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New Catalysts for Change
WHICH COUNTRIES OFFER BEST CLIMATE FOR IT BUSINESS?
Panel

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16:00–17:15, Pavilion 5, Conference Hall 5.1

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Moderator:

Mark Shmulevich, Deputy Minister of Telecom and Mass Communications of the Russian Federation

Panellists:

Serguei Beloussov, Senior Founding Partner, Runa Capital; Founder, Parallels, Acronis, Acumatica, Rolsen

Marthin De Beer, Senior Vice President, Video and Collaboration Group, Cisco

Arkady Dobkin, Chief Executive Officer, President, EPAM Systems

Taso Du Val, Co-Founder, Chief Executive Officer, Toptal LLC

Robert Farish, Vice President, Regional Managing Director for Russia and CIS, International Data Corporation

Mohammad Gawdat, Vice President of Emerging Markets for SEEMEA, Google

Dmitry Grishin, General Director, Mail.ru Group

M. Shmulevich:

Good afternoon, everyone! I suggest we start our session.

For one hour and fifteen minutes, we are going to be talking about which countries currently offer the best climate for IT business in various market segments. It is entirely possible that one region is best for one segment while a completely different region is best for another. We will also try to have our distinguished experts explain what may change over the next 10 to 15 years. I think that we should try to make some predictions about this period today.

I will introduce our panellists.

Arkady Dobkin is Co-Founder and President of EPAM Systems, which provides software development outsourcing and has already expanded its business into many countries. Based on his experience, Arkady can compare the accepted ways of interacting with developers in Eastern Europe, including Russia, the USA, and other countries. The business climate is very important to him. He is one of the people who decides in which country to hire a thousand more software developers.

Dmitry Grishin is the Co-Founder, General Director, and Chairman of the Board of Directors of the Mail.ru Group, one of the largest Internet companies in Russia. Dmitry is involved not only in IT solutions, but also robotics, and is now investing in that industry.

Taso Du Val is an entrepreneur who works primarily in Silicon Valley. He has created and successfully sold several companies. Interestingly, Taso attracts software developers and engineers from Eastern Europe, including Russia, to his projects, so he too can compare the business climates in different countries.

Robert Farish is Vice President and Regional Managing Director for Russia and the CIS of the International Data Corporation, which is one of the largest companies providing analysis of the IT market. Robert has been monitoring the IT market for many years and is well aware of the trends that dominate Russia today.

Marthin De Beer is the Senior Vice President of the Video and Collaboration Group at Cisco. Of all the panellists, he is the only one who can, thanks to his personal

experience, confidently speak about both the software and hardware segments of the IT market. We will definitely talk about those topics.

Mohammad Gawdat is Google's Vice President of Emerging Markets for SEEMEA. He is responsible for the markets in over 100 countries, which is quite a representative sample. Mohammad will be able to tell us a lot about which countries have created the best climate for IT business.

Serguei Beloussov is the CEO of Acronis and co-founder of companies such as Parallels, Acronis, and Acumatica, and also a few venture capital funds such as Runa Capital, which operates in the IT market, and Qwave, which invests in technology solutions. Perhaps they are the future of the IT market.

Thank you all very much for coming to this session. I suggest we start with software development outsourcing. Arkady, the first question is for you. We all know that India has long been the Mecca of outsourcing due to the features of its internal development and convenient time difference with the USA. Development is increasingly being outsourced to other Asian countries, particularly the Philippines. Where is it best to work now, and what changes might we see in the next ten years?

A. Dobkin:

I do not think that the world has seen any major changes. Today, our company is working in the international software development market. Development work does not have to be done where the product is being sold. The market is valued at USD 40 billion. Robert can provide you with the exact figures. And it is still primarily in India. However, in the past five or six years, the market has started to change. There is segmentation.

The entire distributed development market is growing by about 6% per year, but within it there are segments that require more specialized skills and which may grow even faster. One such example is the segment for so-called product development services – that is, development for companies which were never software companies, but now have to compete in the software market. They do not have their own developers, skilled workers, or departments. They turn to companies who are

able to develop software solutions for their enterprise that were once only available for purchase from SAP and similar companies. This segment grows by about 10–12% every year, twice as fast as the market as a whole. For the past three to four years, it has grown by USD 8–14 billion. New leaders are already emerging in this market. Companies from Eastern Europe like us and Luxoft are becoming key players.

Why is this happening? Historically, in Eastern Europe (I am speaking about countries that emerged after the Soviet Union collapsed), a different training system was in place, one which evolved over several decades but was not created in response to the demands of the outsourcing industry. It is important to understand that India became a major player not only because labour was cheaper and English more prevalent. There was a focused effort to obtain significant benefits for that industry and to attract a large number of talented people as well as build the necessary infrastructure. If you look at the statistics, it turns out that a record number of start-ups have been registered in India. Over the past 20 years, a generation of engineers who know how to develop a new product has appeared.

M. Shmulevich:

Thank you, Arkady. We will return to this issue.

Let us look at another segment of the IT industry. The most qualified specialists work in it and make up 3–5% of its total employees.

I have a question for Mr. Gawdat. Google is one of the most attractive employers in the IT field today. Accordingly, you have a competitive advantage. You can choose the very best specialists, and thanks to this, your company can move forward. In your opinion, which countries' climates are most likely to produce such specialists today?

