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Russia's New Horizons
BUILDING THE NEW RUSSIAN SMART ECONOMY
Panel

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Moderators:

Anatoly Chubais, Chairman of the Executive Board, RUSNANO

Sergei Naryshkin, Chairman of the State Duma of the Russian Federation

Panellists:

Denis Butsaev, General Director, PET-Technology LLC

John Chambers, Chairman and Chief Executive Officer, Cisco

Bruno Di Leo, Senior Vice-President, IBM

Valery Fadeev, Editor-in-Chief, Expert Magazine; General Director, Mediaholding Expert

Rob van Gijzel, Mayor of Eindhoven

Hubertus von Grunberg, Chairman of the Board, ABB

Nikolai Nikiforov, Minister of Telecom and Mass Communications of the Russian Federation

Stanislav Voskresensky, Deputy Presidential Plenipotentiary Envoy to the Northwestern Federal District; Russian G20 Sherpa (2012)

Front row participants:

Anatoly Artamonov, Governor of the Kaluga Region

Andrei Dubovskov, President, MTS

Vladimir Mau, Rector, Russian Presidential Academy of National Economy and Public Administration

Nikolay Merkushkin, Governor of the Samara Region

Rustam Minnikhanov, President of the Republic of Tatarstan

Sergey Morozov, Governor of the Ulyanovsk Region

Vladimir Volkov, Head of the Republic of Mordovia

Vasily Yurchenko, Governor of the Novosibirsk Region

S. Naryshkin:

Good afternoon, colleagues, friends, and guests. It is my pleasure to welcome you to St. Petersburg. The Forum programme, as always, is full of very interesting sessions. The range of authoritative participants promotes deep discussion at a professional level of the most pressing issues relating to Russia's socio-economic development, as well as the challenges facing the global economy. As Speaker of the State Duma, I would like to say that such discussions are an integral part of the work of members of parliament, because in lawmaking, regardless of the branch of law, it is necessary to take into account the full range of opinions and, of course, to know the experience of our neighbours. Our session today is dedicated to innovative approaches to regional development, and it will focus on Russian regions which represent a wide variety of geographical, resource, and demographic conditions. The competitiveness of the regions and the country as a whole is largely determined by the economy's ability to adopt new things, to develop and implement new industrial and management technologies. Refocusing our economy towards innovative development is the general strategic line which the Russian Government is pursuing.

I am pleased to introduce our session participants. Anatoly Chubais and I will act as moderators. Our discussion participants are: Rob van Gijzel, Mayor of Eindhoven; Nikolai Nikiforov, Minister of Telecom and Mass Communications of the Russian Federation; Bruno Di Leo, Senior Vice-President, IBM; Stanislav Voskresensky, Deputy Presidential Plenipotentiary Envoy to the Northwestern Federal District and Russian G20 Sherpa (2012); John Chambers, Chairman and Chief Executive Officer, Cisco; Denis Butsaev, General Director, PET-Technology; Hubertus von Grunberg, Chairman of the Board, ABB; and Valery Fadeev, Editor-in-Chief, Expert Magazine and General Director, Mediaholding Expert. A host of experts will also participate in the discussion, and I will ask Mr. Chubais to introduce them.

A. Chubais:

Thank you, Mr. Naryshkin; good morning, everyone. In addition to the panellists that you see seated in front of you, we have assembled quite an elite group of managers, who have achieved great success in the innovative sector.

Anatoly Artamonov is the Governor of the Kaluga Region. Those who have followed the region's development over the last 15 years will agree that the situation has changed dramatically during that time. Mr. Artamonov's region is completely devoid of any hydrocarbon or rich mineral resources, yet it has managed to attract a huge amount of investment and it is industrially developed. Today, both Russian and international companies consider the Kaluga Region to be one of the most attractive regions for investment in all of Russia.

Vladimir Kononov represents the State Duma, where he focuses on innovation policy. For him, this is not just abstract legislation, since he is one of the leading innovators in the country. He founded a unique medical technology business before being elected to the State Duma, and this experience, of course, helps him with his legislative work.

Rustam Minnikhanov is the President of the Republic of Tatarstan. I do not think any of the governors will be offended if I say that the Republic of Tatarstan is today one of the fastest developing regions in the country. It is making progress in all areas, from university sports to innovation. We always recommend that colleagues learn from the experience of Tatarstan, which in recent years has built one of the most interesting and innovative regional systems.

Vladimir Mau is the Rector of the Russian Presidential Academy of National Economy and Public Administration, which is currently the Russian Government's leading think tank.

Andrei Dubovskov is the President of MTS, which is one of the leading companies in the Russian telecommunications industry – the sector of the economy which is responsible for many Russian high-tech innovations, and has, quite literally, grown from nothing over the last 10–15 years.

It is my pleasure to present Vasily Yurchenko, Governor of the Novosibirsk Region. Since Soviet times, the Novosibirsk Region has been considered a scientific leader,

and today its fundamental scientific capacity is being transformed into real, innovative businesses. They are literally appearing before our very eyes. The region is host to the innovative cluster that has sprung up from the scientific base in Akademgorodok. This, and other achievements in the region, can be attributed to the personal merits of the Governor, without whom such development would have been impossible.

Vladimir Volkov is the Head of the Republic of Mordovia. As an independent observer, I can tell you that over the last few years the innovation sector in Mordovia has grown much faster than in many other regions. The development of its industrial park, nanocentres, start-ups, and middle-class businesses deserves the closest attention.

Sergey Morozov is the Governor of the Ulyanovsk Region. Mr. Morozov heads perhaps one of the most difficult regions. The history of the Ulyanovsk Region over the last twenty years has been very complicated. However, step by step, this conservative and difficult region has begun to compete with other regions and it is a promising region for future innovation.

