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Moderator: Yigal Erlich

YIGAL ERLICH (Chairman and Managing Partner, Yozma): Good afternoon, everybody. We welcome your active participation in this discussion, and the last 30 minutes will be dedicated to questions and answers, so please prepare your questions.

My name is Yigal Erlich. I am the Founder and General Partner of a fund called Yozma. I am from Israel. It was my venture capital fund that invested in early stage companies in Israel. I started it about 15 years ago. The first fund worked with the government of Israel and afterwards it was privatised and became a private fund. Before that I was the Chief Scientist in the Ministry of Industry in Israel. Today I also sit on the board of the Research and Development Council and I am a member of the board of a Russian venture company, which is a new company, a fund of funds which creates new venture capital funds in Israel.

With me on the panel are three people, all of them entrepreneurs, so they can talk about their experience of building businesses. Professor Arie Gutman is from Israel. He established a company by the name of FineTech. Next is Arkadiy Dobkin of EPAM, who is from Belarus. Finally, Evgeny Utkin from Ukraine.

I would like to start with a general question which I am curious to understand and to hear what my colleagues think about which is, is there a need here for venture capital at all? Are there enough entrepreneurs? Is it a good environment for creating entrepreneurs? Are there the right means to establish new companies? As I said before, we have three entrepreneurs, and we will start with Evgeny.

EVGENY UTKIN (Chairman, Kvazar-Micro Corporation): First of all, a few words about myself. I am the founder of Kvazar-Micro, which is now part of the public company Sitronics, and I was the President of Sitronics for a couple of years. We listed last year on LSE and our operation in the region, so our core market is Russia, the CIS, Ukraine, Kazakhstan, the Middle East and Africa. I am originally from the former Soviet Union. I used to be a senior designer of microchips. Perestroika generated a lot of entrepreneurs here in the region, and if you compare Russia, Ukraine, Belarus and Kazakhstan, you will see different kinds of entrepreneurs. In Russia, in Moscow, there are many multi-billionaires. They are just entrepreneurs. They probably do not need venture capitalists like you but they are entrepreneurs.

YIGAL ERLICH: Where do they get their money from?

EVGENY UTKIN: By being in the right place at the right time. If I compare Russia and Ukraine, Ukraine has more than 5 million small and medium-sized businesses. I think it is a very entrepreneurial culture here. But here it is a different story, a different issue for my business, which is high-tech, because the main focus for entrepreneurs here is not the high-tech industry. Nowadays it is land, the construction industry, etc. In terms of culture, we are ready for VC.

The next issue is managers: we have entrepreneurs but we have a lack of managers to implement the businesses. Ukraine and other countries of the former Soviet Union have no product culture. We know nothing about production. That is another big issue. My answer is yes, we are ready. I am a little bit doubtful about the high-tech business but we are ready to be in the right place in world competition.

YIGAL ERLICH: What you are saying is you have the high-technologies but you do not know how to transfer it into products, and the management issue is a crucial one.

EVGENY UTKIN: Yes.

YIGAL ERLICH: Arkadiy, can you say anything more about this?

ARKADIY DOBKIN (CEO and President, EPAM): Just two words. I am President of EPAM systems. I founded the company 15 years ago. Today it is a company with over 4,000 employees in software out-sourcing, with headquarters in the United States and with offices in Hungary, Russia, Belarus and Ukraine. So we have close to 4,000 people between these four Eastern European countries.

I absolutely agree with Evgeny that after perestroika it was a pretty good environment in which to generate entrepreneurs because everybody, with talent, or without talent, was curious about living in a completely different environment in the Soviet Union and a lot of people tried, and some of them, especially young people, who did not

think about the risks and were in the right place at the right time, with the right connections, became very rich.

At the same time, if we are talking about high-tech, it is a little bit more difficult. It is not just a matter of being in the right place at the right time. It requires a lot of organic growth and understanding of the environment and there are different things which can create this environment and in different countries we are trying to build this environment differently. There are various examples. We can talk about Israel, which is one story, and is very difficult to replicate in another country. There is the example of Ireland, or India, which has a very large high-tech industry. India started by doing very simple tasks; a lot of people said it was not interesting work, but what happened was they were involved, starting to work for large companies, gaining experience, improving the educational system of the country, motivating young people in science and creating a good environment. The same thing happened with software in India, which is a great example and in China similarly with manufacturing; they just replicated simple things but then created a completely different infrastructure in the country, and developed a good quality education system.

As for the former Soviet Union, in my opinion, in Russia it is early days but it is very similar from a cultural point of view in Russia, Ukraine and Belarus. Being so close for so long, they do have the advantage that the educational systems in these countries were not created yesterday but a long time ago, 50 or 60 years ago. A lot of it was invested in building a great military machine, which is engineering science, and these traditions are still there. Yes, not enough money was invested over the last 20 years but the parents of the young people still have it inside and I think this creates a very good opportunity for the region to be at the edge of innovation in science and technology. There are great opportunities.

YIGAL ERLICH: Thank you, Arkadiy. Last but not least, Arie, whom I have known for many years. Arie is a special story because he is a professor in the Technion Institute in Israel and he is also an entrepreneur who started his own company, spun off the Technion, and also sold it to another company. Perhaps you can tell your story.

ARIE GUTMAN (Founder, FineTech): Thank you. I was born in the former Soviet Union and left in 1973. Those who are old enough will remember that it was a different country which was not so easy to leave, and was even dangerous in some ways. I went to Israel, where I studied, and I also studied in England and became a professor at the University in Israel.

Then in 1990 I seized the opportunity of some interesting research results from the University. Israel at the time had a very favourable climate or environment for entrepreneurship and business, and since the question we are dealing with is entrepreneurship, I think the climate at least at that time in Israel was perfect for it, because the country was absorbing a vast number of engineers and scientists who emigrated from the Soviet Union, which was breaking up at the time, in 1990/1991/1993, during perestroika and immediately after it. That was one aspect. The other aspect was that the government was helping people to start up businesses by way of subsidising research and development, tax breaks and in many other ways. Also, the universities, which for a long time did not look kindly on professors trying to mess in business, in the Nineties started to change this approach and started to actively encourage people to participate in new businesses, in incubators, starting up companies and so on. This combination of having an idea, having highly qualified workers to implement the idea, and this positive environment from the universities and the government is what enabled many people in those days to start companies in Israel.

