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**INTERNET ECONOMY: RUSSIA AND THE REST OF THE WORLD**

**Expanding Technology Horizons**

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Hall**

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With social media sites such as Facebook, LinkedIn, RenRen and others amassing huge user bases along with rich profiles of personal preference data, the groundwork is being laid for a paradigm shift in the way consumers and individuals will use the Internet to communicate and make decisions.

**Moderator:**

**Michael Wolff**, Editor, Wired Magazine

**Panelists:**

**Daniel Ek**, Chief Executive Officer, Spotify

**Dmitry Grishin**, Chief Executive Officer, Co-Founder, Mail.ru Group

**Mary Meeker**, Partner, Kleiner Perkins Caulfield & Byers (videoconference)

**Yuri Milner**, Founder, Chief Executive Officer, DST Global

**Jim O'Neill**, Chairman, Goldman Sachs Asset Management

**Peter Vesterbacka**, Mighty Eagle of Rovio, creator of Angry Birds

**Arkady Volozh**, Chief Executive Officer, Yandex

**M. Wolff:**

I would like to welcome everyone. My name is Michael Wolff. I am from New York. I run a magazine called *Adweek* and I write a column for another magazine called *Vanity Fair*.

The panel today is about the future of the digital world, but it is also looking at that world in a particular way. And that way is a moment in time when the hegemony of the United States as a digital leader has passed. And among the scenarios may be that Russia itself arises as a digital superpower. These are the questions that we want to address. And I am going to ask a series of questions and then ask each of the panellists to briefly introduce themselves.

But before getting to the future, what I want to ask is if we can establish everyone's point of view and point of departure by having them each identify what they think is the most significant trend in the technology space over the last 10 years. So, say, since the 2000 crash.

And let us start with Daniel Ek from Spotify.

**D. Ek:**

Sure. I am Daniel Ek, the CEO and founder of a music company called Spotify.

Personally speaking, I do think that there are two megatrends ongoing. One is obviously social and the other one is something that I call 'connective devices'. I think we are only seeing the beginning of that. Most people assume it is smartphones.

**M. Wolff:**

Daniel, just let me interrupt. So you think those are the most significant trends of the last 10 years or the coming 10 years?

**D. Ek:**

Both, actually.

**M. Wolff:**

You cannot do both, come on.

**D. Ek:**

I cannot do both? So then I will probably say it is for the next 10 years more so than the past 10.

**M. Wolff:**

Well, start with the past. You see, this is the problem with technology people. They are all about the future and never about the past. So the past 10 years, what was the most significant thing? What was the thing that happened that got you to where you are today?

**D. Ek:**

Broadband. The fact that more and more people around the world have access to fixed Internet.

I started out in Sweden. I had broadband since 1998, but most people in the US were still focused on fixed-line connections. And now there are 200 million people in China alone who have access to broadband. There really is no other answer than that for me.

**M. Wolff:**

OK. Great. Broadband. Arkady.

**A. Volozh:**

I am Arkady Volozh from Yandex. Actually, I try to never talk about the future because it is hard to predict, especially anything about the future. There will be a lot of things going on. And whatever goes on, what we are tracking is... We are a software company. We are a company analyzing and applying mathematics to

data, and what we are sure about is that there will be more data available and there will be more and more applications for our company. We have been doing...

**M. Wolff:**

What is the thing from the last 10 years that got you to where you are today?

**A. Volozh:**

A huge amount of information became available online. Ten years ago, people could not think of so much information available at their fingertips. And that is where we are today. We are answering questions.

**M. Wolff:**

OK. So information glut. Broadband, information glut. Yuri.

**Y. Milner:**

Well, I am Yuri Milner, founder of DST. And I want to pick up where Arkady left it and say the emergence of user-generated information, not only businesses generating, but also the users. There was a lot of experimentation around social starting with Friendster, and then MySpace, and then finally Facebook looks like it found the right formula. So I think in the last 10 and particularly five years, social and user-generated content was a trend.

**M. Wolff:**

Broadband, information glut, user information. Jim.

**J. O'Neill:**

I think I am a bit scared here, these tough German tactics already. In some ways I do not know what I am doing on this panel, because I am Mr. BRIC. I am

currently Chairman of Goldman Sachs Asset Management and for the previous 15 years was Chief Economist of Goldman Sachs. But the thing that has gotten me to where I am is because I am Mr. BRIC.

I will give you an anecdote to answer your questions related to technology. Three weeks after Lehman Brothers went bust, I had planned many months ago to go walk to Everest Base Camp with my wife for her 25th anniversary surprise. And the last thing I read before I went was one of many gloomy US-based pieces about how Lehman Brothers collapsing was the end of globalization.

