
Progress Review of Iran Nanotechnology Plan Published in English

2022-03-17

Iran Nanotechnology Innovation Council (INIC), in a report published in English, has reviewed the activities and developments in Iran's nanotechnology program from its onset onward until the end of 2021. This report is organized in 6 sections. The following is a brief description of the report.

In the first section, entitled In Pursuit of Excellence, the historical process of formation of [Iran](#) Nanotechnology Innovation Council and the national policies for the development of nanotechnology since 2001 are delineated.

The second section is called Nanotechnology Human Resources. Opening the section, the results of the activities in the field of high school students' education on nanotechnology are stated. In this regard, NanoClub' achievements, namely familiarizing 1.2 million students with the principles and applications of nanotechnology, holding festivals, Olympiads and various workshops and establishing a network of nanotechnology student laboratories have been presented. Next, the activities carried out in line with the empowerment of university students, including the establishment of a nanotechnology education foundation, holding national nano competitions, nano startups, and Tavanmand and Karno programs are discussed.

The third section is called Nanotechnology Research. At the beginning of this section, [Iran](#)'s achievements in nanotechnology from 2001 to the end of 2021 in the publication of articles indexed in ISI are enumerated. During this period, [Iran](#) was ranked eighth in the world with 92,920 scientific publications and stood at the 11th place in the world in terms of nanotechnology H-index. At the end of this section, some statistical information regarding university graduates in nanotechnology in [Iran](#) is provided.

Section 4 discusses Nanotechnology Infrastructures and Technology Developments in [Iran](#).

First, the diverse functions of [Iran](#) Nanotechnology Laboratory Network (INLN) and its accomplishments are presented. By the end of 2021, 85 different centers had been members of this network and 2,800 nanotechnology-related instruments had been used in the network. In later parts of this section, the status of nanotechnology patents in [Iran](#) is examined. Between 2006 and the 2020, 273 Iranian nanotechnology patents were registered in the USPTO and EPO, which is equivalent to 30% of all Iranian patents (related to all fields of science and technology). At the end of this section, which is dedicated to Iranian nanotechnology standards, the activities carried out in this field are described. By the end of 2021, 133 national nanotechnology standards in [Iran](#) had been approved by the National Nanotechnology Standards Committee. Also, during the same time, 9 nanotechnology standards had been published in the International Organization for Standardization (ISO) under the leadership of the Islamic Republic of [Iran](#).

The fifth section is called Nanotechnology Industrialization. In the first part, the Iranian nanotechnology challenge program – entitled NanoChallenge - is described. In this competition, private or state-owned industrial companies can find the most appropriate technological solutions to their problems. From the beginning of 2016 to the end of 2021, 63 rounds of this competition were held and 1741 proposals were submitted, of which 180 plan were selected and 16 of them were implemented successfully. Subsequently, the Nanotechnology Exchange Network's activities since its launch in 2016 up until the end of 2021 are described. This network has been created to meet the demands of industrial companies based on domestic nanotechnologies. In this network, 44 nanotechnology exchange brokers are active and during this period, 3536 industrial applications were submitted, while 312 nanotechnology exchange projects between technologists and industrial companies were successfully completed in the country. The final part of this section provides an overview of the situation of nanotechnology products in [Iran](#). Accordingly, by the end of 2021, 834 nano products had been produced in various industrial areas.

The final part of the report is devoted to the nanotechnology market in [Iran](#). In this section, the overall market trend of Iranian nanotechnology products in the period from 2013 to 2020 is presented. Accordingly, the market size for Iranian nanotechnology products in 2020 was 3,687 PPP (Million \$) . Also, the construction sector, with a share of 42%, has the largest share of this market in the same year.

Read the [original article](#) on INIC.