I focused on an area that is close to me, which is chemistry and pharmaceuticals. That is what I knew how to do and I started the company FineTech, which is a pharmaceutical company. I think this whole field of pharmaceuticals is a fascinating one. Many people do not really appreciate the various diversities of pharmaceutical companies. People usually think of pharmaceutical companies as either the giants like Merck, Glaxo, Pfizer, or as the biotechs which to try to find the best drug for cancer or something like this, but many people do not appreciate that there are other aspects to a pharmaceutical company. For example, generic drugs, which are intended to make drugs cheaper while keeping them just as efficient and to enable more people to participate in various health programmes and so on. I would be happy

to expand on the generic drug business and the pharmaceutical industry in the next round.

YIGAL ERLICH: You are a professor in the Technion and you also have your own company, and you left the Technion with your company and made it into to a big success. Perhaps this is a good example for the people here.

ARIE GUTMAN: The Technion, as I said earlier, looked very favourably on it. A Technion is basically a University, the main technical university in Israel, and it looked very favourably at professors starting up companies when I did it in the Nineties, and the arrangement was a very generous arrangement. While I was an employee at the Technion and started the company at the Technion I was entitled to a 50 per cent ownership of the company, so the split was 50/50 between the university and myself as an entrepreneur, which of course provided a huge incentive.

For many years I continued to be a professor and at the same time ran the company. About three or four years ago it was too much because the company grew quite big and I had a lot of activities outside Israel so I had to officially resign from my position as professor. I am now an Emeritus Professor at the Technion, but later on I succeeded in merging the company and bought it back. This is also very interesting because in the pharmaceutical industry everything is product-related so it is not so much about the company; it is easy to set up a company and give it a name, but it is really the products that you have. Some drug products are the sort of thing that everybody else has as well, so the competition is very tough and it is very difficult nowadays to compete with companies from China and India, and it is very problematic. But if you have a good product, if you are the only pharmaceutical company with a particular product, or one of two or three, then of course it is a completely different story.

The way I was able to buy back the company was because when I initially merged it, the deal was that even though I sold the company and was basically paid for it, I still had the rights to one particular product. The company that bought my company was an American publicly traded corporation, and I had the rights to this particular product which at the time was in development. In the meantime, several years passed and this

product actually succeeded; it was about to be launched and was going to be a big-time product. Then the public corporation came and said, “You know, we really would like to have this product because it is going to improve very significantly our profitability, basically our sales and profitability, and as a public company, the important thing is the P/E ratio and all this, so why don’t we do a deal?” and the deal basically was that I left them the product and got the company back from them to be able to develop other products. This was just an opportunity that comes along the way when you have good products and a nice deal.

YIGAL ERLICH: Thank you. What I have heard from the panel is that the countries in the area have the potential to create new companies based on certain technologies. The question is why it is not happening, why you do not have enough money or capital, venture capital or any other tool, to invest in such entrepreneurs and in such technologies. The question of course is: do governments have any role here? What should they do in order to encourage it?

I can tell you from the Israeli experience that even 30 years ago companies started to become involved in encouraging new technologies and new companies using different tools. One of them was the Chief Scientist’s Office, which simply funded R&D projects in companies, matching funds by 50 per cent for each project. Other tools were incubators. We have 24 incubators heavily funded by the government. Not all the capital is from the government but the government is participating heavily in order to create new ideas. There are many more programmes that the government initiated which became successful. Also, the venture capital industry, which is now flourishing in Israel, started by a government initiative with government money. I know it is different here but each of you is from a different country. Can you say anything about what you think the role of your government is to encourage?

EVGENY UTKIN: For the last four years I worked in Russia and before that in Ukraine, so I can compare Russia and Ukraine. I think first of all Russia has scientific centres such as Dubna, Novosibirsk and Sarov, near Nizhniy Novgorod. There you see a lot of excellent and very talented people from our industry, from IT semiconductor industry. Several times the Russian government has announced a programme to support this industry and Russia of course has a champion, nowadays

two champions. But I think the big problem in Russia is that Russia has too many natural resources and is not focused on the high-tech industry. I personally tried to develop a couple of development centres in Russia. The time is not yet right. Russia still has the potential but it is not realising its potential.

I think Ukraine has many more opportunities in the high-tech industry, particularly in IT and semiconductors, if we are talking about design centres, for instance. Why? Because Ukraine has too many distractions. There is much turbulence in politics, with an election almost every week or every month, and nobody is thinking about business. For our business, IT in particular, for all of the high-tech businesses, we expect government support for our education system, because the main issue in Ukraine is not the entrepreneurial spirit or atmosphere in the country but the main issue right now is education. I completely agree with Arkadiy; in the former Soviet Union there was a very good education system, and we are now losing this potential in Ukraine. I think the big advantage of Ukraine is that the government does care about this, so this is a big advantage.

I believe in the potential of the Ukrainian people. Many years ago Ukraine was like a Cossack region; it was all about freedom, and nowadays it is all about freedom. In musical terms, I would call this the jazz style, so we play jazz rather than classical music in our business, because time to market is pretty short and our business needs improvisation. Here in Ukraine we have this now.

Just before this meeting we were discussing with Arkadiy that in Belarus there is a semiconductor industry. It is there. I do not know why but I know there are a lot of companies in this sector in Belarus, which is surprising to me.

My conclusion is I would prefer a jazz style to a military orchestra. So I prefer Ukraine to Russia.

YIGAL ERLICH: I have learned something: Ukraine is jazz and Russia is classical music still. Arkadiy, do you think the Belarus government should do something or can it happen without the government?