Anyhow, it was kind of typical of the sort of scary stuff hanging around all over the place. And I was on the flight going there. People here who have done it know a little village called Namche Bazaar on the Nepal side at about 3,800 metres. And then all the guidebooks, they will tell you a story of traders walking six days from Tibet to get there, taking their stuff to the market on a Friday and Saturday.

And the day we were there happened to be the weekend of the market. We were on the sidewalk, sort of acclimatized, and I did not believe all this, but we walked past what must have been about 50 of these guys. Half of them had China Mobile telephones and they had a signal.

**M. Wolff:**

OK. So we have essentially the wiring of the other world.

**J. O'Neill:**

Yes. Huge, huge development.

**M. Wolff:**

Dmitry.

**D. Grishin:**

Hi. I am Dmitry Grishin from the Mail.ru Group. I think over the last 10 years, the biggest change is that the Internet became a casual tool for millions of people. I remember in 2000, 2001, people were saying that the Internet might be a big tool. But now everybody is using it. So I think this is the biggest thing. The Internet became a casual tool for everybody.

**M. Wolff:**

OK. The ubiquity of the medium. Peter.

**P. Vesterbacka:**

Yes. I am Peter Vesterbacka. I am the Mighty Eagle of Rovio. And basically I do marketing and branding for this little game called Angry Birds that some of you might have played for a few hours.

Yes, the most important thing in the last 10 years, I think, for me is clearly the explosion of smart-connected devices, so the smartphones, and really mobile becoming the central gravity for everything that has finally happened.

**M. Wolff:**

Great. Smartphones. OK.

So what we have done is define the universe as we have inherited it at this moment in time. These are a set of transformational events in human history that have occurred in the last 10 years. I would assume we can test this assumption...

**Y. Milner:**

You forgot Mary Meeker, by the way.

**M. Wolff:**

Oh, Mary. Oh, my goodness. I am sitting here and saying, "What is Mary Meeker doing there?" Mary, how are you?

**M. Meeker:**

Thank you for your kind introduction, Yuri.

**M. Wolff:**

You look great.

**M. Meeker:**

Thank you. It is 4:45 and I am happy to be awake.

**M. Wolff:**

OK. Last 10 years. What is the pivotal development for you?

**M. Meeker:**

Well, given that I am the last person to answer the question, I had to think extra hard because Daniel and Yuri and Dmitry and Arkady answered the question. But I just want to add a couple of things.

Four years ago, Apple introduced the iPhone 3G and the App Store, and that, to us, was sort of a tipping point for innovation in the mobile marketplace. And Facebook began to get a tremendous amount of traction. There are more than 600 million Facebook users around the world.

And the thing that is interesting for me, now at Kleiner Perkins and having been at Morgan Stanley for about 20 years covering the Internet space, is we have never seen four global companies like Apple and Google and Facebook and Amazon.com all with their founders in place innovating as dramatically as they are today.

So we have a tipping point with the broadband and mobile devices that was talked about, but we have innovation coming from companies like Apple and Facebook that is inspiring consumers and inspiring developers.

And then we have companies from places like China whether it is Tencent, whether it is Europe with companies like Spotify, or Russia with companies like Yandex and Mail.ru, that are bringing new ways to think about connecting to other countries in the world while other countries are bringing new ideas to other countries as well.

So the degree of innovation, in my experience, is unprecedented.

**M. Wolff:**

OK. The rise of megaplatforms.

Taking all of this, bringing us to this point in time, I would like to repeat this exercise with the question, what is the transformative trend that you think will happen over the next 10 years? But I would also like to do this as both the opposite, too. What is the potentially destructive trend? That is the destructive trend over there, obviously.

So the trend that will grow this industry or, on the other hand, the trend that will slow this industry. So, Daniel?

**D. Ek:**

Yes. I always get to go first, which is the toughest, probably.

From my perspective, I think the most interesting trend that will create the most value is really the proliferation of smart devices.

It starts out with smartphones, but I think we have only seen the beginning of that. I think that most of the electronic tools that we will be using will be connected, and that is going to open up a ton of new innovation, whether it is in televisions or whether it is on measuring health or whatever it could be. So that is probably the most interesting.

The most destructive one, I would have to say that while I am a sort of huge ambassador for social and everything else, I do think that we are seeing a trend where more and more people are getting more and more worried about what

they put into their digital lives. And if that continues and if we cannot address that with better tools where people can actually simply control their identity and what they share to whom, I do think people will share less, which I think is incredibly destructive if that happens.