Those are the experts that we have invited to our session today.

S. Naryshkin:

Thank you, Mr. Chubais. As you can see, the participants in today's discussion are very representative. But, unfortunately, we do not have much time. So I ask the speakers to limit their presentations to a maximum of six minutes and comments to three or four minutes. In the hall of the State Duma it is easier to enforce such limits, because the microphone is turned off immediately after the regulated amount of time has passed. I will have to take strict action if you exceed the limit, and I do not really want to have to do that. Do you agree? Thank you. In that case, let us begin the discussion.

When we talk about the new 'smart' economy, we mean that breakthrough solutions in the technological and management fields should be used to facilitate development in all sectors of the economy, primarily those that directly affect the

lives of our citizens: healthcare, education, transport, and utilities infrastructure, as well as e-government and e-municipal services. My first question is for the Mayor of Eindhoven, Mr. Rob van Gijzel. I will draw your attention to the fact that Eindhoven has given the world such leaders in technological innovation as Philips and DAF. Mr. van Gijzel, what does the concept of the smart city mean for you, and how do you implement such an idea in practice?

R. van Gijzel:

Thank you, Mr. Chairman. Ladies and gentlemen, it is a pleasure for me to be here and tell you about our city and our developments over the last 15 to 20 years. Twenty years ago, we saw a severe economic crisis in our region. Since then, we have changed our strategy completely. Our region is recognized by the Dutch government and known as the Brainport Region Eindhoven. It is internationally renowned for its high-tech industries like Philips, as has already been said, but we have such companies as ASML, FEI and NXP as well. Those companies rely on a great number of specialized high-tech supplies that are also mainly based in our region.

The ICF, the Intelligent Community Forum in New York, named our region in 2011 the most intelligent community in the world, and we are rather proud of it. Last year, Fortune magazine recognized our region as the next potential Silicon Valley. It is also a region with a long history of public and private cooperation.

As I said, we had a severe economic problem from 1995. We started on another approach, which we called the triple helix structure. It is a model where government, private sectors, and knowledge institutes like universities really work closely together for the common good. This is very important. It is a common agenda to implement the joint development vision that has been a front runner of our regional economic policy developments in the Netherlands. The current national economic policy was inspired by the success of our model.

Beside the fact that our model has been offered as an economic success, and it was—it doubled our labour places in the last 10 years, it gives us success, and it

gives us quite a lot of jobs in the city – it also provides us with the assets needed to build a truly smart city and a smart economy. That is exactly what we are doing at this moment. We define the smart city/smart economy on three levels which are equally important.

The first is the social level. It is about society. A smart economy should deliver solutions for the great challenges we are facing at this moment. We all think that there is an economic crisis going on, but there is a real crisis running over the world. We need to change the system of food, the safety of food, of water, of engines, of energy, of mobility, of safety, and of security systems as a whole. There is so much to do. Innovation and transformation of the economy and the systems regarding the economy are needed to solve these problems. Technology is the most essential part of making this transformation happen. The cities are the engines. I am very sure of the fact that it must come from the cities themselves, because that is the level and not the market of the economy. It is the mesoeconomy where partners can work together, know each other, help each other, and inspire each other. This transformation has to start on the city level.

The second is the city-management level. The number of people living in cities, as you know, is growing rapidly. Therefore, cities have a great responsibility to offer excellent city services that contribute to the challenges society is facing at this moment. Cities, for example, have to be energy efficient and they need to have low carbon production. Services have to be both affordable and effective, especially in Europe. For instance, health services should facilitate citizens to live longer in their own dwellings and not in homes. The education services must be focused on personal talent developed without becoming unaffordable. All flows in the cities—and this is very important—all flows in the city like traffic, energy, waste, and water must be efficient and sustainable. Technology and innovation can make that possible. We were in the running for the soccer world championship in 2018. You won. You are all going to organize it. This is more or less a secret, but in our bid, we had a programme for sustainability. It was climate neutral. It was energy neutral. I think when you look at the opportunities given by such a huge project, there are so many

challenges you can meet, organizing the world championship. It can be an example of how you have to change the systems themselves.

The third is citizen level. From a citizen's perspective, a city is smart if it caters to the needs of the citizens, being able to live their lives as they wish, getting the services they need without bureaucracy or delay. The city should be, in my words, walkable, liveable, clean and safe, a great place to live and work, and a great place to visit because it is easy to find your way around. We have eight bullet points which we are using as a guideline for joint policy development in our investment strategy. I will not enlarge or elaborate on that part, but it is very interesting to have this guideline. Maybe we can hand over a copy that you can read, because it is a well-developed guideline that we are using now, and it is successful. Thank you very much.

S. Naryshkin:

Thank you very much, Mr. van Gijzel. Do any of our colleagues have any questions? Mr. Fadeev, please, you have the floor.

V. Fadeev:

Thank you, Mr. Naryshkin. I will turn the discussion towards somewhat more mundane matters. We are still using rather archaic practices to manage cities. We are still thinking in terms that prevent us from implementing the things that the Mayor of Eindhoven was talking about. Take town planning regulations, for example. Since the 1950s–1960s, they have been dominated by the concept of housing estates. And we continue to build kilometre upon kilometre of these housing estates. In fact, the regulations prevent us from building any other kinds of housing developments. For example, regulations on access to sunlight have been in force since the 1920s, when there was an epidemic of rickets and tuberculosis. There are no longer any epidemics, but the regulations remain. We have very strict fire regulations that stipulate that there must always be six-metre-wide passages between buildings. Maybe it is time to think about whether we could use new, non-

combustible materials in the construction of housing? Schools, kindergartens, and stadiums must always be designed as freestanding structures. This means that they are built on vacant lots, meaning that they are not integrated into the urban landscape. There is a myth that buildings with 20–30 storeys bring in greater sums of money. Developers in cities strive to create about 20,000 square metres of housing on one hectare of land. In the centre of Moscow, this figure is 16,000 square metres. Construction is very dense, and our developers simply do not know how to build differently. We have lost our culture of urban planning and, unfortunately, we do not have very strong architects.

