyyah.

At the exhibition, the most significant accomplishments of nuclear experts and researchers were showcased, particularly in areas that impact people's daily lives, such as medicine, pharmaceuticals, industry, agriculture and food, energy, water, power plant construction, and geology.

Another part of this exhibition displayed the accomplishments of Iranian scientists in developing indigenous technology and knowledge in the nuclear fuel cycle. Researchers and experts provided detailed information to each sector's Leader of the Islamic Revolution.

One notable achievement of the young scientists in the nuclear industry is the production of the 130Te isotope. This was achieved by designing, building, and operating a square chain of twenty centrifuges. The isotope has a wide range of medical applications, particularly in producing raw materials for radiopharmaceuticals used to diagnose various types of cancer and incurable diseases. It is also used in pharmaceuticals, industry, geology, agriculture, and nuclear sciences. Our nation's researchers have successfully produced over fifty diagnostic, palliative, and therapeutic radiopharmaceuticals using nuclear science.

Another medical achievement of nuclear science is the development of haemostatic or blood clotting powder. Thanks to the efforts of our nation's scientists, Iran is now among the five countries with the technical expertise to produce this medical product, which is widely used in surgery to prevent bleeding.

The exhibition also highlighted the accomplishments of nuclear knowledge in the fields of energy and water. These include the construction of power plants along the southern and northern coasts of the country, the development of small indigenous power plants, and the construction of desalination complexes in Bushehr.

The exhibition also showcased the significant role of nuclear science in food and agricultural preservation. Nuclear science has contributed to the agriculture and food preservation sector in three fields: plasma, biological, and radiation. Its most essential services in the agricultural industry include dealing with pests, disinfesting grains and food, and increasing their shelf life.

Another accomplishment of nuclear science is its application in industry and environmental preservation. The design and construction of an electrostatic particle accelerator system for treating industrial effluents have fundamentally transformed the rubber and polymer industries.

The design and construction of nuclear instrumentation systems, such as radiometric and industrial springs, have aided various industries in quality control. These systems can determine the level of materials within tanks and measure density, moisture, and thickness.

Another accomplishment of the nuclear industry showcased at the exhibition was plasma technology. This technology is applied in treating pharmaceutical and hospital waste, landfill waste and its accumulations, converting heavy oil into light oil and treating various types of cancer. Plasma technology is also used to treat chronic wounds, including those caused by diabetes.

Another accomplishment of nuclear science displayed at the exhibition was the production of deuterium compounds through heavy water processing, preventing its sale in its raw state. These compounds can be used to produce various products with applications in the electric and health sectors.

Another achievement in nuclear science is the local production of parts and equipment, from mining to power plants. Today, the entire nuclear fuel cycle, including exploration, extraction, yellowcake production, uranium conversion, enrichment, pellet, rod, fuel fabrication, nuclear fuel management at the reactor core, and reactor waste management, is all carried out nationally using national nuclear science.

Another fundamental scientific achievement showcased at the exhibition was the application of nuclear science in

the mining, oil, and petrochemical industries. Our advancements include the utilization of airborne geophysics to discover uranium deposits and oil reservoirs. With this technology's aid, our nation can identify various mineral deposits and underground oil reservoirs up to fifteen thousand meters deep.