ARKADIY DOBKIN: The government should play a role, in my opinion, because if you look at the history of the success of Israel, India or Ireland, all of them should be thankful for specific government programmes. If you are not talking about specific government programmes, I do not know what would be an example – maybe the United States, who were doing this without getting involved in specifics but for a long time and of course very much organic growth. If you want to accelerate something, you have to create a special route. These three countries which I mentioned are good examples of how it works. If we want to accelerate high-tech development in the former Soviet Union region I believe special rules should be created, because the market is global at the moment and to compete with countries like India and China which have special rules, which have technocrats, it will be very difficult to compete because in any innovation – there are some exceptions – the costs will be a factor.

In Russia there is a proposed law to be considered by the Duma and Evgeny could be right again; it is not going to be accepted in the Duma but there is a big change because, at the end of the day, even oligarchs understand that they need to convert or go and diversify in different industries and high-tech is one which they would like to try. The same happened, I know, even in Ukraine with a couple of guys with a lot of money who have actually started to invest in high-tech.

In Belarus, which is a much smaller country, a little bit bigger than Israel, two years ago they accepted a special law for high-tech companies which is unique in the former Soviet Union region. It has actually created the opportunity for companies to compete in the global market. It started from an IT out-sourcing business, which is our area, but I think it would create opportunity for people to participate in interesting projects. Right now, for example, people are building software products for SIT, Oracle, Microsoft – I cannot mention some other companies because of confidentiality issues, but it means that people are getting this experience and after two or three years some of them are already starting their own companies and becoming entrepreneurs.

Also, from my point of view the government is very important for investment because EPAM, with 90 per cent of its employees in this region, is still a US corporation. We have been able to have two rounds of financing but for a lot of local companies with workers in these countries it is much more difficult to get money because there are no

regulations and protections for investors. Basically, in my opinion the government should play a role, in short.

YIGAL ERLICH: Arie, before you say anything, I want to comment on Russia because I have started to be familiar with Russian activities in high-tech. What impressed me most was the fact that the President of Russia made a declaration about two years ago that Russia was going to be a leader in certain technologies and was not going to be dependent in the future only on gas and oil. They are a rich country now, they want to use their resources to build the technology industries and they are doing something towards this. I would say even if the government changes every two weeks, if there is still no leadership, no statement of what you want, it will not happen. This is something that can come from the bottom up, from the people; if they want it, they should apply pressure, in the press or whatever. This is very necessary. Arie.

ARIE GUTMAN: I agree absolutely that the government can and should play a role in helping high-tech to develop. I do not know much about the Belarusian model or what goes on in Russia, but talking about the Israeli example again, which proved to be very successful for such a small country, the government really has different ways of doing that, of providing that help. Just to tell you what goes on in Israel – and Yigal knows much more about it; I know it from the receiving end, he knew it from the giving end, when he was the Director General of the Ministry of Industry or the Chief Scientist of the Ministry of Industry and Trade. A company doing research generally speaking in the high-tech area could apply for up to 50 per cent of their research and development costs for these particular projects as a loan, which would need to be repaid but basically it is treated more or less as a grant, although most companies eventually pay it back. That is one thing the government did.

The other thing that the government did was to give significant tax breaks, again, to companies involved in intensive research and development in high-tech, and again high-tech can be defined in different ways. For example, in Israel biotech and the whole pharmaceutical field is associated with high-tech and regarded as such.

Another thing that happened in Israel is that through tax breaks and other incentives, and because of the availability of the workforce, many big foreign corporations were attracted to come and set up research and development centres, and even manufacturing centres in Israel. Recently Intel started building a huge plant in the Negev desert, and received significant breaks from government. On the one hand, this is perhaps helping foreign companies but on the other hand it provides employment for local engineers and scientists, who can then go out and start their own companies, come up with their own ideas and use the experience they have gained while working for these big companies. So I think the government should help. It is probably not easy to do from scratch but you need to start somewhere.

EVGENY UTKIN: Talking about our industry, I know the semiconductor industry in Israel pretty well so it is a question why in Israel we cannot see a champion, because there are no big companies in Israel in the semiconductor sector. You may find a lot of rented offices and competitive resource centres like Freescale, Intel, Motorola, etc, but there are no big Israeli companies. The big question here in our region is, is it possible to create a champion, particularly in the high-tech industry? I mean big companies, companies like multi-billion dollar companies. That is the main question I think for Russia and probably for Ukraine.

My answer is, it is not yet the right time. Why? Because nowadays in this region, in Russia, the main focus is oil and gas, and here it is land and construction. It is not yet the right time; it is coming, because our industry is all about people and we are still generating – I have four kids, by the way – this pool of talented people. It is not yet the right time because big countries such as Russia definitely have a big role to play in high-tech, in nanotech, in biotech. So it is not the right time, I think.

YIGAL ERLICH: I tell you what – I think you should hurry up! You have an advantage over Israel because you have a very big market. It is not only Ukraine; it is the whole area, Russia and all the other countries. Israel is a small market, so it is very difficult to develop big companies. You can do this, especially in IT, and I urge you to do it. You show that you have the potential to do it, so why not do it much more, starting from the creation of new companies, and then because of your big local market you can have big companies. If you do not do it now, you may lose the

market, because other people will come in, foreign companies will come in and conquer the market instead of you.

It is a good idea to bring in international companies to have their design centre, whatever, research centres, in the country. It is the best way of encouraging entrepreneurs through doing work in international companies, who teach you how to do business, as happened in Israel, where international companies made a big contribution to the start-up of new companies in Israel. Here maybe the picture is different but according to what I see now, the big competition for you, for us, for everyone, comes from China, India, South America, wherever. If you think it is not yet the time, what are you waiting for? You may lose out; that is my point.

ARKADIY DOBKIN: I believe you. I am not in the science business; I am in the IT business, and I know this area relatively well. I do think if Russian companies or former Soviet Union companies will not grow aggressively, then this market will be taken even by Indian companies. They are all coming here because in a market like Russia and Ukraine, which are big countries, 150 million people, there will be a big requirement for IT services, even locally. This has already happened in data services, with huge Indian firms opening offices here, and they will compete very aggressively.