Russian developers view an apartment block as an investment. This is a very harmful idea. An apartment block is first of all a part of the urban environment, and it must not become an object of speculation. Collaboration between developers and local authorities is required in order to optimize the quality of the environment for urban residents and not the amount of profit per square metre.

Another critical issue is the condition of our housing and utility services. It is perceived by many as a kind of black hole. It has been said that this area requires an investment of RUB 9 trillion. In fact, housing and utility services can also be an area of innovation: if money is invested to modernize housing on the basis of current best practice, then it will create new jobs, improve the quality of services, and so on. Mr. Artamonov is currently trying to establish elements of a smart grid in Kaluga, and I am trying to help him realize this goal. We have discussed this topic with our colleagues from Cisco and Mitsubishi Heavy Industries. We are planning to reduce the electricity tariff from RUB 2.4 to RUB 1.9 per kilowatt hour.

Let us talk about innovation and modernization in more detail, taking into account existing regulations, legislation, and urban planning ideas. I would be very interested to hear what the regional leaders think about this topic.

S. Naryshkin:

I will let our experts decide if they would like to answer now or later. While they are making up their minds, I will put a question to Mr. van Gijssel.

Our panellists are expressing their views as representatives of government, as businessmen, and as experts, but now I would suggest we look at the problem through the eyes of the residents of Russian cities. Mr. van Gijssel, just imagine, please, that you have finished your tenure as Mayor of Eindhoven, and you decide to take up permanent residence in Russia, in the charming Russian hinterland. You go to see the mayor of a Russian city there: what would you advise him to do?

R. van Gijssel:

I think you have got a very wise mayor, so I do not know if you need advice. I would like to come back to St. Petersburg. I really enjoyed your city. I would see it as a city in which all kinds of applications and devices are available to make it even more attractive for people to come here, so that I can invite my friends and they can use information to enjoy the city more than they did in the past.

The second point is that we have a system here about smart mobility so that you do not have any traffic jams anymore. Would you like that as an idea?

The last point is I would like to go to a soccer match here in a stadium. We are going to run the RoboCup. It is the world championship for robots in soccer. It is next week in Eindhoven. I am going to look for a RoboCup match here. Russia is going to be world champion and the coach is Guus Hiddink, my good friend.

S. Naryshkin:

Thank you for your good advice. Mr. Chubais, do you have a question?

A. Chubais:

I agree with Mr. Fadeev's statement that our housing and utility infrastructure requires new approaches and investment which does not come from the federal budget. Since we know the state of municipal budgets, then we understand that it cannot come from this source. There is only one method, and that is private investment. I am completely ready to acknowledge the fact that this is the only way to solve the enormous problems of the Russian housing and utilities infrastructure.

Having agreed that we must think objectively about the situation, let us imagine such a situation. We urge people to invest in the Russian housing and utility infrastructure. What does the investor immediately think? You invest capital and agree that tariffs will be fixed for some reasonable length of time. But then the country is on the brink of some major socio-political event, and you are instructed not to raise tariffs. I have a question for Mr. Fadeev: how do we reconcile our socio-political reality with your call to private business to invest in housing and utility infrastructure?

V. Fadeev:

Investors and the state must enter into discussions. If an investor comes and says, "I need 15% annual growth", his request will not be met. But if he says, "I have the technologies that can slow down tariff increases, but I need a guarantee from you that the tariffs will not exceed consumer inflation", then the state will be able to sign an agreement with him. I think we need to bet on those investors that are able to halt tariff increases.

S. Naryshkin:

Thank you, Mr. Fadeev. I would like to address my next question to John Chambers. Recently your company has been working hard to develop a concept for universal Internetization. Could you say something about how this concept might impact the creation of the so-called 'smart' economy?

J. Chambers:

I think at times we overuse the word "smart". What this really means is that it is going to be the 4th generation of the Internet, and every mechanical device, every smartphone, every tablet, every TV, and every PC with proper authorization can get access to any information that you want anywhere in the world. It will usher in probably a decade of productivity, create jobs and focus. From the business

perspective, it will allow you to basically generate USD 14 trillion of profit in the next 10 years. That will be across the world, if we are balanced.

The power of a network, as it relates to serving citizens or other things, is based upon the number of devices squared. The number of smartphones adapted to it, and also PCs, cars, and TVs, so when you only have two phones the power of the network is four. When you have 10, it is 100. When you have 100, it is 10,000. There were only 200 million devices connected to the Internet 10 years ago. Today, it is 12 billion, and it is on its way to 500 billion.

It will change every aspect of your lives. It will change your education. The education classes can be viewed ahead of time when you get together to collaborate. It breaks down people to people who only get about 31% of the benefit. Machine to machine is where the real power is, and that is probably 24% at implementation, and then machine to people – your car will talk to you; your doctor will talk to you; your television will talk to you.

This is not something that is any longer purely for the innovators. In the Shanghai Expo in 2010, the whole theme was smarter cities for the benefit of the citizens. I have been in China for five days in the last two weeks, Saudi Arabia for three, Israel for three, and now in Russia for two. Every one of the countries that I went in at the top level and at the government level is digitizing their country. There are different power locations. In some locations like Europe, it is the cities. In China, it is a combination of central government, particularly the mayors. In Saudi Arabia, it is clearly top down. In Israel, they get it. They are going to be the first digitized country. They have an advantage of only seven million people, a lot of them from this country. The Prime Minister, the President, the Cabinet Leader from Finance, the Head of Education, the Head of Healthcare, the Head of Inclusion—and I am nearly going through every one of the cabinet members—understand the impact it will have on every one of their citizens. In terms of inclusion, 20% of the population in Israel is Arab, and they are not participating in the economic growth. They need to leverage that, and it is also the right thing for political stability. In terms of healthcare, for the first time, they can perhaps dramatically cut the cost of

healthcare and improve quality by delivering that healthcare into any device or to any home.

