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Why Russia-Israel Cooperation in Hi-Tech and R&D is Beneficial for the Both Countries

The paper provides an overall analysis of Russian-Israeli cooperation in the field of innovations. It argues that Israeli experience in innovations economy building is more relevant for Russia than that of the USA or China. This paper examines basic factors that can make cooperation between our two countries efficient for both sides as well as considers current problems that are standing on the way of realization of the described potential. This paper also provides a new concept of innovative ecosystem development in the Middle East including Israel where Russia has to play an important role of the matchmaker and a kind of supervisor.

Key words: Russia, Israel, innovations, high-tech, cooperation in the field of science and technology, R&D, technology commercialization, science and technology complex, the concept of “triangles”, Middle East.

Over the past 10–15 years Russia has invested much effort to create a modern economy, with the emphasis on hi-tech. The core of the effort is, in the spirit of the Soviet period when basic research in many fields was among the best in the world, to divert resources from the use of natural resources to hi-tech. Attempts are also made to create modern R&D clusters; the best known example is Skolkovo.

It may be useful to study international experience which is underestimated by local decision makers in order to create an efficient system of innovations in this field for building indigenous innovations economy¹. For Russian experts it seems quite natural to study US experience in this field. But due to principal differences in the economic structures of our countries the possibility of using American experience as a benchmark is quite limited. Israeli experience at the same time could be much more relevant. There are at least two reasons for it. First, Israel is not a pioneer in innovations economy building. This means that it was not created let's say spontaneously but was a result of a thought over steps taken by the Israeli establishment, based on a thorough analysis of foreign experience (mostly US). Second, the level of state participation in Israeli economy was high during most part of its existence, though it was not as high as in the USSR, while in the USA influence of the state on economy is (and through the most part of country's history was) very limited.

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It is also known that Russia has already used Israeli experience when creating Russian Venture Company. The case of Yozma program² had been taken as a leading benchmark. It is not by chance that in Russian language literature Israeli experience in building innovations based economy is being studied quite often in order to understand how it could be implemented in Russia (of course, with necessary adaptations)³. Israeli experience could be of particular interest in such fields as technology commercialization (or technology transfer process from the inventions made in research entities to the marketable product); system of the state support of innovations; dual-use technologies operation; international R&D cooperation system; management in the field of innovations.

Some experts could argue that given the experience of Russian Venture Company establishment based on the Israeli Yozma program to use Israeli case as a benchmark is not worth doing. But I would not subscribe to this viewpoint. Relatively short term of implementation with the subsequent privatization of the Yozma foundation itself was a very important feature of Yozma program. While Russian Venture Company was established in 2006 and it still operates as a state owned entity. It is actually very common to the Russian economy when state owned enterprises do not only stimulate respective market development but also strive to play a leading role in it. International experience shows that it is not an effective model. As the Triple helix model states⁴ such a model restrains national system of innovations development as it is very difficult to compete with the state. It makes everyone want to cooperate with its bodies, to receive an opportunity to get an access to the respective money flows. Consequently, the market develops in an unbalanced manner or does not develop at all. In this case no foreign model will be working. Chinese experience could not be a benchmark as this country places the core of its development model on high quality copying of existing foreign technologies which is not the case for

2 Yozma is a program of launching venture capital industry in Israel, created and operated by state entities. It was implemented in 1993–1997. More on this issue see e.g., Maryasis D. *Innovation Economy Building Experience: The Case of Israel*. OSIRAS. Moscow, 2015.

3 Фиговский О. Л. Инновационная система Израиля: уроки для России // *Инновационный менеджмент. Менеджмент и бизнес-администрирование*. 02.2014. С. 176–189; Родионов И. И. История развития высокотехнологического кластера и венчурного капитала в Израиле – уроки для России. http://theangelinvestor.ru/analyst/index.php?ELEMENT_ID=576; *Инновационная экосистема Израиля. Возможности российско-израильского сотрудничества. Российская венчурная корпорация*. Москва, 2013. (Figovsky O. *Innovations System of Israel: Lessons for Russia//Innovative Management. Management and Business Administration*. 02.2014. P. 176–189; Rodionov I. *History of Israeli High-tech Cluster and Venture Capital Industry Development – Lessons for Russia*. http://theangelinvestor.ru/analyst/index.php?ELEMENT_ID=576; *Ecosystem of innovations in Israel. Russia-Israel Cooperation Perspectives*. Russian venture Corporation. Moscow, 2013).