YIGAL ERLICH: What is strange to say is that the only thing that keeps them out of the market, as far as I understand, is the problem that they might have with bureaucracy and regulation. You have to change this, but to change it you have to be there, otherwise other people will come in.

EVGENY UTKIN: I think Indian companies are pretty experienced with bureaucracy!

YIGAL ERLICH: Let us go to the last issue I wanted to raise, and that is your opinion about what type of technology can emerge from the countries in this region, whether you think you can be a leader and in which areas. We have talked about what is needed. Let us talk more about technologies.

ARIE GUTMAN: I started talking about the pharmaceutical industry, which I know about, and I think there is a great opportunity starting from scratch or taking an existing generic pharmaceutical company and upgrading it, because most of the drugs in this area and in Ukraine and the whole of the former Soviet Union are either imported very expensively from the branded companies, with people paying top prices to buy eye drops for glaucoma from Pfizer at \$40 or \$50 a bottle – I checked the prices in the pharmacy here, and you have to pay 40 or \$50 a bottle – or some things are imported from third world countries, where the quality is very questionable, and although it is relatively cheap, you do not always know what it is you are buying. So I think setting up a high-quality generic pharmaceutical company in this region could be an interesting proposition because you would then have a huge market to sell to.

Another advantage that this region has is that the patent laws here going back to the days of the Soviet Union were very different and therefore many products which are patented in the rest of the world are not patented in this region. Of course, this is going to change for future products, but at least for now and for the next ten years or so there are plenty of attractive pharmaceutical products which could be manufactured and sold in this market, and I estimate the size of the market would be many billions of dollars if you have the right products and can deliver. This is an area I know about, but I am sure there are other fields that the other panel members will discuss.

YIGAL ERLICH: Arkadiy, coming from the software industry, what else?

ARKADIY DOBKIN: I have experience in a very specific sector and probably a very simple sector, at least initially. When my company was started it was just involved in arbitrage, a very simple idea, and clearly with the growth and with working for a lot of companies, I acquired experience. I would say that anything that has happened in the software world, like social networks, computers, everything, could be started up in the former Soviet Union today. The lack of management and entrepreneurial spirit which, in my opinion, was probably true five or six years ago is different today because the world is completely open now. Young people go on the Internet and there is almost no difference where they see it.

From my experience, I know of many companies which actually created and developed software in the former Soviet Union but have headquarters in different countries, mostly because it is easier to find funding, and in some cases because they had to establish a marketing and sales infrastructure in different countries and some entrepreneurs were moving closer to their clients. What has happened in these developed economies is that, for example, Russia has become as attractive a market as any other market, especially today, with the financial situation in North America, for example, and in Western Europe as well. I think software start-ups will start happening in big quantities in this country as well, and some people will be moving back to start it all.

YIGAL ERLICH: Do you think it will be only salaries in software?

ARKADIY DOBKIN: Absolutely, because again, EPAM, for example, with 4,000 people working for the top Western companies, or other companies, they have produced thousands of people with experience in building professional software, who are starting to understand what it means and what products exist on the market, and are coming up with ideas. I have had many cases of people leaving EPAM to start their own company. The problem still lies with government support, not from the point of view of regulating what they do but from creating the right conditions to bring in investment because, so far as I know, again, in this region most high-tech companies were financed by EBRD or by IFC, which have special programmes for developing the market, and not really the big funds from Silicon Valley or from established areas. In India practically every big private equity high-tech forum already has representation, and it is mostly due to regulation here.

YIGAL ERLICH: So you see some obstacles that will prevent Yahoo or Google in the future?

ARKADIY DOBKIN: There is Yandex in Russia, which is going to a multi-million, I do not know how many million, IPO, as far as I understand, pretty soon, and they are very competitive with Google in this region, and Google are really having a problem to do something about it. There are other interesting software companies like ITNS

for example, which is a typical Russian medium-size company in the IT market, and nobody can do anything with them.

YIGAL ERLICH: So this Russian company used the fact that it is difficult for Google to enter the market?

ARKADIY DOBKIN: Because of Russian-specific searches and all that stuff.

YIGAL ERLICH: Language differences, so they did it instead of Google.

ARKADIY DOBKIN: I do not know. Yandex may be an older company than Google, but they actually kept the Russian market and are still the leader there and again, as far as I know, there could be a multi-billion IPO.

YIGAL ERLICH: It is a good example for other companies.

ARKADIY DOBKIN: Its sets an example for other companies, and people will believe that, like Google and Microsoft, this company will grow into a multi-billion software company, with market capitalisation, and it could create a generation of entrepreneurs, absolutely.

YIGAL ERLICH: Again, what do you think, Evgeny?

EVGENY UTKIN: If you look at our industry, it is all about consolidation, and I think from one side it is very difficult to compare big companies and semiconductor interlay in GE, Oracle, SAP, Microsoft, etc, but from another side I think the big advantage to live here, to do business here, is the people. We have a very special and very creative atmosphere. There are difficulties: in Russia one difficulty, here another one, talking about technology, but talking about industries, we have a big potential here for Ukrainian companies in green tech because Ukraine depends on Russia for resources. As one of my projects I am chairman of the board of a Kvazar factory which produces solar panels etc, so I think we have a big potential here as a Ukrainian company. There is also potential for nanotech in the region in scientific centres such

as Dubna, for instance, and Sarov, where Sakharov, the famous academician, used to work, so nanotech and green tech.

Talking about microelectronics, for me it is part of nanotech, because I am talking about design. It is not about manufacturing because that involves multi-billion investments. We have a factory in Zelenograd, the former Soviet Silicon Valley, but it is still three, four, or more years, so a long time in terms of production, but semiconductor design centres I believe in. I believe more in the people, and I think in our region we will definitely generate new business ideas, because I totally agree with Arkadiy that India and China have proved this; people moved from India to the US and then came back and created new businesses. I think for new business ideas it is necessary to be just a bit hungry, and we are hungry compared with the western part of the world. I believe we can generate new business ideas in every sector and consolidate into big companies, but we can definitely compete in this entrepreneurial world.