**M. Wolff:**

Arkady, please.

**A. Volozh:**

Yes. I am sure there will be a lot more knowledgeable people who will predict what is going to happen. What I am following is this new trend of...

**M. Wolff:**

I should just interrupt you and say that one member of the audience, when I said, "Well, what should I be asking?" she said to ask how did Arkady get to be so smart.

**A. Volozh:**

OK. It is hard to continue from this point.

**M. Wolff:**

You could get to that if you want.

**A. Volozh:**

So the trend which...

**M. Meeker:**

He was born that way.

**A. Volozh:**

The trend which is interesting to me is we saw a lot of innovation coming from just one place, and that is Silicon Valley. And now when the Internet is everywhere and technology is emerging from many different places, what they try to feel is, what are the other places which will be the technology places of tomorrow?

Definitely we have the Valley. There is unfortunately not too much technology in Western Europe, but there is definitely a stripe of technology and innovation going on in the eastern side of Europe, starting from north Europe going down to Moscow and Kiev and further south to Israel. It is a kind of Silicon Valley of Europe. And there will definitely be a lot of new innovation coming from this stripe. It is interesting to see...

**M. Wolff:**

And what would be the downside?

**A. Volozh:**

The downside is a huge challenge for companies based in this stripe, but not for all of them. Maybe the northern part and southern part are much more knowledgeable in international expansion and understanding of the global culture. It is definitely a huge challenge for Russia and Ukraine, for Belarusian engineers, to scale up to the whole world.

**M. Wolff:**

But what is the bad thing that could happen? What could happen to stop this in its tracks?

**A. Volozh:**

The best thing will be if they just stay where they are in the region where we are now. We already work nicely in the region. Our Internet here is dominated by local players, so we know very well how to work on our home market.

**M. Wolff:**

So the downside would be the lack of ambition?

**A. Volozh:**

We would stay where we are, yes.

**M. Wolff:**

Yuri?

**Y. Milner:**

Well, I see the emergence of a Global Brain in the next 10 years, which is not going to be just computers, but a combination of millions of servers and 2–3 billion people combined in one entity which some people call a Global Brain. I agree with that.

This Global Brain today consumes about close to 10% of all electricity in the world. And that compares to 20% of all calories that our brain consumes. So it is becoming close to really being the brain of mankind.

And interestingly enough, we are now at an interesting point in time where there are about 100 trillion links on the Internet that Arkady and Google are indexing and there are about 100 trillion synapses in the human brain. And I think in the next few years, the number of links will dramatically increase and the brain is just going to be smarter and smarter as time goes by.

**M. Wolff:**

Great. And what would cause an aneurysm in this brain?

**Y. Milner:**

I am not sure that we have this threat in the next 10 years.

**M. Wolff:**

So we are looking ahead at 10 years in which we have no threats.

**Y. Milner:**

All right, I mean, not for the emergence of the Global Brain. I think it is the brain that never sleeps and never fails. It is becoming smarter and smarter, like the Watson computer in 'Jeopardy!' games and a few other striking examples that we have seen lately.

**M. Wolff:**

Jim.

**J. O'Neill:**

I will stick to the macroeconomic aspects of it as much as I can, because if I have a purpose here, that is it.

The biggest story of the future is whether 1.3 billion people in China or nearly 1.3 billion in India are going to get to the potential that they have, which, over the next decade, is for China to create additional GDP alone equivalent to that of the US and Europe put together and India to create about half of that. So the biggest upside of all of this is the presumption that it is going to make it easy for them.

As it relates to Africa, I increasingly believe that this technology and the ongoing advance of it creates a chance for the part of the world that has been neglected and failed to participate to get involved in a major way. And I was with somebody from the biggest mobile company from South Africa that penetrates Africa. In Nigeria, the growth of the financial services business might happen just over this channel.

The downside, which will raise what I hope is a provocative question for here, the downside is, as we have seen in Egypt, this gives everybody access to lots of information in the way of protesting pretty quickly. And so the downside is it has very powerful conditioning things on governance. And if they do not know how to deal with it, that probably leads them towards wanting to control it, as opposed to responding to what the message is.

And here is my provocative question: what is more important for Russia, oil prices going at USD 50 or all of this continuing to rise?

**M. Wolff:**

OK. Let us keep that question open and then turn to Dmitry.

**D. Grishin:**

Yes. I think for the next 10 years, there definitely will be an improvement of the social concept. So more and more businesses will use social for their daily businesses.