4 This model was developed by Henry Etzkowitz. Its main idea is that three main actors of the innovations development – manufacture, state, and education system – act simultaneously in cross cooperation with porous borders. For more details see: Etzkowitz H. *The Triple Helix. University–Industry–Government Innovation in Action*. Routledge, New York, 2008.

Russia. Russia wants to become a high-tech hotbed. That is why Israeli experience is much more suitable for us.

Israel has the potential to become one of these partners, perhaps even the most important one. Eight years ago in our joint report Prof. A. Fedorchenko and I showed four main reasons for it, and they exist today as well⁵.

First, the present day situation in Russia and its aspiration to develop an economy based on local innovations on the one hand, and Israel's position as one of the world leaders in innovations on the other, creates the situation in which the two countries can be equal partners. This could be important for Israel, as in its economic cooperation with most of the Western countries it is often given the position of a junior partner.

Second, Israel possesses a substantial number of Russian speaking scientists, engineers, and researchers who had immigrated to the country during the huge immigration wave of the 1990s. If Russia and Israel manage this natural network efficiently, they would be able to create a technology transfer system that will likely lessen the brain drain from both countries to the United States.

We often consider the absence of a language barrier as a necessarily positive factor of Russian-Israeli cooperation development. And indeed, in many aspects, this facilitates communication between the two sides. However, in Russia people often look at Israelis as Russian speaking citizens, while Israelis are prone to see Russians through Israeli eyes. These prisms sometimes result in an imprecise situation analysis and the consequent mistakes in decisions taken. Efficient cooperation requires a systematic study of the country's socio-cultural peculiarities and its political and business culture. At least on the expert level this problem was recognized early on in modern Russia, and the field of Israel studies has developed over the last 20 years. Decision makers today are aware of such expertise and use it. In Israel, however, there has been no similar research. Since the breakup of the USSR, Russia has not become an object of systematic study. In my view, this is a serious lapse.

Third, when creating a technology chain it is quite useful for production using Israeli technologies to take place in Russia, and perhaps this is true for management as well. To use Russian manufacturing facilities is beneficial for both sides. For Israel it will be cheaper and more efficient than to build new factories elsewhere. In Russia new employment opportunities will be created, and factories built during the Soviet period will get a second life. Both cases are positive contributions to the national economy.

Fourth, mutual cooperation in the field of innovations will help to broaden the markets for both countries. Being seriously integrated in the Western markets, Israel can be a sort of a guide regarding the mutually developed technologies in this part of the world. Russia can do the same in the Muslim countries where it still has a serious stand, but due to the boycott Israel is unable to reach these markets⁶.

5 Федорченко А. В., Марьясис Д. А. Научно-технический комплекс России и Израиля: возможности взаимодействия. Москва, 2006. С. 57 (Fedorchenko A., Maryasis D. Science and Technology Complex of Russia and Israel. Possibilities of Cooperation. Moscow, 2006. P. 57).

6 Ibid.

In the last 5–7 years specific progress was made in bilateral cooperation in the field of innovations. In 2008, for example, the Russian Foundation for Basic Research (RFBS) and the Israeli Ministry of Science, Culture and Sports (that was the configuration at that time) organized a joint grant program for 2009–2010 designated for research in the following areas: nanotechnologies, clean tech, new materials, and hardware. The total grant volume was \$1.2 million. Out of 50 projects that had applied, 16 were selected, most of them related to nanotechnology⁷. Russian state-owned enterprises Rusnano and Skolkovo, through their representation in Israel, are currently in search of the new technologies that are constantly appearing in Israel. In 2014, the most influential Russian internet company, Yandex, opened its R&D center in Israel – the first Russian innovation-driven MNC to do so. Another Russian company, Kaspersky Lab – one of the most successful companies in the field of online security – is planning to do the same in 2015⁸. The University of Ariel occasionally arranges seminars for Russian scientists and researchers, teaching them how to organize a proper technology commercialization system. In October 2014 Israeli pharmaceutical giant Teva opened its factory in the Russian city of Yaroslavl. Yet while other examples of bilateral cooperation in the field of innovations can be cited⁹, we still cannot conclude that this is developing on a systematic basis.