M. Gawdat:

We think the best environment we can ever create is to make them seek us rather than us seeking them. We find that there a number of things that make the big

difference. You need people who are very talented at one thing, and they are so passionate about that one thing that they would be willing to work for free in a way, which is really an interesting concept when you think about it. I think one of the best examples of that is something like we do at Google[x], for example, where you set projects so challenging that the best people in the world are interested in working on them. However, when you think of the reality of the world we live in today, the world is so global that those talents have opportunities everywhere. If you look at the Russian Federation, for example, software development, scientific skills, mathematic skills, and so on are very highly developed. You might have some of those people capable of doing things that nobody else is capable of doing, but if you tell them they have to move all the way to Mountain View, California, they will probably say “I have a family, I have friends, my spouse does not want to move.” Therefore it is important not only to find these people, but also to provide them with an environment that is flexible enough for them to enjoy working and enjoy doing what they are doing. As you look around the world, it is not a secret that certain talents are much more highly developed in certain countries than they are elsewhere. Mathematics, for example, here in the East is at a much higher level. The same goes for the likes of understanding development tools and computer science; they are quite developed here. Yet if you want to be successful in Africa as well, you probably need people who understand the African market. The question is: is it easy to do that? I will tell you, hands down, that it is never easy. I would be lying if I told you that it is easy to do business in the Russian Federation. But it is also not easy to do business in Egypt or elsewhere in Africa. If it were easy, they would not pay me for it. It is as simple as that. The idea is that it is a matter of a return on investment. When you think about it, yes, it is challenging to do business in the Russian Federation, but the opportunity in terms of talent, in terms of business returns, in terms of the Russian Federation’s future development potential is too significant for any company in the world to say, “I am not able to do that. I am not interested in that. I am not flexible enough to do that.” On the other hand, there are countries in the world where it is very easy to do business, but the return is, in many

ways, a thing of the past. Sometimes a company like ours will say, “Yes, we need to be present there”, but the amount of investment you want to put in is quite different.”

M. Shmulevich:

Thank you, Mohammad.

We have heard words that will probably be spoken more than once during our session: “the IT industry is highly globalized”. So to ask which country's business climate is best makes no sense. We need to start from a different framework, such as return on investment.

I have a question for Serguei Beloussov. Your company develops software products. In order to build a large company – say with a billion in market capitalization – which will create and sell software products, a lot of different factors need to be in place when it is founded. The mere existence of qualified programmers is not enough. Is it possible to start a company like that anywhere? What do you think? Can you even start that kind of company? If you can, then in which countries and why?

S. Beloussov:

Billions in market capitalization is not that much. It would be more logical to talk about tens of billions or hundreds of billions in market capitalization. In my opinion, the number of countries where such companies can emerge is limited. I am glad that Russia is one of those countries. In the next five, ten, or twenty years, companies may emerge with 10 billion or 100 billion in market capitalization. Yandex was such a company, although its market capitalization has decreased somewhat since its initial public offering.

If we are talking about long-term prospects, then first of all, it is important to remember that it is very difficult to predict the state of affairs in the high-tech market. There are constant revolutions in that market, which are unpredictable. Completely new technology can emerge, changing everything entirely. Ten years ago, no one would have thought that Microsoft would be in such a difficult position as it is today.

In ten years, God forbid, Google or someone else may be in such a difficult position. In twenty years, the primary source of innovation might come from a completely different industry, such as materials science. Not long ago, a scientist from Queen's University was telling me about micromachinery. Richard Feynman predicted several revolutions that would change the world. He said that data carriers and computing devices would become extremely small, and machines too would become very small. There would be micromachines that would crawl and squeeze your toothpaste for you, little robots that would shave your beard, and so on.

The IT industry might not be the most innovative in the future, and it is difficult to predict where the best business climate is to start such companies. There are two regions where a lot of attention is being paid to the development of technology: Southeast Asia and Latin America, primarily Brazil. Although there are no such companies there now, I think that it is likely that they may appear.

M. Shmulevich:

Thank you. That was interesting. We will wait and watch those countries.

The next question is for Marthin De Beer. Let us take a look at companies that are involved in hardware as well as software. They also create certain products, and the success of such companies depends on factors in the hardware market as well as the level of intellectual property protection and patent protection for hardware. In your opinion, is there intellectual property protection for software and hardware products? Is there enough protection in order to feel secure? In which countries do you feel the most secure, and in which ones do you not?

M. De Beer:

First of all, the creation of intellectual property is done by great people. It starts with a great educational system and, if I look at the Russian Federation, obviously, many graduates here have tremendous skills in applied sciences, maths, and so on. That is really a great source for innovation and the creation of intellectual property. At the same time, once intellectual property (IP) is created, you need modern legislation in

place, and you need enforcement of those laws when intellectual property rights are breached. Usually, it is in that environment that innovation can thrive. When you look at the United States of America, or when you look at the European Union, I think they have great systems that have both modernized laws and enforced those laws. Therefore, companies are comfortable with investing and are ensured that their IP will be protected. This is where government will play a very important role both in enacting the right laws as well as enforcing those laws. I think here in the Russian Federation that is particularly important. I also think that the Russian Federation's recent accession to the World Trade Organization (WTO) will help us normalize laws and the ways in which those laws are enforced, both in the Russian Federation and around the world. Increasingly, companies do business globally, and innovation happens at the global level. In my engineering organization, for example, I have engineers in the Russian Federation, in France, and all over the place. As those engineers work together, how intellectual property gets protected and how laws get enforced becomes an international issue. Therefore, I think it would be great to leverage the Russian Federation's accession to the WTO to also harmonize what happens on the legal side. I am quite confident; I am a member of the U.S.–Russia Business Council, and the progress I have seen just in the last two years has been very encouraging. I think that, increasingly, we will see normalization and the ball will start moving forward.