It is going to be in waves. The first wave is techs—techies often start off innovation. The first wave of the Internet was about geeks talking to each other. The second wave is e-commerce. The third wave you see now is social capability, the cloud, the video. The fourth wave will be around this Internet of everything. The first adapters were actually the cities. They understood what was possible and you are seeing that now, whether it is in Amsterdam or Songdo. It will not be each of these areas separately; they will be coming together in very ways. In Songdo, which is the first real Internet city, the President of South Korea believes that it will add 1% to the GDP, just from that city alone.

The cities are now moving past the innovators, if you will, to the early adopters, and it is starting to move into early acceptance. This is going to go global. The smart grid, which one of my colleagues talked about, started four years ago. You will see every electrical device go to the Internet, and it will be the common IP protocol that goes with it. Every one of the countries is moving: Russia, Canada, the US, Australia, and others.

Then, you go to connect to the industries. Every device would be connected with industry and a lot of machine-to-machine capability, and then society is going to be really getting the benefit. It will usher in, I think, the majority of the start-ups over this next decade, and you are going to see countries and companies move with tremendous speed. The challenge with it is if you miss this window you are going to be left behind, because what I did not say about innovators is that the very, very early adopters are the late majority.

You are beginning to see countries come up with an entire plan: it could be the Chinese twelfth five-year plan. You see it in Israel where they are going to redo their whole economy. They get it. They also know how to drive the high-tech sector. When you look at what the government can do on this, it is to translate the word “smart” to perhaps “connected”, translate it to “intelligence to any device” and take a hard look at how it would completely transform the country, create a lot more jobs,

much better education, much better healthcare capability, and much better urbanization.

S. Naryshkin:

Thank you, Mr. Chambers. Mr. Chubais, do you have any questions or comments?

A. Chubais:

Mr. Chambers' basic ideas about expanding the role of the Internet struck me as being very substantive and significant. But you will agree, Mr. Chambers, that in the current global, competitive economy, it is the consumer that makes the crucial assessment of any large company, even one as prestigious as yours. In connection with this I have a question for Andrei Dubovskov. MTS is a consumer. Cisco focuses primarily on business-to-business. Who is better today, Cisco or Huawei?

S. Naryshkin:

It is just a harmless question. Please answer Mr. Chubais' question.

J. Chambers:

If I can help with this answer I will be glad to chip in.

A. Glazkov:

I am not afraid that it will be very difficult for you, for ladies and gentlemen in this hall.

A. Dubovskov:

The question is as unexpected as it is provocative. The main criterion when selecting vendors is not necessarily the cost of their services, but a transparent, clear roadmap and a substantial background in innovation. We prefer vendors who believe that developing technology is a goal in itself and not just a way of increasing profits. The slogan of our company, as you know, is 'one step ahead'. As

consumers, we expect the same from our vendors. However, price and quality are also important components of the decision-making process.

S. Naryshkin:

Thank you, Mr. Dubovskov.

Mr. Chubais is always advancing the thesis that the Russia of innovation is the Russia of the regions, which is why today, almost all the governors who are members of the Association of Innovative Regions of Russia have been invited to participate as experts. By the way, the Association has just held its regular meeting where it summed up its positive results.

I would like to give the floor to Stanislav Voskresensky. Mr. Voskresensky, which regions of Northwest Russia do you think will be considered innovative in 10 years' time?

S. Voskresensky:

First of all, I would like to say that Russia is really lucky in terms of its people. We have the best, most talented people. I am prepared to defend this statement. One early twentieth-century European thinker said that a person thinks not only with his head. I believe that the Russian people can think not only with their heads, but also with their hearts. This is the reason for our strength, our conservatism, and our talents. The question is how we can help to uncover these talents. To cite another classic writer, Dostoevsky, the Russian people need three things: miracle, mystery, and authority. Some water has passed under the bridge since those times, but at some level we probably still need all of those things. However, people now have different requirements of the authorities: integrity, efficiency, and fairness. If the Government can help grow our talents while at the same time not violating these principles, then everything will be all right. Not one, but all of the regions in Northwest Russia will become innovative.

I can list a number of positive examples of innovative development in Kaliningrad, which I represent. Federal investments are being made in the region's basic

infrastructure. Reconstruction of the airport has begun, and in two years all types of aircraft will be able to land there. A decision has been made to recapitalize the regional utility distribution company, and on Friday, the Russian Ministry of Energy signed a five-year investment programme which will prevent any unjustified increase tariff increases. It will also resolve the problem with connections, and most importantly, the quality and reliability of the utility networks.

The Immanuel Kant Baltic Federal University has a special role to play. In one year, the staff and students of the University and other institutions of higher learning were able to create a future development strategy, which has been approved in its entirety by the President of Russia. We have staked our money on medicine and biotechnology. The rest of the natural sciences are catching them up, and thus a fully-fledged research network will be created. Why are we focusing so much on medicine and biotechnology? This is mainly due to the enormous need for staff in the medical services market as well as the unique environment of Kaliningrad Region. We will assist the University at the federal level while hoping that, over the next 10 years, it will become one of the leading universities in Europe, at least in some areas. The entire Kaliningrad Region will benefit from this effort, because a driver of development such as a university is able to significantly improve the environment for fostering talent in a small area with a population of less than one million.