I think one of the particular areas where we can have a big change is advertising. And if you look at the last 10 years, I can call it Advertising 1.0, and the next 10 years it will be like Advertising 2.0. So we will collect much more data about users, their preferences, their history, what they like, what they want, and advertising will become much more targeted.

And a lot of businesses, I hope everybody can have access to this very, very targeted ad and can target advertising for each particular person using his own information that was collected through him, like his personality, what are his likes, what is he studying, what is he doing. And this will change a lot of things in the way regular businesses are doing right now.

**M. Wolff:**

And the counter-position?

**D. Grishin:**

I think in terms of disruption, it will be a very big question in terms of platforms because now you see several big platforms like Apple, social networks, and in some situations, the applications for other platforms. For example, a big question is, can Apple be converted from just an application platform to a social network or a communication platform?

And this will be a war of platforms between themselves. And it can create a lot of changes in the way platforms operate, how companies like Apple and Facebook are making money in the future.

**M. Wolff:**

Peter?

**P. Vesterbacka:**

Yes. I think that we will see an amazingly fast emergence of new entertainment brands. So entertainment will be and continue to be huge.

And I think that, with Angry Birds obviously being an example, a tiny company from the middle of nowhere can reach hundreds of millions of fans very, very quickly. And I think that what we will see in the not-too-distant future is these new megabrands coming from nowhere reaching a billion fans, and that will be something that has not been done before. And we will see several of these.

**M. Wolff:**

And what might stop that?

**P. Vesterbacka:**

I think that a big threat is that we have a lot of companies that do not take security and privacy seriously. And we have seen some, let us say, reasonably big examples. Sony, obviously, comes to mind.

But I think that this is something that everybody really, really needs to take seriously, because if we lose the trust of the consumer, then that is really, really tough to get back, and that can have huge impacts on their behaviour.

I mean, now with some of the data breaches that we have seen, the impact has not been serious, but what if we have 200 million credit card details out there or something like that? Those kinds of things can have a very bad impact on all of us.

**M. Wolff:**

Mary.

**M. Meeker:**

Thanks, Michael. I have become a list compiler after last week. So, on the positive side, I think that consumers will increasingly expect to find everything they are looking for any time, at their fingertips, at the best possible price. And that is good for consumers, but it is not necessarily good for businesses, because any businesses that are inefficient will likely be disrupted in ways that are more profound than they may expect.

On the negative side, I think Daniel's point about privacy is a very big deal because when all the world's information is available, it can certainly make things complicated for a lot of players.

I think that Jim's point about the macroeconomic issues is super challenging. Oftentimes when things get disrupted, they get disrupted by things we are not expecting to have happened. The European debt issues, the US budget issues, the unemployment in many markets around the world, the slowing rates of GDP growth, environmental issues, rising and volatile commodity prices all create black swan-type events that in the technology industry we are not thinking about day in and day out. But they can come from over the transom.

**M. Wolff:**

I want to take this discussion now and build in some distinctions, or at least look and see if there are distinctions between the Russian point of view, the global point of view, and the US point of view. And if anyone else here represents another point of view, we will take that, too.

And I thought maybe a good way to start here is to ask Yuri, if he is willing to tell us, what he said when he was part of a very rarefied group to speak to the leaders of the G8 two weeks ago.

**Y. Milner:**

Well, everybody had three minutes to say something. I told them about the Global Brain story with which I answered your first question.

But then I ended by saying that, because the main topic at the meeting was Internet regulation, privacy, security, and intellectual property issues, I said that you should imagine that you as heads of state are neurosurgeons that want to operate on this global brain, and you have to be mindful that it is a complicated structure and disruption in one place can have an effect on the brain as a whole.

**M. Wolff:**

And did you have a sense within this group that there was a set of different points of view, essentially different interests, relating to the growth and the development of the digital economy?

**Y. Milner:**

I think there were some differences. But I think the main issue was that the voice of the Internet community was heard, Mark Zuckerberg and Eric Schmidt and a couple of other people, and that was the important message.

**M. Wolff:**

Is there a difference in, not only interests but, let us say, ideology between these different sectors of the digital world? The international, the US, and the Russian? Jim, I suspect you have a view on this.

**J. O'Neill:**

I do not have a view on anything. Well, I would love to hear some more moods swing about what I touched on. When I was flying yesterday, actually via Tokyo, there was an interesting piece in the *Moscow Times* about the Internet here in Russia being the major form of protest. I do not think that is the case in the US. And it is the case in some parts of the world and not the case in others. It is probably the case in China.

And it links to what I said a second ago: are the policy-makers adaptable enough to respond to that in a constructive manner?