M. Shmulevich:

We hope that that will happen.

It is worth drawing on the experience of Robert Farish, who has carefully studied the Russian IT market for many years. Robert, in your opinion, how competitive is Russia today, if we are talking about creating a climate for the IT industry? What are the main weaknesses? And more interestingly, what has changed in the past ten years?

R. Farish:

If you do not mind, I will use the trade-off that Mohammad has already mentioned, which I think is a very useful one, where he talks about a balance between opportunities and challenges. As far as opportunities are concerned, the Russian Federation is an enormous market and, as a result, most of the big information technology (IT) players have invested here because they need to be close to that big market. The Russian Federation is the tenth-largest IT hardware market in the world, according to the International Data Corporation (IDC), valued at USD 23 billion last year. It is also the thirteenth-largest software market in the world, valued at USD 4.6 billion last year. The real issue, from my point of view, is that we have a significant number of IT human resources in the Russian Federation that could perhaps be used somewhat more effectively. According to Appkit, an industry association with numbers validated by the IDC, around a million people are employed in IT in the Russian Federation. However, of those, around 70% are working in or are somehow connected to user organizations. In our view, that is an incredibly inefficient way to make use of resources in an economy. If you have skilled people with skills that are very much in demand in the market, but who are not influencing the development of IT throughout an industry and are not influencing the market as a whole, then they are only supporting one user. It is a bit like having beds of frozen methane beneath the ocean that do not do anything; you cannot use them until there is some climate change, and then you can get these people active and helping the industry.

The other thing I would mention is the fact that when you are talking about certain software development and businesses, what you are doing is building software factories. You need to bring together, usually in one building, a collection of skilled people, and you need to be able to have a reliable supply of those skilled people and to be able to pay them a sufficient amount of money for you to make a profit. A challenge quite often in the Russian Federation is the fact that it is difficult to attract people from around the country, given the fact that quite often it is difficult for people to move to other cities to work and to live. I would add that there is a broader Russian-speaking labour universe out there that could also be leveraged by

companies based here. This is even more difficult, if you, as an IT company, want to employ, for example, a Ukrainian or an Uzbekistani.

In terms of the second part of the question – how far have we come – I think there is a habit in this country to rather underplay the amount of progress that the Russian Federation has made as a market in the last 10 or 20 years. I remember when I first came out to the Russian Federation, the situation with respect to intellectual property was a complete fog; no one really understood it. I think that back in 2003, the rate of software piracy, according to the Business Software Alliance, was somewhere around 89%. Since 2011, that has fallen to under 60%, I believe. The situation in terms of enforcement and the legal environment has changed completely. In terms of broadband penetration, if we are looking at infrastructure, we are now up to something like 30% of all Russian households having a connection to broadband Internet. This is, I think, more than double the percentage of about six or seven years ago.

M. Shmulevich:

My next question is for Dmitry Grishin. In addition to the right business climate, IT companies are interested in other things, market size being the first on the list. The Russian Internet market, which Mail.ru operates in, is perhaps one of the advantages Russia has. It is the biggest in Europe and has the potential to grow further. But today, in the context of globalization, working only in the domestic market is difficult. It is, after all, the Russian market – a small part of the global market. Do you think that working in Russia today has potential, or do you think that the potential has all but vanished?

D. Grishin:

Indeed, the Russian Internet market is sufficiently big. According to the Ministry of Communications and Mass Media, it makes up about 4% of the country's GDP: a fairly substantial percentage. It is unlikely that anyone will deny that it is one of the most promising markets both in Russia and internationally, in terms of potential for

growth. Let me name just a few key trends. The number of Internet users is increasing, as well as the number of smartphone users. It is expected that in five to ten years, five or six billion people globally will use smartphones and have access to the Internet. That means there will be ten times the number of consumers of these services that there are now, and there are a lot already. So, I think that the Russian Internet market has some serious potential for growth.

Should we focus on Russia or dive into foreign markets? That is a good question. Before 2012, the attention of the majority of Russian Internet companies was completely focused on the domestic market. It was necessary to understand how to work in this market, how to build a business, and there was simply no time to think about global expansion. But after buffing up, so to speak, in the Russian market, we want to go into foreign markets.

A good example is our gaming division. Our games are available in fourteen countries. We understand that there is market potential associated with exporting Russian products abroad. Of course, there are difficulties, and one of the major ones is psychology, mentality. While working in the Russian market, you develop a subconscious superhero mindset, where you need to keep domestic market enemies out while supporting rapid growth in this market. When you do expand into other markets, your psychology changes a bit. You must build everything from scratch and find unique outlets in those markets. It is a very attractive direction to move in, but it is not simple. I periodically talk to company representatives who try to sell their products abroad, and they all say that it is very difficult to do.

But at the same time, a few panellists have noted that the Internet and IT markets are becoming global markets. So, access to foreign markets is a natural step, and we are looking into it.