YIGAL ERLICH: Thank you. To summarise, I would say what I have heard from my colleagues is that there is potential in the area, big potential for new entrepreneurs, for new companies to do business. The only thing is that you must find ways to hurry up, to accelerate the process, whether that is with the government or without, but I think the fact that you are successful entrepreneurs can be used as a tool to encourage more people. I do not know if you will do it but I think it is better that you do it.

Finally, we come to the questions and answers. There are microphones available in the room. Please raise your hand, wait for a microphone, and state your name and organisation before asking your question.

ELVIR CAUSEVIC: Great discussion! My name is Elvir Causevic. I run a medical device company called Brainscope. I also left academia from Yale to start a medical device company and raised 30 million in venture capital in the States, starting first with government funded technology transfer grants, then venture capital. We sold that company recently and I started another one in the Bosnian region, which I started in parallel in the States and in Bosnia at the same time. So now I am learning about venture capital in this region, and there is not any. There is no mind frame, there is no

culture, there is just no awareness. I have studied this, and I have visited Spain and Norway and other countries to see what they did to get things started.

My question specifically is who do you lobby in the government to get this money? The lobbying at the moment is for R&D spending, and people are spending money; one, two or three per cent of GDP, we heard from the Ukrainian Finance Minister yesterday, is being spent on R&D. What I am finding is that R&D spending is going to one of two groups. It is either going to municipalities to build technology parks, which are empty, because they are just interested in building parks, not in building companies, or it is going to universities. Universities are using lobbyists and they are pursuing highly pollutant, academic based research kinds of things, and there is no lobby group to approach to ask for money, and every time I go to the government they say “Hey, look, we gave you some money. Our return on investment is zero,” but it is never going to get better.

I do not know how you get entrepreneurs who are still small. You cannot get big companies; they are not interested. The guys that you want to invest in are not in the government; they do not show up on the map. That is my specific question that I am struggling with today in Bosnia: how do I get attention? Whose door do I need to knock on?

YIGAL ERLICH: I can tell you in Israel which door but I do not know here.

EVGENY UTKIN: Your question is about Ukraine?

ELVIR CAUSEVIC: It is general. Who do you go to in the government to say, “Wait a minute; you are spending two or three per cent of GDP and you are wasting it. Give it to the young people to go and start up some companies.” There are some highly respected entrepreneurial companies. They are not basic research companies; it is high technology transfer (inaudible – no microphone).

EVGENY UTKIN: I can comment only on Ukraine. Actually, I used to be Chairman of the Council of Entrepreneurs many years ago, and I spent three or four years trying to create an entrepreneurial atmosphere here in this region. We have a

couple of institutions here but frankly, it is not very effective because the main focus here in this country is the future election of the president. There are a lot of elections – too many elections – and the government does not pay attention to high-tech business, so that is a big issue here.

I support the opinions of my colleagues. The government has to play a role but here in this country it is playing no role at all, not yet. In Russia you may find a couple of institutions and it is much more disciplined but not yet effective.

ARKADIY DOBKIN: In my opinion, if you go to some countries, the governments just do not have money. I do not know for sure about Belarus and Ukraine, but I assume that they do not have money for this. Russia definitely has a lot and Russia has created a special innovation fund. I do not remember the figures but it is big numbers. It depends, in my opinion, on what type of business you are talking about. If it is small start-ups, it is very similar still in the US; you would go to angel investments, and I know many Russians from this region who have achieved some success. They have created their own small funds which can give you half a million to a couple of million, and this is high-tech guys giving to high-tech guys. I know such people, so if you are talking about money in Russia, for example, we did a press release today actually and it is in Vedemestris(?) today. We raised 50 million. We were running a private investment process, and directing it at the top five funds in the world in technology private equity, but at the end of the day we got the money from a consortium run by Renaissance Capital from Moscow, and it was Renaissance Capital money and a couple of other emerging funds. So I do think that it is a pretty different world now but, again, for small companies I would rather fly to San Francisco and find money there.

YIGAL ERLICH: I will try to answer your question although I am not from this region. I would say this. I think that your government have focused more from the budget point of view on basic research, on universities, and this could be a mistake, and it is a question of how you change the allocation rather than needing more money, as was the case in Israel at the beginning. We started to convince them that in order to get a return on government investment in different ways you must change the proportion, and the one of the reasons for government to invest in basic research is

because it is very risky, and it is more public than other private things, but you need to convince them that they need to be involved in venture capital investment to establish new companies, which is also a very risky area, and without public money it will not happen. They then have to change the proportion of the allocation between basic research and applied research. It can be accompanied with other tools, as Israel did with the universities that gave professors who wanted to be entrepreneurs part of the equity of the company they started. There are different things like this, but they first have to understand the need to change this allocation, otherwise it is a lost cause.

ELVIR CAUSEVIC: So which part of the government should you approach?

YIGAL ERLICH: In the government, to change the basic conception, which I just described, it is without doubt the Prime Minister; it needs to come from the Prime Minister. In Israel, for instance, the other powerful place is the Ministry of Finance, of course. If you can convince the budget people that this is a necessity, you just need to convince them to change the allocation. It is good enough to see what will happen next.

Are there any other questions?

BODAN KUPIC (?): Hello. I am Bodan Kupic(?). I am a former general manager of Kvazar-Micro. I just wanted to expand on what Evgeny was saying. I agree that government needs to play a role. They need to create conditions for innovation and technology, as happened in Ireland, Israel and India. They understood the importance of this for their economy. I think what has happened here is that there is a lot of people nodding their heads but they are not doing anything about it, and that is the fundamental problem. Some of them understand but they may well not be in office any more, so they are thinking very short-term, whereas Ireland was thinking ten years out, and India was thinking 20 or 25 years out. I think this is a fundamental issue with government. Government can play a major role.