In closing, I want to express my confidence that absolutely every Russian region has a chance of becoming number one in terms of innovation. It is all a question of consistently and diligently working together to support our talent. Thank you.

S. Naryshkin:

Thank you. Mr. Chubais, do you have any comments, or do you have anything to say to our experts?

A. Chubais:

I just have a couple of words. I have just heard now from Mr. Voskresensky that the Immanuel Kant Baltic Federal University has decided to make medicine and biotechnology its priorities. Not everyone knows that this region already has amazing innovative businesses, including in the field of microelectronics. We in Moscow are proud to have opened the first Russian facility for the production of 90-nanometre chips. In Kaliningrad, a private business has introduced a world-class electronics factory that produces 65-nanometre components from the encapsulation stage onwards. The specialists that we have assembled here will understand how unique this technology is. I will repeat it again: this is a completely private company. General Satellite will create an entire cluster around this technology. I think that there is competition today among the regions that is not very visible. Regions that have not traditionally been considered the most advanced or the most interesting have gradually, over the last three, five, or ten years been pushing out the previous leaders, who were not always prepared for this. For me, Kaliningrad Region is one of these very promising regions. There is only one point on which I would like to differ: the miracles, mysteries, and authority should be left in the nineteenth century, replaced by reason, logic, and efficiency as the basis for an innovative business.

S. Naryshkin:

Thank you. Next I would like Bruno Di Leo to speak. Bruno, you created and have long led the growth markets division at IBM. What lessons can be gleaned from IBM's experience and applied to the innovative development of Russia's regions?

B. Di Leo:

On behalf of IBM, we are very grateful to be here and have this opportunity to be in the panel. Innovation is deeply engraved on IBM's history and you know our core value. We created the concept of the smarter planet and smarter cities. It was just based on an observation that we profoundly believed that everything we use as human beings is going to be instrumented, intelligent, and interconnected. We live this core value by driving strong innovation. We have been the leading company in

the world in the last 20 consecutive years for filing patents—number one in all industries and countries. We intend to continue doing this in the foreseeable future. We believe that innovation is the force that drives differentiation for economies and enterprises. We invest about USD 6 billion per year in innovation, research, and development, and we will continue to do so.

Now, to your question on emerging markets, we have one observation that may sound obvious to this audience, and three lessons learned. The main observation is that the city is becoming the prevalent unit for economic development and wellness creation throughout the world, and this is particularly relevant in emerging markets. Millions of human beings in the developing economies are growing into the middle class, and one of the driving forces for this is the migration from rural areas to the cities. The cities have to provide environments that nurture economic development, that give the people the capability to create this economic development. We do business. We have branch offices in about 450 cities throughout the world, so as enterprises, we see this. You play a vital role as leaders in these cities in the economic development of the enterprises.

Three lessons learned. The number one lesson is about investments.

We think that the best cities are the ones that have a very balanced portfolio of investments between the physical infrastructure and the soft infrastructure—the information technology and other capabilities. That is crucial. Most of the leaders of the emerging world concentrate very much on roads, buildings, and healthcare facilities. All of the infrastructure that will support the people is as important as Mr. Chambers said. It is as important that you invest in information technology. In the broader sense, information technology means connectivity, mobility, computing power, and so on.

The second thing we learned is that in the cities, it is very important that there is a balanced portfolio of investments between traditional industries and new industries. In the same sense that you want to attract manufacturing, healthcare provision, and other industries which are basic industries and human activity, you also want to go for innovation industries. If you are talking about healthcare, you do not only need to

be able to provide adequate medical services, you should invest in biomedical and new industries. This will create innovation in your cities.

The third thing is that we think it is a critical success factor to have a strong investment in education and skill building. Infrastructure and industry create the conditions for economic development, but what sustain economic development over time are skills and people. This is why I subscribe totally to what the Mayor of Eindhoven said, that the city has to be a liveable place. Everything you do has to create the conditions for the people to strive, to succeed, and to seize opportunities.

The final lesson learned which goes the beyond the three I mentioned is an overarching theme. Development in this world and cities requires new business models and new models of cooperation between the private and the public sector. We, IBM, see the Mayor of the city as a CEO. We see the Chief of Police not only as an executive or as a public servant responsible for safety and security; he is making information and technology decisions. It is the same as the head of healthcare services and the same as the head of educational services. Cities are aggressively pursuing and improving the quality of their services. Last year for us, we participated in almost 3,400 different projects throughout the cities. It was with the Chief of Police and security transportation, healthcare, and so on. I want to close my statement again by saying thank you and, very importantly, there has to be a new model of cooperation between the private and the public sector if we want to develop these cities and take them to the next level. Thank you.

S. Naryshkin:

Thank you, Bruno. Mr. Chubais, please, do not let our experts just sit there in silence. They are respected people, and they must be allowed to fulfil their function as experts.

A. Chubais:

I actually did want to include one of the experts in our discussion. I have a question for Vasily Yurchenko. IBM, the founder of the IT industry, has just talked about this

industry's importance in the development of urban infrastructure and the fulfilment of intellectual potential. It is well known that quite a lot has been done in this industry in the city of Novosibirsk as well as in Novosibirsk Region. Focusing specifically on the urban part of the region, do we have some way of responding to IBM?