M. Shmulevich:

Great, we will be waiting.

We have talked about the market. However, products need to be developed in specific countries. Taso, I want to ask you a question. It is no secret that some of

your colleagues from Silicon Valley are surprised when they find out that your company started developing its products in Eastern Europe. As I understand it, you work in several countries at once. For an entrepreneur in Silicon Valley, that is atypical. Why did you do what you did, which countries do you carry out development in, and what does this approach offer you?

T. Du Val:

I would like to start off by saying that companies that do outsource in Silicon Valley are often thinking of going to India, or going to places where labour costs are even less expensive. The problem, however, with doing such things is that you have companies like Infosys, Google, Facebook and others that have really saturated the market for the top talent percentiles. You do not have that saturation in the Russian Federation and in Eastern Europe like you do in India, for example. The same holds true for Pakistan. If you look at a lot of the freelance platforms, you have a very difficult time finding good talent on these platforms. But in Pakistan, you will notice that, even though there are cultural similarities – the market and education systems are rather similar – you still can find people significantly easier, specifically because you do not have an Infosys in Pakistan; you do not have a Google in Pakistan. You may, but you do not have that many. I think people are wondering why we went to the Russian Federation, why we went to these places. I hope my answer now clarifies why we did so.

To talk a little more about the calibre of talent, in my opinion Russian, Ukrainian engineers, and engineers from other members of the Commonwealth of Independent States (CIS), are in general of especially high quality, in the top one percentile. Many of them are going to Google in San Francisco and are going to the United States of America to work at the ‘best companies’. Talking to Russian engineers, becoming a part of a Silicon Valley company is a really strong selling point for them. We are doing it remotely; we are doing it with completely virtual teams. We do have an office in Moscow, but for the most part it is through our virtual team. The Russian Federation really has that top 1–2% of talent. I think

people are more inclined to question the choice of the Russian Federation rather than the choice to outsource in general. If it was my choice – which it has been – we would indeed choose the Russian Federation, and we will continue to do so. The market in India for smaller companies like ours is just too difficult to penetrate. Unless you have built that recruiting infrastructure to go into universities and find top talent, it is very difficult. You have regions in Siberia, as well as regions elsewhere in the Russian Federation and across the CIS, that still have top talent that is not placed in some of the better companies.

M. Shmulevich:

Thank you, Taso, for that clear answer. It is great to hear such positive feedback about the opportunities for IT development in Russia. Of course, we hope that you continue to be satisfied with your choice and that there are more companies like yours. We, in turn, are going to do everything we can to make it easier for companies to take such decisions.

Arkady, if it is possible, I would like to be direct and ask you to compare business climates in the countries you work in. Imagine that you just received a new order and you need to bring in 5,000 new developers. Where would you hire them? Which country or countries would you choose today? And why? If Russia is not one of the countries, can we do something so that in ten years it will be?

A. Dobkin:

If I was to receive an order tomorrow that would require us to bring in 5,000 people, then I would refuse. I do not want to ruin my company's reputation.

I would like to talk about another topic. We are discussing different types of outsourcing. One can argue at length about what outsourcing is and whether it is a good thing or a bad thing. You have to put the question this way: who is it good for or bad for? It is most likely good for a specific country; because in our business, all companies are international. If you have a market like Mail.ru has, then that is great. If we are looking at software solutions for businesses, then demand in Russia's

domestic market is less than in the West. Accordingly, difficulties await a company that produces such a product, because the market is not there.

Another interesting question is where to find the developers. Any country benefits from job creation. Why is there such a phenomenon in India? Because for twenty-plus years, India has been creating a climate conducive to IT development. America has lost an enormous amount of money and a whole generation of specialists because it stopped engaging in development. It is practically impossible to offset the damage done.

At a certain point, there were a lot of unemployed engineers and programmers in Eastern Europe. Finding talented people 15–20 years ago was very easy. But it turned out that in order to build a serious business capable of competing with Infosys or IBM Global Services, you needed to ensure a certain level of quality for every dollar. There are huge incentives in India. If you want there to be development in any other country, then you need to offer the same benefits. Perhaps, in ten years, India will lose its appeal. But there will still be an engineering culture there, which is very important.

There are 9,500 people working at EPAM today. There are a little over 1,000 in Russia, almost 3,000 in Ukraine, more than 3,000 in Belarus, about 1,000 in Hungary, and a few in Kazakhstan and Poland. If we are talking about former Soviet republics, then Belarus, a country without substantial means, created the climate necessary to develop the IT industry faster than the rest: this happened five to six years ago. It did practically the same thing India did. Now Ukraine has taken the same path. Russia lags behind somewhat. The incentives are not as great here. There is a belief that you do not have to give incentives here because there is already demand for programmers in Russia. If Russia really wants a piece of the pie and to create new jobs, then it needs to introduce tax incentives (which have been talked about for years) that take into account the global structure of the IT industry. That would be beneficial no matter what.

M. Shmulevich:

Thank you. That was interesting.

Recently, we realized that it is not easy to get a general overview of the business climate in Russia. There are many local peculiarities. So, we put together a book; there is a copy next to each of you. It is a sort of guide to the climate for IT business in Russia, with a description of the situation in each segment. We have incentives; we are working hard in order to keep them and make them available to an increasing number of IT companies. If you take a look at what is written in that book and compare the climate for IT business in Russia with that in other countries, taking into account important indicators such as the tax system and labour costs, you will see that our climate is not all that bad. Russia is comparable to other CIS and European countries. Each country has its own peculiarities, but Russia is quite competitive in this respect.