My question is about the ecosystem to support entrepreneurship and innovation. It is not just about money. You can look on Silicon Valley as an example of an ecosystem. There are entrepreneurs that failed five times before they made their

billion. I would like to know your opinion of what kind of ecosystem you need to support venture capital entrepreneurship as well.

ARKADIY DOBKIN: I am a little bit confused; perhaps you could rephrase the question a little bit or explain what an ecosystem is because I am not sure what you mean.

BODAN KUPIC(?): Silicon Valley is an example. Stanford University, as was mentioned about professors being able to be involved in business. It is spin-offs, it is lawyers that help you. There are VC angel investors. This is what I mean. It is more than just having some money.

ARKADIY DOBKIN: A kind of incubator environment?

BODAN KUPIC(?): Yes.

YIGAL ERLICH: The ecosystem is very important. One of the things investors look at is the deal flow. If an investor is not convinced that there are enough good deals for investment, they will not create a fund, so the deal flow is something which you could define as a market failure to start the ecosystem. The first question before you do anything else, with lawyers, accountants, investors and angels, is find where and how the deal flow is coming from, and if you do not have a good answer for that, then it is very difficult to create the environment, and we are coming back to the first question. The deal flow comes from entrepreneurs, from the universities, from spin-off companies, big companies, wherever, but it must be pushed by someone. If the situation now, as you define it, is not ready yet, then someone has to do something, I agree, not only to establish venture funds but also to create the total environment that you need, and the test will be for outside investors. It is very important for this area to attract foreign investors with experience to invest in these companies and give them some of their experience. For them it is deal flow, and if they cannot see 300 companies in order to invest in ten, they will not come; it is not good enough. You need at least 300 companies in order to invest in ten.

ARKADIY DOBKIN: It is a long organic process. In India, Ireland and all the places you mentioned, they created the environment for investment. Some companies started to create it, and then when they created some billionaires or multi-millionaires, they started to establish the environment and the incubator structure. Everybody is talking about a lack of professional managers in this region; it is the same with professional investors and lawyers who focus on this specific issue, but I think it will come as the industry grows.

YIGAL ERLICH: You could do many things. One of them is trying to create an attractive tax system.

ARKADIY DOBKIN: That is exactly the way: special tax systems, which would give high-tech companies more cash, then these companies will create an educational system. Basically, when Evgeny was saying you should keep government out, I understand exactly what you mean. They should not influence where to invest and how to invest, but they need to create the conditions for investment. The company would decide where to spend the money. Again, in India companies actually built their educational system; IT companies built the educational system during the last 20 years, because they needed it. The same is true today in Russia, that all big IT companies, including us, put whatever we can we into universities because we need qualified people coming out of there.

YIGAL ERLICH: So one thing is indirect influence, like changing or creating a tax system which can attract or can help. Another thing would be programmes to attract the people who left the countries to come back and start their own business. They will bring their experience. These are things that you can do. It is not something which is unheard of or cannot be done. There are many things you can do in order to create the ecosystem.

ARKADIY DOBKIN: Companies do this; companies actually do bring people back with western experience.

YIGAL ERLICH: Companies are doing it but what about government?

ARKADIY DOBKIN: If you create the conditions for the companies, the companies start to invest in universities and bringing people back and probably paying them double salaries in comparison with Silicon Valley. That sometimes happens here right now. So it is, again, a natural organic process which is already going on.

YIGAL ERLICH: It is interesting.

ARKADIY DOBKIN: It is clearly not something that can be done in one year or by one resolution; it needs to be built up over years. India takes the view that it is planning now for the next 25 years. That, I think, is the way to do it.

YIGAL ERLICH: I believe what we all agree on here – except me – is that the governments are not doing anything to create the ecosystem, to create entrepreneurs; nothing.

ARKADIY DOBKIN: Belarus is actually doing something.

YIGAL ERLICH: Except Belarus and Russia, of course.

ELVIR CAUSEVIC: How many government officials are here?

YIGAL ERLICH: Here?

ELVIR CAUSEVIC: On the panel; how many government officials do we have on the panel?

YIGAL ERLICH: No one. Next time you bring a government official. I think it is very important to do panels or confer together with these people. You have to start a dialogue and you cannot do it sitting by yourself and talking about your problems; then nobody hears you, not even the press. You need to go and say, “OK, what can we do?” You could try through conferences, through putting the press together with the people in the government. You have to choose who to ask, but once you have such a panel, hear what they have to say. Invite the top people, director generals, whoever. EBRD could do it.

EVGENY UTKIN: Actually the day before yesterday we had a similar panel with government officials.

YIGAL ERLICH: You need to have here a government official to talk about what they are doing in Ukraine, Belarus, or wherever. It would be good to have a contribution from them. Any more questions?

A SPEAKER (EBRD): I am just wondering what is the single most important factor in developing a high-tech industry. That is question number one. Question number two is do you see any potential for developing high-tech industries in the south of Russia? I am talking about the Rostov region, Krasnodar, somewhere between the Azov and the Black Sea. So the first question is the single most important factor and the second question is whether there is any potential in developing high-tech industry there?

YIGAL ERLICH: Who wants to take the risk and answer this question?

A SPEAKER: (Inaudible – no microphone)

EVGENY UTKIN: The first question, I think, is motivation. You have to have motivation. It is all about motivation. If you are hungry, if you dream about something, you will make a difference. On the second question, actually I am from the Rostov region originally, and as for businesses, we are talking about international business nowadays, so it does not matter; you have to compete internationally. It is not a national business or a regional business. You have international competition. We only have one market.

A SPEAKER: Can I just clarify? For example, there is a tendency in Russia that the regional governors have to answer to central government for the development of the regions, and one of the most important issues is high-tech, so everybody is talking about it. It is a hot potato of an issue, but you cannot create a high-tech cluster from scratch somewhere. Supposing you come to the south of Russia. That is why I asked about the factors. Maybe the factor is a skill, of course; maybe it is, I do not know,

but can you imagine building something like this from scratch in the Rostov region, for example? Is there a potential? Maybe there is absolutely nothing to do there.