V. Yurchenko:

Ensuring comfortable living standards in cities as well as in small towns is one of the most important areas for cooperation between government and business, since neither one can address this issue without the other party. Business must have guarantees, and not only in the housing and utility services sector. It is necessary to establish long-term, stable rules at all levels, including at the federal, regional, and municipal levels. Two years ago, we tried to put such rules together. I will tell you that not everything worked out. But we achieved the main objective: we gained the confidence of businesses and secured these rules by passing legislation – executive orders of the governor and regional laws. Private investments were made in small-scale power generation. This is very important. In 2012, something like RUB 500 million were invested by private investors and about the same amount was provided by local and regional governments. We did not solve the problem of managing these standard methods, but rather we used innovative technologies: we created an automated system for collecting information from metering devices in cities with a population of at least 15,000 people. Two years ago, I was in Mordovia and saw a similar system. There have been positive developments in Russia in terms of managing regimes, changing payments, etc., and the regions have found it expedient to share their innovations at high-level events such as SPIEF. Literally an hour before the session, the Association of Innovative Regions of Russia decided to hold a meeting in Novosibirsk, in our region, in September. We will demonstrate an innovation from Eltex, which is a leading Russian telecommunications technology company which is striving to become the best in the world.

We should not forget the main point: it requires a lot of effort to get innovations out into society. Those decisions that are being implemented have gone through many

difficulties to get there. In Novosibirsk we will really have something to show you, and I am inviting both IBM and Microsoft to help us choose the best examples from Russia and around the world.

S. Naryshkin:

Thank you, Mr. Yurchenko and Mr. Chubais. Colleagues, today I have already said that an innovative approach must be applied to all sectors of the economy and areas of our life, and particularly to those that directly impact the quality of life of our citizens, our electorate, including e-government and e-municipal services. In connection with this, I had a question for Nikolai Nikiforov. Mr. Nikiforov, is the Russian population ready to be an active user of e-government and e-municipal services? What might the Government offer in this regard?

N. Nikiforov:

Colleagues, I will start my answer with a very simple statement: the population's demand for e-services, whether for public or municipal services, will always exceed supply. We underestimate the willingness of our citizens to be consumers of these modern services. Returning to the topic of today's discussion, I would like to make the crucial point that the smart economy is impossible without smart public services. Let me describe some of the remarkable breakthroughs that we have achieved since 2009.

First of all, we created a unified portal of public services. We have already become accustomed to electronic services such as the registration of passports and the acceptance of many types of payment. After all, just a few years ago, none of this was available. Serious work is being conducted at the government level, and we have a corresponding government commission. We are working together with our colleagues from the Ministry of Economic Development. In 2012, the President set a general goal: by 2018, 70% of the country's citizens should be taking advantage of e-government and e-municipal services. It is a very difficult goal to achieve. We could have only counted citizens of working age, but we decided that we had to set

the bar higher. Seventy percent of the country's population is 100 million people. We also should not limit ourselves to talking about just e-government or e-municipal services. People should not be wasting time filling out all sorts of paperwork when that time could be better spent with family, studying, or being creative.

In short, I will describe what needs to be done. First of all, we need to facilitate citizens' access to registration and receipt of e-identification. The idea is not to use a typical paper passport just in electronic form, but rather to allow a person to use electronic services with just a mobile phone, so that it takes no longer than three minutes to obtain information. In order to provide more complex services, such as issuing electronic ID, we plan to seek out the help of divisions of Russian Post. The end goal is to transition to an electronic identity card. In Russia today, we are implementing the Universal Electronic Card project. We are discussing a long-term plan in which the Federal Migration Service will play a key role. We are discussing the need for electronic passports and the abandonment of paper documents for general citizenship purposes. By our calculations, this could be accomplished as soon as 2015.

The next item on the agenda is the submission of electronic applications. We do not need to chase our citizens into government offices so that they can fill out paperwork and then again to receive a response. We again propose using the delivery infrastructure of the Russian Post in the most difficult situations, for example when obtaining a passport or a licence plate.

The last point to which I would like to draw your attention is payment processing. Perhaps most of the people sitting in this room would consider a plastic bank card to be a common payment tool. Unfortunately, the same cannot be said about the country as a whole: there is a digital divide in access to the Internet, and there is also a divide in access to modern banking services. We plan to make changes to a large number of laws and to call upon the support of our legislators. Mr. Naryshkin always supports the most ambitious initiatives regarding the implementation of information technologies. Active work is being carried out in the regions and large cities. Almost every other week, we host video conferences where we discuss with

the relevant vice-governors specific plans and specific results for making public services electronically available.

In conclusion, I would like to go back to the key goal set by President Vladimir Putin. Seventy percent of the population, or 100 million people, should be taking advantage of electronic services by 2018. This requires a lot of coordinated work, but I am sure it will reconfigure and change many processes in our country. Thank you.

S. Naryshkin:

Thank you, Mr. Nikiforov. Mr. Chambers, I think that you would like to make a short remark. Please, you have the floor.

J. Chambers:

Yes. I think it is so easy to overlook what we must change. The technology will actually be the easy part. If all you do is automate what you already have, you will not get much productivity. You have got to change the education process. You have got to change the healthcare process. You have got to change your traffic patterns. The third element is that you have to change the culture of the company. The new generation expects to be able to get access to anything from any smartphone. They expect it to be free and they expect it to occur rapidly. As you think about these changes, you have to really think about how you are going to take risks with Indianapolis or Skolkovo and have a culture that expects and accepts new risks involved. That also means setbacks and controversies in achieving those goals.

S. Naryshkin:

Thank you. Mr. Chubais, did you want to say something?

A. Chubais:

The Republic of Tatarstan is considered to be one of the recognized leaders in the area that John Chambers and Minister Nikiforov were talking about. I have a

question for Mr. Minnikhanov: it is well known that you have not only achieved a lot, but that you have also sent your minister to Moscow. My question is: do you have anything left to do in Tatarstan after this?