Let us talk about something else. The appeal of running an IT business in a particular country is not just defined by institutional conditions. Many people think that Russia's strength lies in the fact that the Soviet Union had a lot of high-tech projects and trained many engineers. We still see the positive effect of this today. There is an opportunity now to use that potential and carry out some fairly high-tech projects. Let us talk about science.

Serguei, I know your opinion: investment in science influences the development of business far more in the long-term than the short-term. Perhaps Russia not only needs to improve its institutional environment, but also to seriously think about its basic and applied research, the effects of which will only be felt by the IT market in ten years or more?

S. Beloussov:

That is a good question. I already have a conditioned response for it. I feel like a toy parrot: you press a button, and I start to talk about why we should invest in science. This has been going on for years but has not led to anything.

First of all, let me note that at all the Forum sessions, there has been constant discussion about personal freedoms, democracy, lack of piracy, the ease of doing

business, and lack of corruption. And Arkady thinks that the best climate was created by Belarus, which is often described as being an evil empire. Actually, there is a well-developed IT industry in that small country with a population of 8 million, and at least two large companies with billions in market capitalization. One of them is Arkady's company, and the other is the one that produces *World of Tanks*. Many countries outsource, the IT industry is growing beautifully.

Secondly, companies like Parallels, Mail.ru, or Google, on the one hand, and those like EPAM on the other, have very different views of the IT industry. How can you even ask someone from a company like Parallels, "Can you think about a project for which you would need to hire 5,000 people tomorrow?" His hair would stand on end. One to two percent of workers in those types of companies have the primary role of developing complex technology.

So, NGINX is included in Runa's portfolio: the web server it created is becoming the most popular web server for large sites. Facebook, Yandex, and other similar companies use it. Google does not use that web server because it has its own. But they use it for a good reason. The current software was written by one person. Of course, now there are more of them and they are making a commercial product.

Where can you find a person like that? In Ukraine? In other countries? I think that an interesting correlation can be drawn (the Ministry of Communications could work on it) between the number of large IT companies like Yandex and the number of Nobel Prizes for science. Not Nobel Peace Prizes, which are not given to Belarusians, but Nobel Prizes for science. Alferov comes to mind. He was born in Belarus, but now lives in Russia. It turns out that there is a direct correlation. Powerful companies are created where there is heavy investment in science. Russia is investing less in science now. Thank goodness that the most important science in the IT sphere is mathematics, which does not require a lot of investment. Mathematics in Russia is still strong. One can look at the top ten or top five countries that have won Fields Medals and so forth. Investing in science is the main prerequisite for starting such companies.

Currently I am starting work on my second fund, Runa Capital. I recently spoke with a representative from Horsley Bridge, which created a fund of funds, and he showed me some statistics on investment in high-tech. This fund of funds (one of the best known globally) is included in the top 30 venture capital funds. They collected the statistics over the last 20 or 30 years. The conclusion from these statistics was as follows: large technology systems are not developed by companies with USD 1 billion in market capitalization, but those with 10 or 100 billion. Almost all the money in the high-tech sector is earned not by companies that achieve 300–500% interest on invested capital, but those that make 3,000% interest and above. I think that the people who invested in Facebook with a market capitalization of USD 10 billion got a lot more than 1,000%.

We see two successful economic models. One is in India, where even manufacturing companies probably do not reach USD 10 billion of market capitalization. The other model is represented by Israel and America where there are dozens of companies with several hundred billion dollars of market capitalization. Perhaps there are three other countries: Korea, Japan, and Germany. Perhaps Russia will become one of those countries, but for large companies to emerge, there needs to be investment in science.

M. Shmulevich:

Thank you very much.

Mohammad, my question for you concerns applied research (not basic research) which is carried out by research and development centres. There is a lively debate in Russia about whether there needs to be an increase in the number of research and development centres belonging to international companies. In some parts of Russia, for example the Kaluga Region, a lot of factories have been opened by foreign companies. People say that this means companies are comfortable in that region, and that the region will win the competitive struggle. The same can be said about research and development centres throughout the country. Centres opened by large international companies allow our developers to gain international

experience and learn about the development culture, marketing, and product sales. However, many fear that opening such centres will adversely affect the Russian economy: the best Russian programmers will get offers from these companies, and the Russian labour market will lose specialists rather than gaining them. What do you think about that?

M. Gawdat:

I think you answered the question with the last phrase, ‘brain drain’. The challenge is: what are you trying to create? Are you trying to create jobs? Or are you trying to create an economy that creates jobs? These are two drastically different things. I think Sergey’s point is fantastic. Some of the best innovations in the world were built by two people, sometimes even by just one person, who were exceedingly talented. That one person creates something that creates a company that creates 50,000 jobs. If you take today’s innovative environment, in many ways the Internet is democratizing knowledge to the point where it is talent that matters, not studies and knowledge. If you think of the strength of a place such as the Russian Federation, its mathematics talent outshines many places around the world. You need to focus on your strength. What you have is mathematic, algorithmic, and computer science talents, not skills – talents that cannot be replaceable by people from other places around the world. There are countries in the world where you can teach somebody to code, but to get someone who is naturally talented in algorithmic and mathematical computer science problem-solving, that does not happen unless they are brought up in a certain way, which the Russian Federation seems to have cracked. Now if you think about this, I am actually almost against increasing the number of opportunities for people to escape. What do I mean by that? By creating more opportunities for talented people to do mediocre jobs, you are removing them from the corner where they are forced to create that one thing that is going to create 50,000 jobs. By way of example, in my home country, Egypt, we tend to have reasonable programmers. What happens with them is that they graduate and end up becoming web developers because that is where the market is; that is where the

