

**R&D centers, Held by Intl. Corporates in
Israel
June 2017**

Special edition

**In cooperation with the Industrial Cooperation Authority at the
Ministry of Economy**

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1. Special analysis of R&D centers in Israel

The amendment to the Encouragement of Capital Investments Law, which passed in January 2017, significantly reduces the tax rate on income earned of intellectual property registered in Israel. This amendment is the result of the changes that are taking place in the world in view of the recommendations of the BEPS (Base Erosion and Profit Shifting), that aims to encourage international companies to consolidate ownership of knowledge and profits in Israel together with existing R&D activities. Since the intellectual property of many companies has already been created in Israel in the R&D centers of foreign companies, and since the OECD is promoting a move that will require companies to adjust their listing to the countries in which they carry their real active, instead of the "tax haven" – this is a leverage that can turn Israel into an even more important destination and to increase the R&D activity of the existing foreign companies and those considering the opening of R&D activities in Israel.

According to the Central Bureau of Statistics in 2015 the Business R&D expenditure in Israel amounted to NIS 43 billion (86% of the total expenditure on civilian R&D), reflecting an increase of 3.5% compared to 2014. **International companies accounted in 2015 to 63% of the business R&D in Israel, and according to Dun & Bradstreet they currently account for 66% of total business R&D expenditure in Israel.**

As of January 2017, some 6,650 high-tech companies operate in Israel, of which 4,750 (about 71.5% of all high-tech companies) are start-up companies at various stages over the capital cycle. Some 3,650 start-up companies (77% of all start-up companies) raised capital at least once from an external source, such as government funding, angels and venture capital funds. One of the strongest indicators of industrial development is the clear trend of an increase in the number of mature Israeli high-tech companies - 385 companies in the industry are large companies employing more than 100 employees (about 6% of all high-tech companies), reflecting an increase of 29% in the past six years. **About 5.4% of all high-tech companies are R&D companies, which are held by international companies. Those international companies employ about 71,000 workers (in R&D centers and production plants), which constitute about 24% of all employees in the high-tech industry.**

The presence of international companies in their R&D activity in Israel is undoubtedly a source of pride for the State of Israel. This presence contributes to the reputation of the local industry, to the creation of jobs among suppliers and to our political relations with many countries around the world. On the other hand, there are numerous challenges that do not receive enough attention, such as the employment preference among engineers to international companies over Israeli companies, and the shifting abroad of know-how accumulated in R&D centers employing Israelis, without Israel benefiting directly from its fruits.



The new plan, calling for the initiating of production activities along the R&D will enable the Israeli market to enjoy the fruits of knowledge in a certain way. This can be done by the government encouraging international companies to establish advanced production lines in Israel.

According to data held by the Industrial Cooperation Authority and Promotion of Foreign Investment about 20% of the multinational companies operating R&D centers in Israel also have production activities in Israel in a variety of sectors requiring advanced production levels such as semiconductors, medical devices, pharma, aerospace and water technologies. According to Dun & Bradstreet data, international companies that own R&D centers along production activities in Israel directly employ about 43,000 workers. This phenomenon is called in professional jargon as Location-Co, and reflects one of Israel's relative advantages as a production site - a physical proximity between production and R&D sites, which allows for a much more dynamic production process that shortens the distance between idea and product, which we hear in many meetings with these companies. Israeli production is not competing with the cheap and mass production of the Far East, but appeals to the creation of a high value added production process, based on complex processes and materials, hence the importance of proximity to the center where the company's technology front is developed.

