Biotech Startups and Development in Turkey

Doğan Taşkent
Partner, Arkan & Ergin JPA International
President, MIT Enterprise Forum

Innovation and startups are the most recent economic fads in Turkey, as in most of the world. We jumped on the bandwagon later than the United States but are catching up. Our major success stories in startups have been from the Internet (gittigidiyor.com, yemeksepeti.com, markafoni.com, etc.). To the Western eye, the reasons for this success can be devoted to 'fast product development time', 'new generation services', 'fast growth rates', etc. However, this is Turkey, which is perched on the gate of the Orient. There are different market dynamics in this part of the world. Competition prefers, as the UN Secretary General Ban Ki-moon stated by his last visit to Turkey, 'know-who', instead of 'know-how'. This is a great hurdle for startups with merit-based ambitions. However, Internet platforms that enable startups to reach consumers directly, bypassing the middleman (the know-who guy), can democratize the business-to-consumer environment.

The environment for high-tech companies that mostly operate in the business-to-business domain looks tougher. For them to survive, they need a merit-based, market entry platform, which does not yet exist. They also need a knowledge cluster that supports their complex technology with the right lab technicians, test labs, certification labs, regulatory advisors, intellectual property (IP) advisors, financial support mechanisms, etc. When we look for such a cluster, we find three major industrial clusters: automotive in the Bursa region, defense in Ankara, and biotechnology in Izmir. Automotive and defense do not offer startups a fruitful environment, but Izmir with its biotech cluster and strong bridge to some major biotech institutions in Istanbul gives great hope for Turkish biotech startups.

Few clusters are as dense as Izmir, which makes a difference in the test and certification infrastructure. There are the two major universities, Ege and Dokuz Eylül, each with approximately 60,000 students, focused on the health and life sciences industries. Each has complementary technoparks (ideEGE-Life-sciences Technopark, DEPARK- Health Technopark), hospitals, and labs. Those labs are: Pharmaceutical Sciences Research Center-FABAL; Biotechnology and Bioengineering Research and Application Center- BIOMER; Electronics and Materials Production and Application Center-EMUM, Drug Development and Pharmacokinetics Research and Application Center (ARGEFAR), which is the only accredited Phase I clinical trial environment in Turkey; and International Biomedicine and Genome Institute – IBG. It is critical that those labs also serve the industry. Under the Izmir Biotech Cluster initiative, they offer a biotech startup end-to-end product development as well as testing and certification. It is also critical that this cluster has many collaborative partners outside of Izmir, such as Inovita, ISEK, and Technopark Istanbul in Istanbul.

On the funding side, we also see development regarding high tech investments. TÜBİTAK, the Turkish NSF, supports with its various grants high-tech startups, but the size must be considered 'seed level'. There was a big gap to reach the venture capital (VC) funding. This year, three major funding initiatives should bridge that gap between initial fund and the VC level fund. The joint Technology Transfer Accelerator Turkey (TTA Turkey) fund with the support of the European Investment Fund (EIF) and TUBİTAK went life in march 2015 with the Diffusion Capital Partners, TTA Turkey 2 fund is under due diligence process and TUBITAK 1514 (deadline June 2015) that should help to establish another six high-tech, early stage-VCs that should focus on high tech (read no internet, mobile or gaming). The entry of professional investment groups will boost biotech startups.

Another stepping-stone is the development of university-industry-government collaboration to support biosimilars under the KAMAG (TUBİTAK 1007) initiative. In this initiative the government offers grants to companies that develop biosimilars. Although the commercialization know-how resides in the industry, the drug development and testing knowledge resides in universities. This initiative has stimulated organic collaboration between the industry and universities and allowed many R&D-focused labs, with openings for MS and PhDs to work with industry on this research. Even some startups with novel techniques find places in these structures.

In parallel, Bogaziçi University, Ege University and Dokuz Eylül University are leading industrial PhD programs focused on biotech and pharmaceuticals and have opened lab technician education certificate programs. One of the strongest, Turkish Economic Thinktank – TEPAV – has a dedicated team developing strategies to accelerate life sciences, especially biotech industries. Nevertheless, there are entry barriers for biotech production development in Turkey:

- few API manufacturers remain in operation;
- higher cost of initial investment into production, analytical equipment and knowledge;
- no regulatory approval yet for locally produced biosimilars;
- low perception of importance for doctors; and
- difficulty of finding trained scientists for biosimilars production.

There are a handful of universities, early-stage VCs, NGOs and pioneers involved in this sector, but trust needs to be built in biotechnology and especially biosimilars. The groups must support and communicate with each other and with the international community to create the right ecosystem to develop products that can compete in the international arena. •