In the joint Russia-Israel conference organized by the Institute of Oriental Studies, Russian Academy of Sciences (IOSRAS), the Russia-Israel Business Council (RIBC), and the Institute of National Security Studies at Tel Aviv University (INSS), which took place in Moscow in September 2014, the following problems regarding efficient development of bilateral cooperation were identified:

- a. Insufficient level of confidence on the both sides;
- b. Russian intentions to search for Israeli investments, along with Israeli preferences to enter the market selling their technologies and products;
- c. Absence of an efficient due diligence system;
- d. Israel's tendency to neglect Russian scientific potential;
- e. Absence of financial mechanisms of cooperation;
- f. Unwillingness of both sides to take into consideration cultural differences and peculiarities, including those regarding the culture of doing business with a particular partner country.

7 Приведено по: Марьясис Д. А. О российско-израильском экономическом сотрудничестве (Maryasis D. On Russian-Israeli Economic Cooperation) Сайт ИБВ www.iimes.ru, 15.06.2009.

8 Приведено по: Лаборатория Касперского открывает R&D-центр в Иерусалиме. (Kaspersky Lab opens its R&D center in Jerusalem) <http://itbusinessweek.com/kaspersky-jerusalem/> 07.10.2014.

9 См., в частности, примеры, описанные в брошюре РВК: Инновационная экосистема Израиля. Возможности российско-израильского сотрудничества. Российская венчурная корпорация. Москва, 2013. С. 36–44 (See e.g. cases shown in the Russian Venture Company brochure: Israeli Ecosystem of Innovations. Perspectives of Russia-Israel Cooperation. Moscow, 2013. P. 36–44).

These problems are not existential. New successful joint projects will serve confidence building, as will effective due diligence. Today there are many opportunities to create it and advance this system. From the Russian side the newborn alliance of IOSRAS, RIBC, and the Russian Chamber of Commerce could be part of such a framework, and from the Israeli side, INSS, the Israeli Association of Manufacturers, and some other entities could be part of it.

Several attempts were made to establish financial mechanisms for bilateral cooperation. In 2007 Israel's Bank Hapoalim almost bought the Russian SDM-Bank¹⁰. Serious negotiations took place, but by the summer of 2008 they came to a dead end. Another attempt was made by Israeli Venture Capital (VC) fund Tamir Fishman. It joined Russian managing company Finans-trust in its bid to become the managing company of the funds allocated to the newly created Russian Venture Company. But due to the scandalous interview of Finans-trust managing partner Oleg Shvartsman in the prominent Russian media resource Kommersant in November 2007¹¹, Tamir Fishman had to withdraw from the alliance and ceased its operations in Russia. Several years later the company has returned to Russia but it never reached its former level of operations. In 2011 Rusnano announced a tender for the managing company of a joint Russia-Israel venture capital fund. It was ready to provide \$50 million, and another \$50 million were to be found by the managing partner itself. Israeli managing company Catalyst won the bid, but by the autumn of 2014 it had not managed to raise the necessary amount. Today Alexander Turkot, founder of VC fund Maxfield Capital and former IT cluster leader of Skolkovo foundation, is playing the leading role in this effort.

The situation in this field has worsened, given that Russia strives for more and more isolationist policy, with Russian investments abroad often seen as a non-patriotic act toward the state. Moreover, geopolitical conditions for Russia are so tense that Western countries had lessen their interaction with it and exert pressure on Israel to do the same. Finance is a very delicate sphere, and in such an unfriendly environment, creating an efficient financial tool for the development of cooperation in bilateral innovations is a formidable challenge. However, here the state is able to play its positive role. A binational foundation for industrial R&D could be created utilizing the model Israel has already developed with several other countries, including the United States. State guarantees would make it easier to raise private capital, and success of joint innovation driven projects development would inspire emergence of other forms of innovation cooperation.

The proposed model would give Israeli partners an opportunity to change their opinion toward Russian research capabilities for the better. The opening of R&D centers by Russian companies in Israel is another way to reach this goal. R&D operations in Israel do not preclude continuation of the same work in Russia, and mean, rather, that a knowledge exchange system can be created within one

10 Российский еврей может открыть банку «Апоалим» окно в Россию (Russian Jew can open for the Hapoalim bank the way to Russia) <http://www.newsru.co.il/finance>, 16.12.2007.