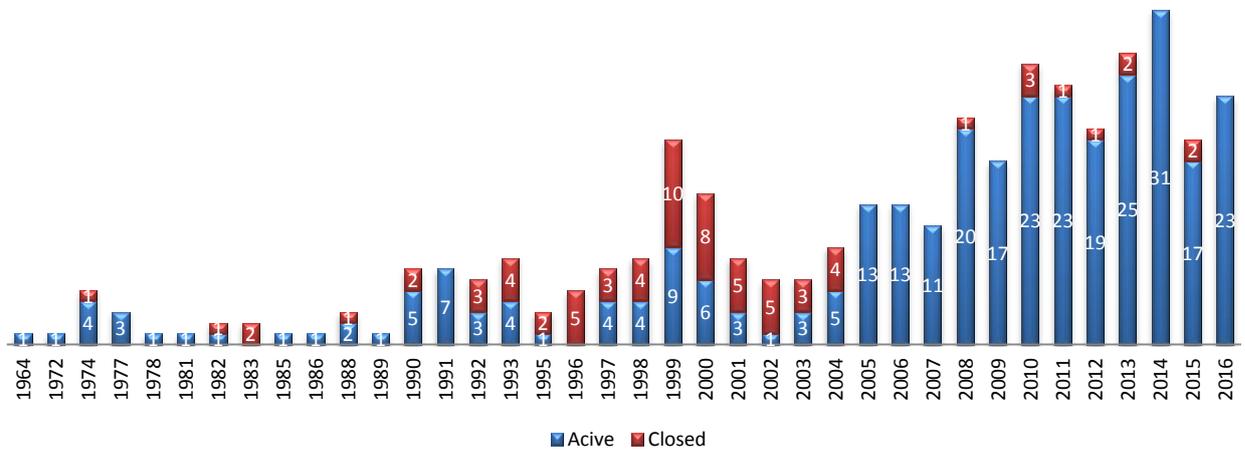
In the following analysis, we will present the characteristics of the R&D centers of the international companies operating in Israel and analyze their development and contribution over the last few years.

1.1. The development of International R&D centers in Israel

Since the 1960 and until today 380 R&D centers of international companies were established in Israel, 73 of which have been closed, and currently there are 307 active R&D centers owned by 303 international companies (some international companies hold more than one R&D center). The shutting down of R&D centers mainly result from their transfer to countries with lower employment costs than Israel, and from mergers and acquisitions. The international company that opened the first R& D center in Israel is the American company IBM, which opened its center in 1950. Since the 1990s we have seen a significant growth in the number of R&D centers opening in Israel, which can be attributed to the contribution of the large immigration from the former Soviet Union, which included a large number of engineers, and as a result of growing recognition of technological capabilities in Israel. Since 2008, there has been a significant increase in the number of R&D centers held by international companies, mainly through the acquisition of Israeli start-ups, and maintaining their R&D activity in Israel



The following graph shows the development of R&D centers, by the year they began operating in Israel.¹



* Source: Dun & Bradstreet (Israel) Ltd.

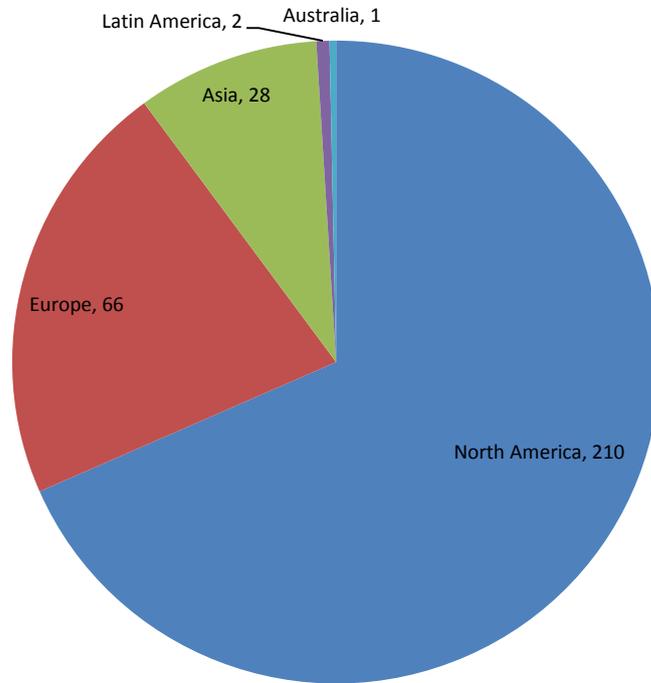
1.2. Segmentation of international companies holding R&D centers by country of origin