technology is. They do not end up being forced into a corner where they cannot make enough money so they have to become entrepreneurs. I sit on many boards of innovation around the world, and I really think that one of the main challenges is that government focuses on the short-term issue of creating jobs by offering opportunities for 10,000 people to be at an research and development centre or at an entrepreneurship incubation centre of some sort, when in reality what you really need to do is to find those 20 highly talented people – and it takes a lot of effort to find them – and then corner them into that area where they are going to have to create that one thing that is going to become as big as mail.ru, Yandex, or Google. It is not a matter of quantity at all. It is a matter of the depth of talent of the people you need to find. If you ask me about Google, I would say, stay away from it. It is creating those mediocre opportunities that prevent people from becoming the stars they deserve to be.

M. Shmulevich:

Thank you very much. That was an interesting answer.

Let us try to fantasize a bit and not talk about today's business climate, but about the climate that may emerge in the future, taking into account the trends that have been observed. Marthin, this question is for you. If you take into account the rapid development of cloud technologies, which is certainly affecting Cisco's strategy, what will change in the coming years? What business conditions will become the most important, or conversely least important, as we transition to the cloud, in terms of both software and hardware? What will stick out? Or will everything remain the same as it is now?

M. De Beer:

At Cisco, going back 25 years, we were instrumental in helping create the Internet. Today, the Internet reaches into the farthest corners of the Earth. Then the Googles and the Facebooks of the world came along, and they created a lot of value on top of the Internet, and the World Wide Web came about. However, if you look at what

is going on in the information technology (IT) market today, there are tectonic shifts happening. The basic models are changing. Cloud, mobility, video, and other technologies are fundamentally changing what gets done on the Internet. You will see that, increasingly, the Internet will not just connect people with information, like in the days of the World Wide Web, but also people with people, and also people with things, and machines to machines. You will hear Cisco talk a lot these days about the Internet of Everything. What that means is that only about 1% of everything that can be connected is, in fact, connected today. There is a lot of opportunity left to innovate and automate and make the environment around us much smarter. That is the Internet of Everything.

The cloud will play a very important part in that journey. The network and the Internet with the cloud will increasingly become a platform that software and applications can program so that you can deliver a wide range of experiences, applications, and solutions. It will make cities safer. It will reduce traffic congestion. It will help us reduce pollution. It will solve many of the big problems in the world. The Internet has been revolutionary in terms of how education is being done, how health care gets delivered, and I truly believe that this is only the beginning.

The cloud, on the other hand, also provides an opportunity for talented people to innovate and create value in new ways. Unlike in the past, when hardware and software were very tightly coupled, now with cloud, software can run on a variety of hardware that is virtualized and accessible by means of that software. When you think of Google, which runs Google apps in the cloud, or when you think of Facebook’s application, that application is not tied to an individual server or to a set of servers, but it is virtualized across a set of data centres, leveraging cloud technologies. Where the talent that creates that value and those innovations resides becomes less important. It is more about what Mohammad was talking about: the capability of that talent. The opportunities become endless in terms of what innovation could look like. I think that should give us optimism here in this country, because the Russian Federation has great talent and greatly talented engineers. I have done quite a bit of work in the Russian Federation in the last few years, and

one of the things that has been surprising to me is how pessimistic sometimes Russians are about their own country. I think you should be a lot more optimistic about your country. You have many talented people and, I think, increasingly, a government that is trying to give people opportunities. You are moving in the right direction. Cloud, in itself, should create many opportunities for you, not just to innovate but to have an impact locally in the Russian Federation. Of course, whatever gets created here can also be used as models into other countries in delivering value into those countries, which, again, means revenue back into the Russian Federation.

M. Shmulevich:

Thank you very much, Marthin. Indeed, we not only need to work on improving how people evaluate Russia, but also on being optimistic. Then results will drastically improve.

Dmitry, what has been the impact on your company of the transition to the cloud, which most likely entails further globalization and makes it easier to select a solution regardless of where a company is located. What may fundamentally change in your business in the coming years? And is the transition to the cloud really the major trend?

D. Grishin:

Mail.ru has always been a cloud-based service, but for a limited number of users. So for us, the transition to the cloud was a natural process.

If we are talking about the trends that we are observing in Russia and the rest of the world, then the main trend is the widespread use of mobile phones and smartphones. I think that will greatly change the Internet market. A lot of people cannot even imagine how great the change will be. Every person will have a device that is connected to a credit card and to the Internet, which knows where its user is located. Many services will be created that will change many offline markets. All of this is greatly undervalued, and I think that this is the major trend for the coming

years. It is already clear that the Internet goes beyond the so-called classical Internet: search, email, social networks optimized for smartphones; interesting services are emerging that are changing the business environment all around us. I think that this trend will keep getting stronger.