EVGENY UTKIN: Based on my own experience of doing business in Russia, I think the most advanced region is Tomsk. Why? Because there is one street and four universities and 22 per cent of the population are students. The main advantage of Tomsk is the Deputy Governor, whose name is Alicia(?). She is Ukrainian and in Ukraine everybody is talking about leadership. It is a country of women. That is why Tomsk, not Rostov.

ARKADIY DOBKIN: I think for any high-tech business you need smart people. The university system in the former Soviet Union was pretty spread out, which is a very big advantage. In a lot of cities in Russia the population could be half a million or a million. In Ukraine there are some pretty good schools, like Vinyidsuk(?), which has a great radioelectronic university; even Indian companies are setting up offices there. Again, any city with a population of half a million upwards, with one or two good universities, is a great place to start something. I do not know specifically about the region you are interested in.

EVGENY UTKIN: It would be a great pity if it all disappeared, because clearly there has been a lot of investment in the university system in the last 20 years.

YIGAL ERLICH: I agree. Your first question could have different answers. The most popular one is the people. This is the most important thing. It is motivation but still it is the people. On the second question, I can comment generally only this. I think it is a mistake for a government to try to combine a policy of remote areas with development of technology. If you have centres of excellence in a remote place, that is a different story, because in former times you had started to do it and now you have it. Maybe it is a different philosophy, but the basic policy of developing high-tech industry and combining it with remote places would be a mistake. It is not going to work. That is what I think. High-tech people like to be in a cluster, which could be in the centre, in a more developed place. Anything to add?

ARKADIY DOBKIN: I agree.

EKATERINA KVASOVA: Hello. My name is Ekaterina Kvasova. I am with Ethical Corporation, and my question is the following. There has been an understanding around for a while now that there is a need to move towards the so-called knowledge economy, cure the Dutch disease, etc, and I think about two or three years, maybe four years ago, the Ministry of Economic Development and Trade said they were going to invest a lot of money in the creation of Michael Porter's cluster theory, so popular everywhere. They said they would create special economic zones, in, I think, Dubna and Nizhniy Novgorod and a couple of others. Do any of you know the state of the project, how it is going, and do we have any statistics on how many new start-ups have appeared in the last four or five years?

My second question is actually about human capital. Everyone knows it is one of the most important factors in local economic development. The CEO of Intel once said if you want a large-scale project to be delivered on time and very effectively, you go to India, but if you want an unsolvable problem solved, you go to Russia. At the same time, there are pessimists and optimists; the pessimists say yes, you have a lot of universities but the education is too theoretical and maybe sometimes outdated. There is a lack of professors. They also say – and I can name examples such as Ireland and Israel and India, but especially Ireland and India – they have language skills, English, which is an international language. What happens on that side in Russia? Is there anything we lack on the human capital side and what could be done?

Those are my two questions: first, the project, the new economic zones and any statistics on new start-ups; second, human capital.

EVGENY UTKIN: Actually, Russia has special regulations for four regions: Dubna, Nizhniy Novgorod, Sarov, where Intel have their centre of excellence, and St Petersburg and Zelenograd, so four regions, and Tomsk will be the fifth one. But not yet.

EKATERINA KVASOVA: Could you please name maybe three top obstacles and maybe some recommendations as to how to overcome them.

EVGENY UTKIN: In the first part of our panel session I mentioned the big difference between Russia and Ukraine. I said Russia is more a military orchestra and Ukraine is more like a Jazz jam session. Nowadays this military orchestra is much more focused on oil and gas, not on high-tech. So the big machine is focused on this big issue. It is not yet focused but you may still hear a lot of discussions about high-tech in Russia. It is still a discussion, however. I believe it will come but not yet, because it is not yet the main focus. It is not the same here; you have no resources here in Ukraine, so I think human capital is key here: it is land, geographical position and people. They are the three main assets.

Your second question was about human capital. We have to capitalise on the Soviet technology legacy, because it is not new investment in the education system. This capital comes from the Soviet era, and I think Ukraine does not understand this particular question because education here in Ukraine nowadays, modern education, is very poor compared with the Soviet era.

ARKADIY DOBKIN: Human capital is a big problem in the former Soviet Union, a huge problem; and a huge problem, I think, globally if you are talking about high-tech. I live in the USA, and I know how difficult it is to find good people there. There are a lot of problems. India was a panacea in the software world to solve it. During the last three or four years everybody has had a lot of difficulties there. There are not enough good people. That is not just my opinion. It is the same in the former Soviet Union. Again, I am talking about software, which I am most familiar with. In India there are probably five or six companies each with over 50,000 people and three or four probably over 100,000 people. That is the size. There are tens and tens of thousands in numbers. In the former Soviet Union in software there are probably three or four companies of over 1,000 people and then there are a lot of small ones. If you look at the population of graduates in high-tech, probably the former Soviet Union should be able to compete, but the difficulty is each company in high-tech in this region already has a huge number of issues. For example, in our labs in universities and cities where we are – and we are in more than 20 cities across Russia, Belarus and Ukraine – we train instructors, professors, to change the educational process there, but it is still not enough, so it is a huge problem and it is absolutely global. There are not enough good people anywhere.

In five or ten years there will certainly be almost no difference in salaries and compensation between the United States, India and the former Soviet Union, but the important thing is that during this period of time if the countries can encourage a love of science and technology, they will win. The United States, in my opinion, is making a huge mistake not focusing enough on this. For example, back in Soviet Union, all my young relations are engineers or scientists. In the US my nephews and nieces are all financial consultants. This is a big problem in the States today. Not a lot of people go into science. It is not just a problem here.

ARIE GUTMAN: I absolutely agree. I recently attended a graduation ceremony at a prestigious university in the United States and probably 80 per cent of those students graduating in the sciences were Chinese or Indian; there were very few American students. So there is definitely a shift in the United States away from engineering and sciences. This is not completely new; this trend has continued probably for a whole generation now.