The most dominant international companies in R&D activity in Israel since its establishment are American companies, which to date constitute about 67% (210 R&D centers) of all R&D centers, followed by German companies with 5% (17 R&D centers) Of all R&D centers. The number of Chinese companies (including Hong Kong) operating R&D centers is eight and they constitute about 3% of all R&D centers. Since 2005 we have identified decentralization trend of international companies by country of origin. Since that year and until today international companies from nine new origin countries have set up or purchased R&D centers. These new countries of origin include Canada, China, Singapore, Spain, Australia and Russia. China's relatively low share of R&D centers in Israel does not reflect its presence in the Israeli market, and China is currently involved in the local high-tech industry, mainly through investments in venture capital funds, and not via direct holding of R&D centers. The Industrial Cooperation Authority and Promotion of Foreign Investment estimates that in the coming years we will see an increase in direct involvement by China in a way that will unlock the value of the local high-tech industry, whether it is in promoting the activities of technological incubators and accelerator or in cooperation with the Israeli academia.

¹ The graph describes the establishment year of the R&D centers, with the red bar describing the centers that were closed after their establishment.



The following pie shows the segmentation of international companies holding R&D centers by country of origin

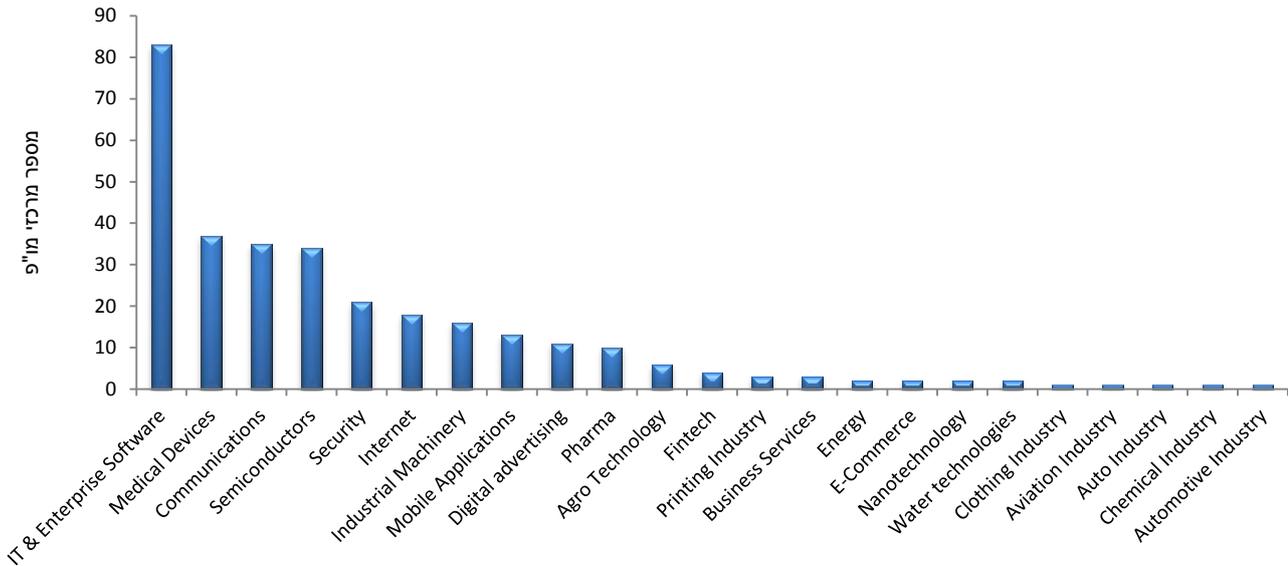


* Source: Dun & Bradstreet (Israel) Ltd.