R. Minnikhanov:

You do not send a minister to Moscow, Moscow takes him. Our minister was taken away from us, but before that happened, he succeeded in getting a lot done in Tatarstan: everything connected with Tatarstan's official online presence is the work of Mr. Nikiforov. Of course, work is still going on. Our main objective is to make Tatarstan the IT centre of Russia. We have started the Innopolis project, combining a university, a technology park, and a city, with assistance from our colleagues from Singapore. Many Russian regions are using software developed in Tatarstan. Mr. Nikiforov has a worthy successor, and I think that we will be able to cope with the challenges which we have set ourselves.

S. Naryshkin:

Thank you. Colleagues, healthcare is one of the sectors of the economy that directly impacts the quality of life in our country. Modern healthcare is becoming more and more high-tech, which means that it requires major investments and is becoming more expensive and less accessible. My next question is for Denis Butsaev. Mr. Butsaev, please tell us what private business could do together with regional governments to develop high-tech healthcare?

D. Butsaev:

I think that the possibilities are practically endless. Many of the governors here know this from experience. Medicine, especially high-tech medicine, is really expensive, because there are high initial investments and the resulting medical services are not always accessible around the world, although their high cost sometimes in fact reduces the cost of treatment for individual patients. It would be easier for me to talk about this by using oncology as an example. When we treat the disease during its

initial stages, we save lives while saving money, including public funds, on the treatment of patients at later stages.

The gap between Russia and developed countries in the area of high-tech healthcare is simply enormous. The US and Europe have a ten-fold advantage over us. However, the Government is doing a lot to address this gap. The use of advanced technologies in medicine is becoming attractive for private business. We very much hope that the development of insured medical services will lead to a transition of all services to tranche funding and funding from the federal and regional mandatory insurance funds. Voluntary health insurance is very well developed, since, naturally, it is very important for private business. The state has almost completely exempted this area from tax, which is probably not true anywhere else in the world. At the same time, we have no long-term state policy and we have not defined any tariffs. This means that tariffs are not taking account of an investment component. If there is no profit tax, then this means that the Government simply does not believe that tariffs could provide a source of income for medical institutions.

Due to the fact that we are very far behind international practices, we have not developed any healthcare standards. This problem, in turn, prevents private businesses from assisting groups of patients in a particular region of the country.

Difficult state budget issues remain. We know that the state budget is determined for a period ranging from one to three years. Public-private partnerships are always a lengthy business, and regions have to set up separate programmes that would have to be supported by government funding for a period of more than three years. I must admit that the majority of regional leaders make voluntary decisions, and they share risks with private investors. Regional government agencies are now developing tariffs independently, on the basis of standards that have been established at the federal level.

An interesting situation has developed regarding technologies. I will give an example again in the area of oncology. Russia possesses knowledge of core technologies: we know how to make a reactor, accelerator, cyclotron, and

synchrotron, but we do not have the capability to turn a project into a medical product. This is due to the fact that our innovation sector is underdeveloped. However, launching a project involving 10 accelerators, for example, may serve as the impetus for the development of a manufacturing base in the Russian Federation. This, in turn, will lower the cost of equipment, which accounts for up to 70% of investment in high-tech. Thus, we will make equipment more accessible.

In principle the Government is ready to solve the problem of business involvement in the hi-tech sector, but something is always preventing it from taking action. The large quantity of money in the modernization programme has interfered. This programme has already ended, but it has done nothing for cardiology or oncology. The percentage of deaths caused by cardiovascular disease and cancer are higher in Russia than anywhere else in the world, and they are much higher than the other causes of death in the country. The Government already understands what steps must be taken, but it has not instituted the necessary regulations. I would like to draw the attention of our legislators to the fact that there is not much work left to be done on our legislation but there is plenty to be done on regulatory rules. If there is a clear tariff policy, and if it is clear how to obtain authorization for public funding on a long-term basis, then private business will be able to accomplish everything that the Government has wanted to do for the last five to seven years.

S. Naryshkin:

Thank you, Denis. Mr. Chubais, RUSNANO helps to finance PET-Technology. What have been your impressions of this partnership?

A. Chubais:

I am well acquainted with what Mr. Butsaev does, and I listened carefully to his presentation. It was somewhat gloomy, but this is understandable: the business is describing the problems that affect it and the solutions that can be taken. And yet, what project does Mr. Butsaev represent here? It is well known that the number one and number two causes of death in Russia are cancer and cardiovascular disease,

respectively. Any expert in this field will understand very well that the cause is primarily late diagnosis. Typically, the diseases are detected at such a late stage that they cannot be cured or, if a person survives, then for the rest of his or her life he or she will have to be treated for side effects that were incurred during treatment. The essence of the project is to put the innovations of nuclear medicine into practice. Positron-emission tomography centres with computed tomography, supported by nuclear surgeons, will be fully operational in five regions of the country before the end of the year. We are talking about the most advanced equipment that enables a) these diseases to be diagnosed at the very earliest stages and b) treatment, either by conventional methods or with nuclear medicine, including CyberKnife, linear accelerators, and other means of non-invasive, non-surgical treatment. This is a new generation of medical technologies, and for me it is very important that this does not remain an abstract topic of conversation, but that it comes to Ufa, Lipetsk, Orel, Tambov, and Bryansk by the end of the year.

This type of project can be adequately supported by business, and our speaker here is a representative of private business. But it can only be implemented if there is a full understanding of how partnerships can be formed with the government. People in the regions just mentioned have this understanding. The main objective is a long-term fee that can be taken from the compulsory medical insurance fund, and specifically from that part of it which is designated for advanced technologies. We are not talking about using regional funds, but simply about a distinct, agreed-upon fee. Business can supply funding for the rest itself. This project can save many lives in areas where it is launched, and here I am not exaggerating. The work that Mr. Butsaev has completed in this area may serve as an example to other regions.