11 «Партию для нас олицетворяет силовой блок, который возглавляет Игорь Иванович Сечин». Коммерсантъ (The party for us is faced by a security people group headed by Igor Sechin. Kommersant) <http://www.kommersant.ru/doc/831089>, 30.11.2007.

company. This process is useful as it is. But when its outcomes will become known to the general public (as it certainly will) it will have a positive effect on the image of Russia's hi-tech sector, which is an important issue in the present world.

For the last several years RIBC and affiliated experts have broadly discussed a system of so-called «triangle cooperation» as an effective paradigm of bilateral cooperation enforcement. This means involvement of a third party in the bilateral cooperation, which helps to solve various problems, including the financial ones. For example, if Russians want to attract foreign investment and Israelis are not ready to invest, a vicious circle is created. But if a third party is brought on board as a partner with investment opportunities, e.g., the United States, you get a combination that is beneficial for all the sides. Russians get Israeli technologies and American investments. Israelis get the opportunity to enter Russian market. And US investors get an efficient innovations-driven project in one of the world's biggest markets. Several triangles of this kind could be created. Besides the United States, China, India, and EU countries have the potential to become the third party in such a triangle. The choice is based on the assumption that both Russia and Israel are interested in cooperation development with these countries, and if so, their participation in this configuration can provide a synergetic effect. The broadening of the proposed cooperation configuration is likely to foster the effectiveness of the scheme.

Cooperation in the field of education is an important tool in bilateral cooperation development. It seems that in this area effort should be invested in two simultaneous processes. The first is to attract top level Israeli specialists to give lectures in Russian economic and technical institutes of higher education. Emphasis should be put on such areas of knowledge as technology transfer systems, venture capital investment industry, and innovations-driven project management. It makes sense to organize special training courses for Russian students in Israel. The second process is to enhance the quality of Israel studies programs in Russia (these programs exist today in several institutes throughout the country), and Russian studies programs should be created in Israel. It is quite an important condition, as both countries have many things that are unfamiliar to foreigners. And without taking them into consideration it is quite difficult to build an efficient cooperation network.

I believe there is an unusual possibility to foster bilateral cooperation in the field of innovations that could be effectively utilized through the triangle cooperation paradigm. I refer to the development of such triangles with the PA and/or Jordan, and/or Egypt.

It is common knowledge that Islamic countries of the Middle East in their economic development lag behind the developed countries of the West and behind many developing countries of the world. But lately this vast region has become a scene of major changes. In his recent book *Startup Rising: The Entrepreneurial Revolution Remaking the Middle East*, American hi-tech entrepreneur and investor Christopher Schroeder showed that a new class of innovations-driven entrepreneurial society has sprung into being in the region and has already yielded some world class success stories. For example, Egyptian startup Weather HD is one of the most uploaded weather forecast apps, and today Lebanese company Butterfleye has programming

teams in France, Great Britain and the Netherlands. In addition, the PA, Jordan, and Egypt have very active innovators' communities¹².

It seems to sound like a paradox. But these countries (to be precise – 2 countries and one territory with a special status) having direct border with Israel are absolutely detached of its outstanding innovations economy development. We could have attributed it to a market failure if not to the case of one of the longest lasting conflicts in modern history, the Israeli-Palestinian conflict. The political situation is so tense that it is impossible to discuss any form of economic cooperation even in such a politically neutral sphere as hi-tech. And this applies not only to the PA but also to Jordan and Egypt, even though both countries have peace agreements with Israel and try to develop some form of economic cooperation with the country.

Even without any profound economic analysis, the potential of such cooperation is clear. Arab countries will not only gain access to one of the world's leading innovations economy, but new employment opportunities within their own borders will arise due to new production facilities that can be created. They will also intensify their overall economic development. Israel will acquire outsourcing possibilities, as well as an access to the Middle East markets by labeling the outcomes of mutual efforts as the ones made by the Arab partners.