ARKADIY DOBKIN: There is an employment problem, for example, with relation to the United States. Ten or 20 years ago the Indians, Chinese and Russians who came there were staying there. Today in this global world you do not need to go to school in the US; with the Internet and universities created everywhere people maybe come and then go back, and a lot of them get an education right now locally in their own countries, and this is a huge change. That is because of global competition, because local conditions may be even better than in the United States, which was the big winner in the past.

NICHOLAS JEFFERY(?): Good afternoon. My name is Nicholas Jeffery. I am a special adviser in technology for the European Bank and I joined about a year ago. Up to that point I was a serial entrepreneur and I have bought and sold about 15 high-tech and Internet companies. Now that I am in the Bank I am not quite sure whether I can claim to be an entrepreneur any more, but I hope I can keep up to that standard. One thing that I found very interesting in travelling around the Eastern European market for the first time ever is that the Eastern European market has now lost its competitive advantage. Bulgaria, where I was last week, is a good example. The

Bulgarian software development market in terms of price competitiveness was 30 per cent cheaper than anywhere else in the western world. Over the last two years that has gone from 30 per cent of standard pricing to 40 per cent, to 50 per cent, to 60 per cent, to 70 per cent, to 80 per cent. So the competitive advantage that Bulgaria used to have in terms of software development has now gone. What is critical for western European and eastern European companies now is to create tax advantages. If you take the city of Montréal, the Montréal Government has put in a programme literally in the last six months to give tax advantages of up to 80 per cent to software development.

My question is how are you going to entice back people that have left the country? Yes, they were very hungry and that is why they did not stay. Now there is an opportunity to earn money, but how are you going to get them back from Silicon Valley, where the climate and the environment is there for them to work in? How are you going to get people back?

YIGAL ERLICH: That is a good question. Do you have an answer?

EVGENY UTKIN: A very short answer. I think culture is very important, culture and language. I am Russian, and for Russian people atmosphere, the relationship with friends and neighbours, is very important. It used to be different, completely different, in the Soviet era. Nowadays, of course, it is changing but the culture is very important. I have my own experience in Zelenograd. In our semiconductor factory we have more than 100 people that have just come back from Singapore, from Germany, from the US, from Intel, from former Digital, to join our project because we are paying market salaries, and they can talk with others, Russian discussions. I think that is important.

ARIE GUTMAN: I think culture may be one aspect but this is more for the people who left, say, in their thirties or forties, I would say. There are people who left as teenagers and really adopted the culture of the country they are in. I do not think this is what is going to drive them back. However, I personally know of examples of job promotion. For example, a software engineer in Silicon Valley may be just basically sitting in a cubicle doing his own programming, and if he is offered a job in charge of

20 software engineers in Kiev and a salary to go with that, then he will remember that he also speaks the language and understands the culture, I think this is what is going to entice him to come back. If he was just offered an identical position in Kiev, would he move back from San Francisco? Probably not.

EVGENY UTKIN: I have this morning interviewed a guy from Silicon Valley who came back here looking for a job. Again, I do not know specifically that there are such cases but I think that young people might return. For people who have family there it is very difficult. A big percentage of the people who return did not survive as they could not compete over there, so they are not all great guys. A lot of great guys actually stay. A lot of weak guys actually return, in my experience. In India it is completely different. With India you are talking about a generation of émigrés.

If you are talking about those who emigrated before the Nineties, these people practically never come back, with the exception of some people in the oil industry who get very high positions if they come back, but in general nobody comes, because they still have the image of the Soviet Union of the past. Young people from the Nineties, 2000, that period, really understand that the environment here has changed. At least they started, like myself, to do business between countries. When my sister left, she almost never returned, and she left in 1980, when Afghanistan started, the Olympic Games, when it was different. Some people we bring to work in our offices abroad work there for a couple of years and then return. They just go to see the world. It is completely different, and these people are returning.

YIGAL ERLICH: I can tell you two particular things from the Israeli experience. The first one is that back in the Nineties, when we started the venture capital industry, there was plenty of money in the market for new start-ups. Many Israelis started to come back because they saw that the conditions there were more or less the same as they had in Silicon Valley. Based on the idea that people that leave the country want to come back because this is their own country, if you do some things to encourage them, some of them will come back. So this is one thing. It happened that once we did this programme, people started to come back. It was not the intention but that is what happened. There is no doubt, and I agree with Arkadiy, that the best way to attract these people back are the companies which are here, trying to convince them to

come back, but the other practical thing that we are doing only now, and it is a shame, is to have a database of all these people, who is where. We do not know. I do not think you know.

ARKADIY DOBKIN: Social networking right now.

YIGAL ERLICH: Yes, but you have to start to do the social networking with the purpose of doing it, and once you know, you can start to think about programmes.

A SPEAKER: The United Kingdom and America created two programmes. In the US it was called Internet 2, and it was exactly that; it was a database of all the software engineers, all the programmers, all the creative people.

YIGAL ERLICH: An internal network.

A SPEAKER: It is an internal network, so when a colleague from the European Bank asks what the first thing you can do is, you do not need a government, you do not need businesses; it is a concept of what came first, the chicken or the egg. I think a very good place to start is one of these social networking sites. It does not matter where you are, you can access Facebook, Google, MySpace, LiveJournal, so use one of those to create a social network for all of your entrepreneurs, and all of your software engineers, and get the government to sponsor that. That would be a great way to start.

ARKADIY DOBKIN: It is there already. It is there. You are working for EBRD right now, not for an entrepreneurial company, otherwise you would know how recruiters are using this database today. That is the best tool to attract the best people.

YIGAL ERLICH: I think we have to finish there. First of all, I want to thank all the panel members for their contributions. It was very interesting for me to hear your opinions. A transcript of this presentation will be posted on the EBRD website following the Annual Meeting. If you have any more questions for EBRD, I recommend that you ask Michelle and Nicolas.

For your information, if you wish to attend the country presentation of Ukraine, it is starting at 1615 in the main hall. Thank you very much.

(Applause)