Let me bring it to here. If oil prices dropped to USD 50 a barrel next year, probably something most people in Russia are thinking is very difficult to happen, but having seen lots of these things for 30 years, it could easily go there or it could easily double—it could do either. If it goes to USD 50, it is going to cause quite a few issues, I suspect, for cyclical economic affairs and probably cause much more protest.

**M. Wolff:**

Mary, as a reasonable representative of the US digital economy, when you look at both the international point of view and specifically the Russian point of view, what differences do you see?

**M. Meeker:**

Well, first, thank you for calling me reasonable. I think on the Russian point of view, one thing I just wanted to say that I thought was especially interesting having gotten to know Arkady probably about five years ago and Dmitry more

recently, one of the things I was fascinated by, and Arkady can remember the date, probably two to three years ago when Google began to increase its focus on the Russian market, I was not quite sure, and I am not sure Arkady and Ilya were quite sure, that they would be able to respond effectively to that increased focus.

And Russia has a very impressive group of great computer scientists, but Russia typically has not been known as a user interface and design country, if you will. And Arkady and Ilya focused the team on the Google threat, if you will, and responded unbelievably well and maintained market share, and then began to gain market share.

And Dmitry and Yuri with Mail.ru had done the same thing in being able to compile a group of assets, begin to integrate them, and also drive innovation with the products.

So I say that in the context of Russia, one of the things that has surprised me on the upside is the ability for great computer scientists to adapt and begin to focus more on user interface and design, which is one of the most important things about the Internet at large. It is one of the reasons Apple has been able to be so successful. There is still a long way to go, but big improvements.

On your point about, in effect, being a reasonable representative, one of the things that is interesting about these Internet leaders in the US, and you started the panel off, Michael, by saying, I am not quite sure what your words were, but US domination has ended or the days are past. The reality of the four biggest Internet companies measured by market value, public- and private-market cap, which is a way of measuring success, is that Apple and Google and Facebook and Amazon.com have seen their market values increase in aggregate by about USD 600 billion over the last five years and they are clearly leading the pack in innovation.

I think those US companies are very focused on freedom of information. Google's mission statement is to organize all the world's information and make it

universally accessible and useful. Apple has driven extraordinary innovation in connectivity and communication, as has Facebook. Amazon is in a bit of a different business.

But we are beginning to see in different countries, whether it is the Middle East, as Jim focused on, or whether it is China, with some of the scaling back. I am not the Russia expert, but I think this 'give-and-take of freedom of information' versus 'holding back information as it becomes more available' will be one of the big issues we all deal with on a go-forward basis, and a lot of governments are not fully ready to deal with that.

**M. Wolff:**

Well, let me ask you, Mary. Is it a foregone conclusion that the US loses its leadership position, or at least the hegemony of that position? Or might it hold on to it for another generation?

**M. Meeker:**

It is inevitably, and Jim is an expert on this in looking at GDP growth on a country-by-country basis, with the rising growth that will continue to march ahead at different ebbs and flows over the next 20 to 30 years with China and India and many of the emerging markets, the US share will, on a relative basis, continue to decline. That is just the simple math of emerging countries and the BRIC companies that Jim focuses on versus the developed countries.

But the interesting thing about innovation and technology, I have been focused on the technology industry for the last couple of decades, the degree of innovation in Silicon Valley right now is unprecedented, more dynamic, more energetic, more ideas, and this market that we are going after with mobile devices is 5 billion mobile devices. It is not just two billion Internet users.

So the ability to effect change fast is greater than we have ever seen. And not only is the nation's Silicon Valley and technology—hang on, Michael, one second—greater than it ever has been, the innovation in China, the innovation in Russia, the innovation in Korea, the innovation in Europe as it relates to the Internet, and Brazil, is also unprecedented.

So I think we are in a great period of innovation. The US share will, at the margin, probably erode, but will continue to be very, very dynamic. And the erosion, as much as anything, is a function of the math of the population of the different countries and the growth in GDP.

**J. O'Neill:**

I run the risk of getting you out of order here, but to jump in straight on the back of it, your tone or question implies a definite given that the US is going to lose leadership in this context. I would have thought this is the great opportunity for the US to continue to benefit from the rest of these places around the world.

**M. Wolff:**

I am curious about the experience of the people on this panel who are functioning on a global basis. I mean, Yuri, particularly, Daniel's experience with Spotify, the Angry Birds example. I would like to hear from the three of you about the difference. What are you seeing as you go from country to country, from market to market?