Some time ago a group of Israeli researchers began to think about a potential model of Israel-Palestine innovations cooperation, and came up with the idea of a virtual Israeli-Palestinian incubator¹³. It would be virtual, insofar as they concluded that both societies were not ready for direct contact. As far as I know this concept has not yet been implemented; I suppose the virtual nature of the project maybe one of the main reasons for this. Virtual cluster technology, though widely discussed, is not very well developed yet¹⁴. And the Middle East is on such a level of social development that to establish a proper framework of virtual cooperation bypassing the period of physical contact is an almost impossible task (I would argue that even for many Western countries this statement is also correct).

And what is Russia's role in this issue? Russia has a potential to become a real platform for cooperation in the field of innovations between Israel and the three Arab communities, for five major reasons. First, Russia has good working relations

12 Schroeder Ch. M. *Startup Rising: The Entrepreneurial Revolution Remaking the Middle East*. Palgrave Macmillan. New York, 2013.

13 Schwartz D., Bar-El R. and Malul M. A Joint Virtual Advanced Technology Incubator: A New Pattern of Israeli-Palestinian Economic Cooperation. *Berkeley Electronic Press* 14, no. 2, article 3 (2008).

14 See, e.g.: G. Passiante and G. Secundo. From Geographical Innovation Clusters towards Virtual Innovation Clusters: The Innovation Virtual System. 42th European Regional Science Association (ERSA) Congress Report. 08.2002; A. Babkin, T. Kudryavtseva and S. Utkina. Formation of Industrial Clusters Using Method of Virtual Enterprises. *Procedia Economics and Finance* 5 (2013). P. 68–72; R. O'Callaghan. Towards Dynamic Clustering: Capabilities and IT Enablers. *Digital Business Ecosystems*, eds. F. Nachira, A. Nicolai, P. Dini, M. Le Louarn and L. R. Leon (Luxembourg: Office for Official Publications of the European Communities, 2007), <http://www.digital-ecosystems.org/book/Section2.pdf>. P. 68–105.

both with Israel and the Arab states. It gives Russia an opportunity to create a neutral framework with equal respect to all sides of a potential alliance, to serve as an arbiter in potential disputes, and to assist in easing the tension between Israeli and Arab partners, which could certainly be the case at the beginning. Second, Russia has a physical research infrastructure, which is difficult for Arab researchers to reach. Using Russian infrastructure will make Arab partners of the alliance more sustainable. Third, Russia's relative remote geographic position from the Middle East makes it a place for physical contact between representatives of the two communities. Fourth, the production base of Russia makes it possible to organize production of joint research results in the country. Fifth, Russian system of education is able to provide necessary support to Arab innovators if they do not have such opportunities in their respective countries or elsewhere in the world.

For the Arab and Israeli sides of the triangle the benefit is clear. They attain the opportunity to create a vital cooperation framework using Russian resources. Russia itself provides a number of marketing opportunities, and the use of its production facilities makes it possible to broaden the potential market for created new products using the same branding technology as described above. For Russia such a configuration gives an opportunity to use its R&D resources more efficiently, as in this case Russian hi-tech community participation will be of paramount importance. Taking part in an international project of the kind will help Russian innovators gain necessary experience in technology commercialization and in innovation projects management. Russian-made know-how will gain access to the new markets.

The issue of financial support of this project is essential. I assume that the lion's share of the required investment will be made by Russia and Israel. It is, of course, rather a risky idea. But the potential outcomes of this project are able to give a high rate of return on the investment made. Some will say that the proposed idea is too complicated and may sound rather strange. But out of the box thinking is one of the key elements of the innovation process. It does not mean that this idea is ready to be implemented right away. Much preparatory work must be done, including the careful search for potential partners. There are several entities in Israel such as al-Bawader and Takwin Labs that can be very instrumental in this project. If done accurately, the project can become a paradigm for systematic cooperation between Russia and Israel in the field of innovations.

In conclusion, even though today some may consider that it is easier to leave the situation where it is, rather than to develop Russia-Israel cooperation in the field of innovations, such a view represents very limited strategic thinking. The two countries have a serious potential for overall economic cooperation, especially in the field of innovations, and if managed skillfully, it will be of great help to both countries in achieving their long term goals of economic development. It does not mean that there are no problems to be solved. But these problems are not unsolvable provided there is a will from both sides to overcome them. Hopefully the logic of mutual opportunities that such cooperation provides will prevail and there will be a vibrant and influential joint innovations network in the world in the not very distant future.