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Technion - Israel Institute of Technology: The Engine Driving Israel's High-Tech-Based Economy

“How lucky that the Technion was founded 24 years before 1948, thus laying the foundations for the future state of Israel. Had Israel been founded before Technion, the road would have been much harder.” – the late Israeli President Shimon Peres

To underscore President Peres' words, when the Technion opened its doors in 1924, modern Hebrew was so young, it did not yet contain the words to describe the intricacies and disciplines of science and technology. It was the Technion that created a committee to develop technical terminology in Hebrew and publish Israel's first multilingual dictionaries of science.

Since then, the Technion has provided many of the scientists and researchers that drive the nation's technology-based economy and keep its people safe. Technion civil and agricultural engineers helped build the country's infrastructure and turn the desert into orange groves. Its aerospace engineering faculty, the first and still the only one of its kind in Israel, helped create Israel's Air Force and aerospace industry. The Technion has long played an oversized role in Israel's stunning rise in the high-tech arena. It has continued to do so with the 2018 establishment of the Machine Learning and Intelligent Systems Research Center, and plans to expand the Henry and Marilyn Taub Faculty of Computer Science.

The Technion has earned a global reputation for its pioneering work in nanotechnology, life sciences, stem-cell technology, water management, sustainable energy, information technology, biotechnology, materials engineering, and aerospace. It is also a world leader in the critically important fields of cybersecurity, quantum science, and artificial intelligence.

Eschewing the typical silos of academia, the Technion encourages faculty and students to work together outside their area of expertise. As such, the Technion — with generous funding from American Technion Society supporters — has established a growing network of research centers in areas such as nanotechnology, the environment, life sciences, autonomous systems, aerospace, neuroscience, cancer, cybersecurity, artificial intelligence, and quantum science. Most recently, Technion President Uri Sivan announced plans to establish multidisciplinary centers in human health, sustainable energy and catalysis, and advanced manufacturing.

Fast Facts: The Technion...

- is one of a handful of engineering institutes worldwide with its own medical school
- ranks #1 in Israel and #10 in the world in artificial intelligence and robotics
- ranked #12 in 2020 for turning out entrepreneurs, having generated 602 founders who set up 509 companies and raised \$12.4 billion
- Gurwin-TechSat was the world's first microsatellite to be designed, built, and launched by students
- has a total of 14,734 students (undergraduate and graduate), including 40% women
- student body is comprised of 20% Israeli Arabs, mirroring the population at large
- has 579 faculty members for the 2020-21 academic year
- has 18 faculties and 60 research centers and institutes

As the first university in Israel, the Technion has always worked closely with industry. In 1974, Intel started a development and manufacturing center in Haifa that heavily employs Technion graduates. Intel also works on the Technion campus in AI and machine learning research collaborations. Other

multinational companies have launched operations on or close to the Technion campus to take advantage of the Technion's research facilities and outstanding graduates, including Apple, Google, Microsoft, IBM, Qualcomm, Yahoo!, and Hewlett-Packard. In 2018, Amazon opened an R&D center in Haifa. And in May 2021, software giant PTC announced it would move its Haifa R&D center onto the Technion campus and invest \$5 million in advanced manufacturing technology and other research.

The Technion is committed to turning its most promising research into commercial products. The Technion Research and Development Foundation (TRDF) manages university research programs and performs services for industry and government. Its technology transfer arm, T3, matches Technion research ideas with investors and entrepreneurs. Aimed at fostering commercial investment through the licensing of intellectual property and the establishment of startup companies, T3 has produced a stream of novel products and technologies with export potential. On a research budget much smaller than elite U.S. universities, the Technion's annual income from technology licensing is just behind that of Duke University.

Technion DRIVE, an accelerator for entrepreneurs who are part of the Technion community, has 27 companies in its portfolio. Since its inception in 2016, two companies have sold, one for more than 15 times its initial investment. Other companies get the boost they need for success. For example, startup NanoSynex, founded by two Technion alumni, raised \$1.5 million to fund further development of their product: rapid identification of antibiotic resistance. The technology is based on the research of Technion Professor Shulamit Levenberg.

A growing number of universities, municipalities, and businesses have eagerly sought collaboration with the Technion. One that speaks volumes about the Technion's reputation is its partnership with Cornell University to create Cornell Tech, an applied science educational institution in New York City aimed at creating businesses and jobs that will turn the city into a high-tech hub. At the very heart of this initiative is the Joan and Irwin Jacobs Technion-Cornell Institute (Jacobs Technion-Cornell Institute), which offers a dual master's degree from both universities, and the Runway Startup Postdoc Program. Cornell Tech's Roosevelt Island campus, home to the Jacobs Technion-Cornell Institute, was officially dedicated on September 13, 2017.

Another prime example of the Technion's burgeoning global influence is its joint venture with Shantou University to build a new applied sciences university in China called the Guangdong Technion Israel Institute of Technology (Guangdong Technion). This partnership is viewed by many as part of the broader movement of globalization now sweeping the academic world. The Guangdong Technion campus officially opened in December 2017.

As Israel's center for high-tech education and research, the Technion is fundamental to the growth of the "Startup Nation," shaping the future of Israel and a positive vision of Israeli leadership and values. As the premier institute of its kind in the region, Technion breakthroughs can benefit all the nations of the Middle East. And as a world-class research university, the Technion helps advance the frontiers of science and technology to benefit people around the world.

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