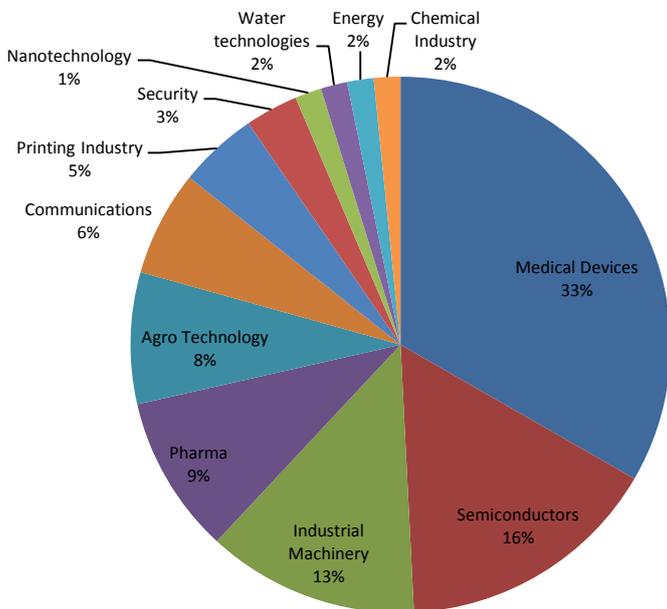


1.3. Segmentation by Line of activity

The segmentation by areas of activity shows that about 55% of R&D centers are involved in software development. Despite the dominance of R&D centers in the fields of software, medical equipment, communications and semiconductors, it is evident that there is a wide variety of activity areas among the R&D centers.



* Source: Dun & Bradstreet (Israel) Ltd.



The number of international companies that operate R&D centers in Israel and have local production activity amount to 52, and they operate 63 local R&D centers. One-third of these companies produce medical equipment

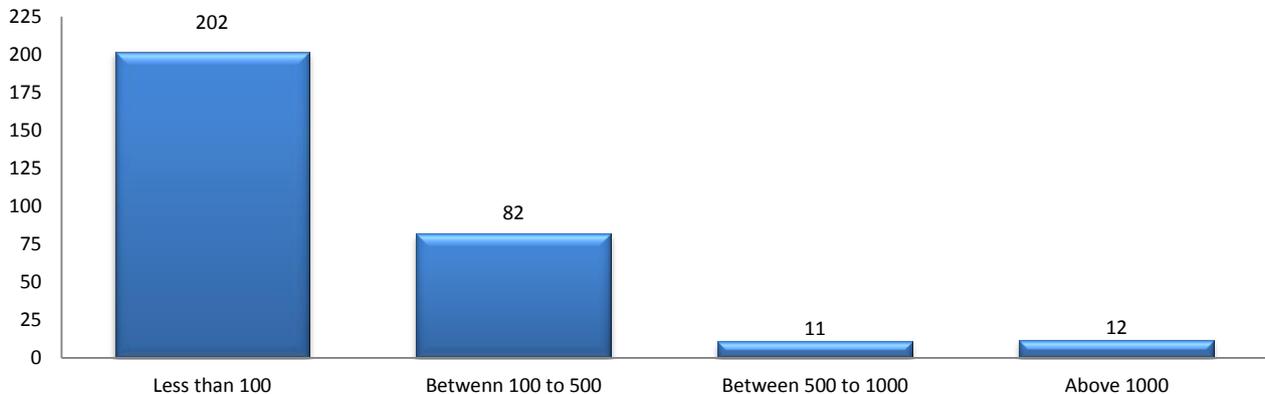
According to Dun & Bradstreet data, international companies that own R&D centers along production activities in Israel directly employ about 43,000 workers.