**D. Ek:**

Yes. You know, I think the different markets have different structural problems. So take China and Russia as examples. The ad markets are not as developed as it is in the US, which means that the DNAs of the companies that come up are vastly different than the ones in the Valley, because you assume that there has to be a virtual economy of some sort.

And I would say, really, with the exception of Zynga, the international crowd, Rovio, lots of other companies as well, Vkontakte and others, have really sort of managed to be the innovators when it comes to virtual goods, and I think much more so than the US.

And coming from a small country like Sweden, like Sweden and Finland combined have something like 14–15 million people, the Internet economy is hugely, hugely important for us.

Personally speaking, we have offices in nine countries and every single market is unique. And I think one thing that coming from Europe that we have to deal with quite a lot is really about, how do we tackle all these difficulties much quicker?

I think that, at least from our perspective, we have really learned what we know and what we do not know as we enter a new market. And hopefully our competitive advantage can almost be like flexibility, where we enter and we figure out how the market works, what works in this specific region.

And I do think that is hugely interesting in the US as well, because most foreigners believe the US is one, even though the truth is if you go to New York and San Francisco, those are at least somewhat similar, but if you go to the southern states, it is a totally different story.

So from my perspective, I think that there are structural differences. Europe is super hard because of language, currency issues, cultural issues. Russia seems to be hard because of infrastructural issues. There are still a lot of people that do not have access to broadband and connectivity and other things.

China seems to be about how do you actually build a business in China with the Chinese government and everything else. And obviously the US has its own—I think in many regards, when I meet with US companies, it is a really positive mindset, a sort of 'can do it all'.

But at the same time, I think that looking at how long it has taken, I do not think PayPal has innovated in the last few years. I do not think that we have come as

far as we would like yet when it comes to selling goods as well. I think the App Store is really the first product that works for users.

So, yes, I guess there are a lot of different structural issues.

**M. Wolff:**

Maybe another way to come at this question is to try to describe the attributes of the most successful technology companies functioning globally, functioning in Russia, and functioning in the US.

And maybe Arkady and Dmitry, that might be good to start. What are the attributes of the most successful companies in Russia?

**D. Grishin:**

Yes. I think there are several...

**M. Wolff:**

This is also an unfair question because you guys run the most successful companies.

**D. Grishin:**

OK. I think there are several important factors. First, of course, there is a very good base of engineering talent in Russia. We have very good technology universities and a lot of people, especially during the time of the Soviet Union, are very highly educated in technology.

I think another important factor is that the market is huge by itself. For example, if you look at some small countries, it is very difficult, even if you are strong enough and have a lot of engineering talents, to compete globally. You need a big market. And Russia has a big audience. It is definitely a big market.

So I think these two factors are very important for success.

**M. Wolff:**

Arkady?

**A. Volozh:**

I just wanted to agree. The combination of the critical mass of users and information on one hand, and technology and background on the other hand.

**M. Wolff:**

Yuri, you are functioning now on a global basis. I mean, you built your career in Russia; now you are a man of the world. What have you seen, the differences in each market, and with really looking at particular companies on a Russian basis, on a global basis, on a US basis, and the particular attributes that have made them uniquely successful?

**Y. Milner:**

It is hard for me to tell the differences because our business model is actually built on similarities. Farmville was not invented in the US; it was invented in China. Multiplayer games were invented in Korea and then went to China and then we see Zynga in the US, which is a multibillion-dollar business.

**M. Wolff:**

Let me just stop you there. So is that an answer to the question that the most successful global technology businesses are businesses that can function in fungible markets?

**Y. Milner:**

Well, I see the erosion of differences across countries. You see Groupon being invented in the US and being cloned hundreds and thousands of times in a matter of months.

So I think the advantage gap is really shrinking based on the information that is spreading very fast. And you see business models being invented in one part of the world and being reproduced again and again globally.

**M. Wolff:**

Mary, you have taken about as close a look at more businesses than perhaps anyone on this panel or anyone in the entire digital world. What do you see in terms of the unique characteristics of these businesses in their different markets?

**M. Meeker:**

Well, two things, sort of tying two questions together, one on your initial question of attributes to success. There are really three things when you look at great companies in the technology space that echo through, time and again. One is a big market, second is a great founder, a great founding team, then third is insane...

**M. Wolff:**

Mary, I just want to interrupt you a minute and welcome the President. I am Michael Wolff. I am delighted to meet you.

And if I can just take one minute to summarize what we have been talking about. It is essentially, we are trying to identify the trends that will take us into the next 10 years of the growth of digital business on a worldwide basis, to see this as a set of separate markets but also as moving toward a transition in both one market and the rise of new competitors to establish powerful digital economies and also to challenge the US.