Much has been said about Russia. We need to create more jobs or introduce qualitative changes. In my view, Russia has no chance of competing quantitatively with countries like India, China, and Pakistan. Even if we try hard, a billion people will not suddenly appear in the near future. Therefore, there is only one option. We must improve the quality of developers and attract and retain the best specialists. Take the United States. It is a country of immigrants where the best people from all over the world strive to go. Every year, about 3 million people move there. Think about it: the best of the best want to relocate! Inside Russia, there is such a place as well: the best specialists from every region flock to Moscow. Probably more than half of the international companies in Moscow were founded by people who moved to the capital from other locations. I think that we have to make Russia a hub like America is; even if it is not a global hub, but a regional hub for CIS countries. I think that is the most essential step we can take.

It is well known that many people come to study in our universities, but they do not stay here. Either they cannot obtain permanent residency or something else stops them. We need to try to retain them and focus on this task. That is the primary thing we must think about. You can create a company that will issue everyone a programming certificate, but that will not change things much.

M. Shmulevich:

Great.

I would like to ask two more questions. Anyone may answer the first one. Perhaps I will ask someone to answer, and then the rest may jump in. The words ‘Climate for IT Business’ are part of this session's title. I represent a government agency that can and should improve the climate in Russia. We desperately need an answer to this question: what is the main thing which prevents your company from developing

its business in Russia? What do you most deplore? What would you want to change? What can be changed in the next ten years?
Please be very brief. Perhaps we will start with Serguei, as a person who is actively involved in business.

S. Beloussov:
Is that the two questions or just one?

M. Shmulevich:
Just one for now. The worst part is you only have one minute.

S. Beloussov:
I will make two suggestions, one of which is quite obvious. In America, computer science, software engineering, and associated fields of mathematics are all prestigious branches of science. There are many universities, institutes, research groups, and professors who work on these problems. To real scientists, this may not seem like true science, since engineering is an applied subject. It is not bad to work on these things in Russia. But computer science and software engineering do not interest the Ministry of Education and Science and the Ministry of Information Technology much for some reason.

M. Shmulevich:
On the contrary, they are very interested.

S. Beloussov:
It would be nice if some sort of host were to emerge in this area. If 500 world-class professors emerged in the field, then that would help the IT industry a great deal. These professors could train knowledgeable postdoctoral students and many of them could do research while some would work at Mail.ru, Yandex, or Parallels. The

state should create positions for these professors and create institutes: five, 10, or 50 of them. You would have to figure out how many.

Also, you need to improve infrastructure. We were just speaking of Moscow. There is one problem associated with business in Moscow that is much more serious than the issue of piracy: Moscow has very large traffic jams. Can the state do something to eliminate traffic jams? There are a lot of talented people in Moscow, but they cannot work effectively. It takes my staff two hours and twenty minutes to travel to work. That means they spend twenty percent less time at work than residents of Seattle, who spend twenty minutes on the road there and back.

M. Shmulevich:

Thank you, Serguei. You have expressed what has been bothering you.

Robert, can you, in the language of impartial numbers, tell us what prevents foreign companies from working in Russia. What do they complain about?

R. Farish:

I will give my answer more from the point of view of the companies we work with. A lot of them are internally facing, so they are selling their products and services into the Russian Federation. Maybe this is also tangentially connected with questions about entrepreneurs and innovation and the emergence of new companies in the Russian Federation. I would say a big issue is that there are not enough industries and not enough large companies in the Russian Federation where IT investment can really make a difference in terms of a company's competitive advantage. You can spend a lot of money, but does it really make any difference? And that is down to the rational choices that chief executive officers make when they decide they are going to spend money or not spend money on IT. Typically, if you have a monopoly in an industry, or if you have a cartel operating in your industry, then it does not really matter really what your level of IT spending is once you have a certain level of functionality. I would say the issue here is the connection between politics and business and the structure of industries and their influence on IT.

M. Shmulevich:

Thank you. That was clear.

Taso, in answering your last question, you talked about well-trained engineers in Russia where you currently work. What can you say about other business conditions? I am particularly interested in what is wrong. Maybe we have too much bureaucracy, or there is something about taxes, or maybe you need to pay engineers too much?

T. Du Val:

The talent is certainly there, and it seems that everyone in the panel can recognize this. What Mohammad said about putting people into a corner and having them create revolutionary technologies that are going to employ 50,000 people – that is great if you have that corner. However, the stock option infrastructure and the legal infrastructure to be able to do that in the Russian Federation and in the CIS generally are really inadequate, not only in terms of the actual legal infrastructure, but also in terms of the public relations around it. I spoke at another forum about this specifically, but I think it is important to reiterate this point. We offered our engineers stock options, and they refused them because they thought it was a scam. That is unbelievable. That is something that is completely unheard of. It was not one or two incidences; it was almost a dozen incidences. I got to the bottom of it by talking with a lot of engineers and saying, “I cannot understand this; maybe it is just my Silicon Valley way of thinking. Can you explain this to me?” It goes back to the branding issue of how options are handed out and what sort of connotations there are to that. In the United States of America, they are associated with success; in the Russian Federation, it is not associated with good things.