* Source: Dun & Bradstreet (Israel) Ltd & Industrial Cooperation Authority and Promotion of Foreign Investment



1.4. Segmentation of R&D Centers by Employees

23 of the R&D centers are owned by international companies and each employs more than 500 workers (generally, and not just R&D employees), while 21 of them are owned by American companies, 1 by an Indian company and 1 by a German company. The international companies segment, which operate a R&D centers in Israel, employ some 71,000 workers (in R&D centers and production plants), which constitute about 24% of all high-tech industry employees. The 12 R&D centers that each employs more than 1,000 workers employ approximately 40,000 workers, 56% of the workers employed by international companies with R&D activity in Israel.



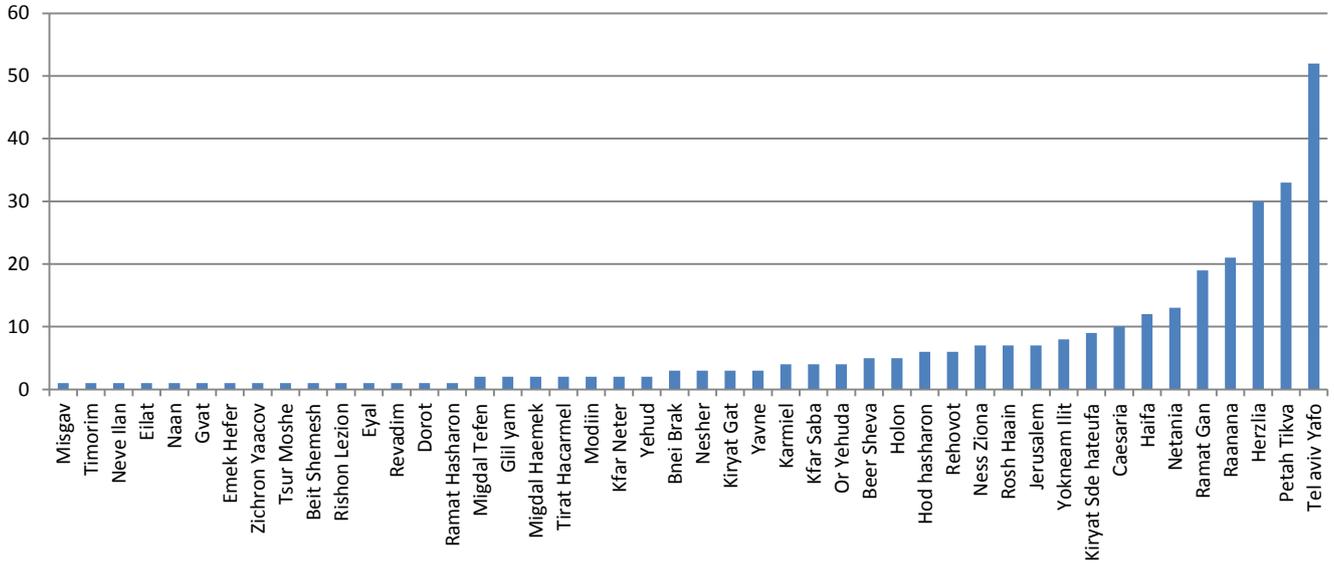
* Source: Dun & Bradstreet (Israel) Ltd.

1.5. Local geographic segmentation by cities

In the event that an international company carries production activity in Israel, it will be close by to its R&D center and most likely in peripheral cities. The importance of investment in advanced production lines of foreign companies, in terms of promoting Israeli socio-economic goals is great. Pure R&D activity tends to focus on certain professions (engineers and programmers) and especially in the central region. In contrast, production activities in general include other professionals and bring more high paying jobs to the periphery. In addition, multinational companies engaged in production activities bring with them global level knowledge of technology and management, which is expected to raise productivity - a key challenge in the current state of the economy.



The following graph shows the local geographic distribution of R&D centers, by cities:



* Source: Dun & Bradstreet (Israel) Ltd.