S. Naryshkin:

Thank you, Mr. Chubais. Although our discussion is not quite over, I know that at 13:00 you have to attend some very important talks, so unfortunately we will have to let you go. Thank you very much for being such an excellent moderator for our discussion. Thank you.

A. Chubais:

I hope my questions were not too provocative?

S. Naryshkin:

No, not at all. Thank you, Mr. Chubais.

Colleagues, in discussing new and efficient technologies, let us not forget about energy efficiency, which is a necessary element of these technologies. I would like to ask Mr. von Grunberg, in the light of his experience working at ABB, one of the world leaders in the energy efficiency market, to summarize this new economy. What role will energy efficient technologies play in it?

I would also like to ask Vladimir Mau to make some final remarks.

H. von Grunberg:

Thank you very much, Mr. Chairman. Ladies and gentlemen, I have learned one thing: if you are last in such a group of panellists, you had better have no script, because most likely the good stuff has been addressed by others and by you, the governors. First of all, I should not preach. You should all please take all my comments as being made with due respect for what you are doing in this country. I always come to learn.

To you in business and to me, is growth not a yardstick, a measure of success? How hard is it for an established business to grow 15% a year instead of seven or eight? How difficult is it for an economy to grow at your rate or, as my own country, much less? The most important thing is, first of all, you outperform us in growth, in one important criterion, and I should have due patience and due intelligence to learn here.

I picked one example that is possibly left and that has not been totally addressed, which is efficiency of the production process. Russia in its competitive environment, for instance in BRIC, fortunately enjoys a higher standard of living than average. Clearly so does China, and this is good. The standard of living and a higher income

level provides for people's patience, calm, and quiet. In order to keep that and to develop this further, this standard of living, you need to increase productivity in your processes and your economy.

One of the means of doing that is robotics, which we know something about, and I always prefer sticking to my knitting. For robotics, however, we replace low wage, low qualification jobs with machines with higher efficiency and higher quality and, on the other hand, we need a higher average level of qualification.

Here comes one of Russia's unique strengths in the educational background. In my clear comparison, travelling all the BRIC countries and other so-called emerging countries, it has, by far the strongest scientific foundation. There is no other such nation in BRIC, and indeed in the developed world, there are not many close to your scientific capability. I know what I am talking about, and I could not have done my thesis years back without reading Russian authors. I really would not have been up to speed in mathematics and theoretical physics without having close intimacy with what is being researched in Russia. You are leaders here. That is a good starting point.

Now, we talk about industry productivity and the different skill and education levels in industry. There is a gap between taking the practical product to market and scientific brilliance. This gap needs to be overcome. In this gap, look at ourselves here and look at other industrialists. There are certainly industrial experts, entrepreneurs, and managers in the audience. Look at yourself and what we can do with our factories, with university cooperation: we can help bridge the gap between science and industrial application for the product taken to market with high demand. We should not preach it. As far as I am concerned, we have to do it, setting up even more university cooperation, taking the excellence of the universities and bringing the practicality of the marketable product on our side, combining the two and providing for higher dynamics in this direction.

At the same time as we say we need to come here and do something about it, we have to invite you to come our way. Yes, ladies and gentlemen, it is happening. We are being asked by Russian business friends to help in export markets, which is

good. You begin, increasingly, to conquer the world with your excellent technology and capabilities. We need to help this to start. We should lend a helping hand to your industrialists setting up shop in my home. Then you study my home, and then you compare and talk to us. You look at what is good and what is not so good. Please do not learn everything from the so-called developed world. There is a lot of crap. There is a lot of nonsense. There are many things that are not so good in my home. We are not the source of wisdom. We are not the fountain of intelligence. Look at us critically, benchmark and only do the best—the best that Russia already has—and pick some from us. Leave what not is so good in my home; leave that behind. I am very confident about your future, and I always love to be here. Thank you.

S. Naryshkin:

Thank you, Mr. von Grunberg, for such good recommendations, and even for some critical self evaluation. Mr. Mau, you now have the floor. Please sum up our discussion here today.

V. Mau:

Thank you, Mr. Naryshkin. Our discussion has focused on three basic points. First of all, when we create a regional development strategy for innovation, we must recognize that the main driver of competition is the availability of creative and intellectual potential, not cheap labour. Obviously, the role of research and development and geographical proximity to the consumer will be much more important than the role of labour at the assembly stage. Re-industrialization is not the creation of blast furnaces or snow removal companies. Rather, it is the creation of new businesses and new technologies whose efficiencies are not based on being located in developing countries where there is cheap labour, but on their proximity to customers, as this stimulates both demand and supply in the regions. Remember what Mr. Nikiforov said about stimulating demand. One of the structural outcomes of the global crisis will be a new understanding of what works and what does not.

My second conclusion comes from John Chambers' presentation. I will express what he said a little differently: the convergence of the physical and digital. The difference between the physical and digital results of work is gradually becoming erased. This is a completely new phenomenon for both the national and the regional economies.

Finally, my third conclusion is about the new face of universities. Mr. Voskresensky touched on this topic. In my view, other factors beyond government support or investment in a specific academic field will determine the new face of the university. The post-industrial university, in my view, is a university where there is a 'critical mass' of people who are not studying what is needed, but rather what is interesting to them. This kind of university will be formed and will prove effective for the innovation business when it gathers together a sufficient number of irresponsible smart people. Thank you.

S. Naryshkin:

Thank you. Colleagues, if there are no more comments, I will conclude our session. I will provide some final remarks. In my view, the discussion turned out to be interesting and attracted a large audience – we even ran out of seats. I want to thank the participants for their very informative presentations and comments, and also for sticking strictly to the time limits. If next year we are allowed to hold another similar debate, whether in the form of a panel or a round table, then we will ask for a larger room. Thank you very much to everyone.