There are branding issues around it, and there are also real legal issues around it. I would say that the sea change that can be most impactful would be to change many of the things existing in the legal infrastructure. I do not think that the creators of Google, Facebook, and many of those other companies would have been

incentivized to create those companies here. Maybe they would have been acquired; maybe they would have chosen another route in life or gone with another company. Those strong incentives do not exist legally and do not exist in the public. Just look at the most recent example of what happened with vk.com. The scandal surrounding it was akin to the government taking over something like Facebook. That would be the worst thing that could happen in terms of the public eye. And that would affect the way people do business and the way entrepreneurs think about starting companies and big ideas, because if you are thinking about a big idea and there is not a legal infrastructure to support it, I think most people are not going to pursue it further. I think only a very small minority might. It has to with the legal infrastructure, the branding around that legal infrastructure and then making all of that a reality.

M. Shmulevich:

Thank you very much, Taso.

Indeed, legislative changes are needed, especially those that you talked about. We know this, and plan to introduce changes to the law over the coming year which will make it easier to use stock options as a means of motivating employees.

Arkady, you have 9,500 employees. How many of them work in Russia?

A. Dobkin:

About 1,500.

M. Shmulevich:

Above all, you compare different countries according to criteria such as the tax code and labour costs. How does Russia compare with other countries?

A. Dobkin:

I think that this approach simplifies the situation too much. The major problem is that there are too many criteria. We recall the blind men describing the big elephant: one

is touching the tail, another touches the trunk, while a third has the ear. Everyone is focused on completely different criteria. The main thing for a company is intelligent, capable people. It does not matter whether a company sells products or services, or hardware or software. In each company, 1–2% are stars. But you still have to create jobs. It just so happens that we employ fewer people from Russia. The incentives that you talk about were introduced recently and will soon be comparable to those that are available in Ukraine and Belarus. But it has more to do with the fact that we launched our business in Belarus ten years earlier than in Russia.

I agree with what Serguei said about universities. That is a key factor. But if we talk about America, there is one problem. How many Americans, who were born in America, are in universities? I think there are very few.

There is another problem. Dmitry said that we should become a hub and bring talented people here. America has done it because engineering and computer science has stopped being a prestigious occupation. Then the brain drain began because everyone became financial analysts, supervisors, or brokers. A lot of talented people left the field. I agree with Serguei that we need to make this a prestigious profession in Russia.

I am not against bringing talented people into Russia. It would be great if they did come, but you have to create universities and infrastructure. America will still have to pay heavily for its decision to develop India.

M. Shmulevich:

Thank you.

We have talked a lot about what needs to and can be done. Each one of you probably has your own opinion about how the global IT industry should change over the next ten years.

Mohammad, the next question is for you with your great experience. Today, practically everyone, even those without a deep knowledge of the IT industry, knows that India is identified with custom software development, while the USA is associated with start-ups and large IT companies. In some countries, including

Russia, there are great engineers. All of that is trivial. Mohammad, what do you think? Will the nature of the global distribution of employment in the IT sector change in, say, the next ten years? Can other countries become leaders in segments where no one expects them to do so? Or are there going to be no significant changes?

M. Gawdat:

The most important trend, in my view, is the idea of the ‘hits’ as we used to call them. I do not think the world will be made up of many companies like Microsoft in the future. I think there is a very strong trend for the way innovation is becoming distributed. If you look at the device revolution, for example, and how much of all of what we do on a daily basis is not on one application, but rather 1,000 applications, I think there is an enormous advantage in that, especially for the Russian Federation and CIS countries such as the Ukraine. There is a disproportionate amount of applications being developed here as compared to the old times of general mainframe applications and so on. This is a very interesting trend.

In the light of what we call the ‘democracy of information’ or the ‘democracy of knowledge’ and how things like video and online education are changing how people can acquire knowledge today, it seems to me that it becomes really hard to identify the top talent. The top talent could be anywhere in the world. There are many case studies of seriously innovative people in the most unlikely places in the middle of Africa. There are Olympic champions who learn online. When it comes to the explosions of talent, I do not know; nobody knows. When it comes to numbers, though, it is almost undeniable that India and China are going to lead just because they have more people. It is as simple as that. In many ways, this is almost predictable. It is not an area you can compete in, but it is also not an area of high-quality talent breakthroughs.

I will close quickly with what I would like the Russian Federation to change: can you ask Yandex to take it easy a little bit?

M. Shmulevich:

Thank you, Mohammad.

Dmitry, you probably think a lot about the future. Grishin Robotics, being largely focused on emerging technologies, is proof of that. In your opinion, is it likely that there will be any fundamental change in the distribution of employment in the IT industry over the next 10 years?

D. Grishin:

I agree that online education is greatly changing what we view as normal in the world. It used to be that it was only possible to get a good education in a large university, but that has since changed. Even though direct communication with a professor greatly influences the learning process, there are still a lot of courses from Harvard, Stanford, and other universities on the Internet. I hope that Russian universities will soon start doing this. The number of people who have access to knowledge will increase, and that will seriously change the state of affairs in the IT industry. There will be many more developers than there are now, and new leaders as well. The role of African and Latin American nations will increase. I think that the majority of countries will somehow start getting their piece of the pie we call the IT market. There will be more diversity and more players.

M. Shmulevich:

Thank you very much.

We have talked today about the climate for IT business, about taxes, and even about education and science, which for many of us was unexpected. I am in total agreement with what was said about education and science being extremely important, and that the status of both will influence, in the long-run, the IT industry in each country, just as much as the business climate will. So, we need to work in both areas.

Thank you to our panellists. I think we have had a very interesting discussion.