

Models of Translational Medical Research for the Development of Innovative Medications in Israel

Israel is characterized by a flourishing scientific environment in the life sciences, which is reflected by a number of high per capita patents, multitude scientific publications, a large number of advanced degrees in the life sciences, and scientific innovations that have already led to the development of best-selling drugs. However, according to the Israeli Innovation Authority as well as other sources, this industry has not yet matured into a major industry like the ICT sector despite its potential for the future economy of Israel.

The local life sciences industry, which is supposed to be based on Israel's scientific innovations, does not always realize the underlying promise, and despite the early signs of maturation, it is still characterized by a multitude of small companies that do not reach production and sales. Scientific innovations that are born and originate in Israeli universities are sometimes finally developed in an industrial arena abroad, and foreign companies receive most of the revenues.

The research and development in the life sciences field is characterized by a high level of risk and long and expensive development processes that deter many investors. Although the start-up industry in the life sciences in Israel does not differ in these structural characteristics from similar industries in other geographic markets, it seems that the gap between the scientific knowledge created in Israeli universities and the few significant commercial successes created within the borders of the Israeli economy is especially troubling.

This interim report is based on a thorough literature review, and a preliminary work aimed to gain background understandings. As drug development processes may last well over ten years, a long-term vision together with an efficient and comprehensive policy is required to ignite such joint scientific and industrial efforts. Developed countries as the US and the UK invest heavily in enabling the interplay and integration between academic centers, hospitals and the industry to promote drug discovery and translational medicine. We have studied some of these efforts and brought forward their essentials, together with a few practical examples of translational medical institutes.