Is there another chair? I could give you my chair if you would like to join our panel. But, Mary, you were saying?

**M. Meeker:**

It is an honour to be interrupted by the President of China, and I am more than happy to give you my chair in San Jose, California.

**M. Wolff:**

But go on, because... Yes.

**M. Meeker:**

So, on attributes of successful technology companies: big markets, great founders, and founders that are insanely focused on product improvement. And the best example of that is Steve Jobs at Apple. I would put Daniel Ek at Spotify in that category where, "Let us make the product better and better, let us have great engineering, and let us make sure that consumers absolutely love the product and it is fast, easy and fun."

On the question earlier about differences in different markets, Jack Ma from Alibaba was at a conference last week, Yuri was there as well, and one of the things that he said that was interesting about the development of e-commerce in China is, "In China, e-commerce is the main course. And in the US, e-commerce is the dessert." And what he meant by that is, e-commerce as a percent of total commerce in China over the next five to 10 years will be much higher than it is in the US because the infrastructure for retail commerce, traditional brick-and-mortar commerce, in China is not as developed.

So I think that as time passes, because the Internet is in effect more important in some of the emerging markets, the innovation will surprise us on the upside in those marketplaces.

**M. Wolff:**

I would like to pick up there, too, and ask a question at the heart of all these businesses, which is about business models, and are there fundamental

differences in business models as we move from market to market? So essentially, taking the same business, does it operate differently? Are its exigencies different in different markets?

And again, Daniel, you are operating across a host of markets now, so let me turn to you.

**D. Ek:**

Yes. That is kind of my point from the former question, which is really that there are lots of different structural issues.

Take Spain as one example, which is one of the markets we are in. Spain has, I do not know, about 20% unemployment. In our case, we are dealing with music. So the music market is, for the size of the country, extremely small. That does not mean that people do not want to consume the product. They still want music. Their propensity to pay for it is vastly different than, say, the UK.

And I do think that our challenge in those markets is really about, as I said, we come from a very small territory. We have always had to think globally from day one, which meant that our business model is all about flexibility.

So when we enter a market like that, our job is really to figure out how the market works in as quick a fashion as possible, and then adapting the business model while keeping the product the same. And that is incredibly challenging.

But I also do believe that once you have done that and once you have cracked the code, the power of the Internet is really that you have these companies who can grow super fast and they really become a dominant force in whatever sector they are in. So, obviously, Google is a hugely dominating force in all but a few markets, and Facebook, the same when it comes to social networking.

And I do think that when you find these types of companies that are really willing to innovate around the business model but still focus insanely hard on keeping

the product proposition the same, so that consumers understand it, then cracking the code in each and every one of those markets is a lot easier.

**M. Wolff:**

One of the things that I am hearing today is that there is a similarity in business model, that everyone is still essentially, from market to market, talking about advertising, about building companies that are largely supported by advertising.

A couple of questions here. So far, this business that we have built over the last 10 years has not been a particularly successful advertising medium. Compared to the history of television, actually, it has been a notable laggard.

Even in the US, over the last two weeks US advertisers have committed USD 18 billion to television next year. Television, we all understand, is yesterday's news, but nevertheless it still gets more and more of tomorrow's advertising dollars.

Equally so, the digital space, which was also trying to establish its own beachhead in the up fronts, was a notable disappointment.

So if we are building this worldwide industry on the basis of advertising but it is not working very well from an advertising perspective, where does that get us?

Or am I looking at this wrong?

And I would like to hear from Angry Birds, which has actually started to sell a lot of advertising.

**P. Vesterbacka:**

Yes, we are doing a lot of advertising and it works great.

But actually I would also like to add a comment to some of the previous discussion there, one thing that I think we forgot in the talk about US leadership or not. I mean, all the big US Internet brands, or more or less all of them, have failed in China. Google is not number one. Amazon is not there. eBay is not there. Groupon is failing. All of them are failing, except, OK, you have Apple who

is doing great. Some exceptions. But all the Internet brands, they are not truly global.

And as Daniel said, we in Sweden, Finland, being from small countries, we had to be global from the get-go. And we are Number 1 in 80 countries including China, including Russia, including the US. So I think that that is something that we are also starting to see now.

Then to address the advertising question, advertising works really great in all of those markets for us. But it is just because of pure volume. We are serving hundreds of millions of ads everyday but at a very low price compared to TV. And I think that is something we can have at a much bigger impact than, say, the top show in the US like 'Glee'. We can reach a lot more people tomorrow.

