High-Tech Matriculation Index

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A 2022 study by the Aaron Institute for Economic Policy on the Israeli high-tech sector found that of approximately 400,000 high-tech employees in Israel, 64% studied a "package" of advanced subjects in high school, including five units in mathematics, English, physics, and/or computer science. This combination was significantly recognized as an important predictor for future employment in research and development positions within Israeli high-tech. Following this research, the governmental Committee to increase Human Capital in High-Tech recommended setting a national goal to increase the number of graduates with a "High-Tech Matriculation" package from 9% in 2018 to 15% by 2028. The Israeli government adopted the recommendations, allocated significant budget resources, and instructed the education system to implement a "High-Tech Matriculation Index."

The Cities of Excellence Network (Institute for Local Government, Tel Aviv University) publishes the "Israel Excellence Map" annually, which previously included mainly data on five units in mathematics. In light of the government decision, the network expanded its database to include high-tech matriculation data from 2012 to 2022. The data is presented for approximately 230 local authorities across Israel, allowing local decision-makers to obtain an overview and use it as a tool for formulating action plans. The findings are published on a dedicated website and were analyzed and presented at a special conference attended by the Minister of the Interior and city mayors.

Main findings

1. In 2022, the number of high-tech matriculation graduates in Israel increased to 13,720 students, representing about 11.3% of high school graduates. The number of five-unit mathematics graduates that year was 21,156, which constitutes 17.4% of high school graduates.
2. While there is gender equality in five-unit mathematics (50.1% female students), the percentage of female students in the High-Tech Matriculation Index is only 40.6%. This lower percentage is due to the gap between male and female students in physics and computer science tracks.
3. The findings indicate significant gaps between the center and periphery. The percentage of students with a High-Tech Matriculation is very high in municipalities in the center, for example: Ramat HaSharon (29.8%), Kiryat Ono (29.1%), and Herzliya (22.7%), compared to the periphery such as: Ofakim (4.9%), Kiryat Malachi (3.3%), and Jisr az-Zarqa (2.6%).
4. However, there are peripheral local authorities that, with considerable effort, have managed to exceed the national average, such as: Sakhnin (22%), Yarka (16%), Arad (14.6%), Yeruham (14.1%), and Tayibe (11.6%).