**M. Wolff:**

Yes but, Peter, I mean, I know that you think that, but advertisers do not think that. That is why they are not paying you very much.

**P. Vesterbacka:**

Yes. They are paying OK, but the point I am getting to is they are of course, that we have seen online and we are seeing everywhere, they are very slow. I mean, advertisers are not the fastest people. They are very conservative, actually, in the end. Online took forever to take off, and I think that it is much easier to spend money on TV.

**M. Wolff:**

But let us challenge that. TV, within 10 years of the advent of TV in the US, it had commanded a share of advertising exactly equal to the share of viewers that it had. In the 15-, 16-year history of the commercial Internet, its share of advertisers still lags in the US significantly behind its share of users.

So in other words, advertisers do not think. Advertisers do not lag. Jim says it is generationally...

**M. Meeker:**

May I...

**M. Wolff:**

Yes, please.

**M. Meeker:**

May I chime in?

**M. Wolff:**

Yes.

**M. Meeker:**

If we go back to the history of TV, there were, in effect, three networks, and so there was a finite amount of inventory capturing a lot of eyes very quickly. On the Internet, in effect, there is infinite inventory.

So advertising revenue is measured by revenue per thousand page views or CPMs. When you have infinite inventory, the CPMs will tend to be lower, and I think to the point, to Peter's point, our sense is that CPMs will continue to rise over time and we have some very disruptive forces like the Facebooks of the world that have relatively low CPMs even relative to the traditional Internet companies.

But I think when you look at the aggregate revenue of Internet advertising, it is growing pretty nicely. And you made the point that the Internet is advertising-

supported. The monetization of content where users are paying is definitely emerging at a pretty rapid pace. Tencent in China is the best example of...

**M. Wolff:**

I want to come back to that and I want to challenge that, but I want to direct a question to the President, who has been listening to what we have been talking about here. And I want to ask how he sees Russia distinguishing itself as a digital nation and digital economy.

**D. Medvedev:**

Firstly, I suggest you put your headset on, because I am going to speak in Russian. We will have to communicate in sign language for those who do not have headsets.

Actually, it has been interesting for me to visit this session. Before I say some political things, I would like to thank Mr. Vesterbacka for coming up with an app that a huge number of officials can spend their free time on, and not only their free time at that. I have witnessed this on more than one occasion. (*laughter, applause*) That is not bad, by the way.

You know, there is another discussion which comes to mind, in which Mr. Milner participated – who is here – and perhaps someone else, who I do not see here. That discussion was at the G8, and the heads of eight major states gathered together. China was not present, because China is not part of the G8. It was the first time in the history of the G8 that the Internet was discussed. It was rather funny, because firstly, the subject in itself was not a usual one for the G8. Secondly, I was struck by how many different views there were among my colleagues when examining notions of the future of the Internet, about its role in the world. You know, I got the feeling that in general, their perceptions of the Internet, and of the wider digital world are—in general—somewhat worse than they are in reality. Why? We discussed several questions on which we

converged. Firstly, what will happen in terms of regulating the Internet? Every leader from the G8 stated that the Internet should be free. However, it was clear that everyone understood the concept of 'freedom' differently, because as we began to discuss different issues—in particular the application of copyright on the Internet—people began to take very different positions. I think that I (and therefore, the Russian Federation) took a more pragmatic approach: it amounted to our having ultimately to rethink our approach somewhat towards copyright. This may be a sacred notion to us, but nevertheless, the Internet has significantly changed the practicality of authors' rights, and the opportunities available. My colleagues were more conservative. David Cameron was the only one who supported me on this. As a result, the G8's declaration on the Internet turned out to be rather flat, in my opinion. Still, we are only at the start. I hope that we will continue to discuss this topic in the future, because we cannot avoid it.

As regards your question: you know, I certainly pay quite a lot of attention to this, because I believe that Russia needs not only to be a major energy country, which supplies energy resources throughout the world, but also an integral part of the global digital environment. If, for some reason, we fall behind in the digital environment, it will lead to significant problems for us. I am not now going to say which model would be the best one for us to follow, although I think that we are currently moving along in a rather calm and balanced way. However, I occasionally have to dampen down attempts by various departments who are eager to make adjustments in such a way that it will come into conflict with the purpose of the digital environment, and with the Internet.

In any case, there is still a long way to go, especially now, during a rapid period of development for both technological platforms, and the opportunities offered by broadband Internet. It is clear that there will have to be a rethinking of copyright regulations. We must not fall behind in this area.

Finally (and by the way, all the G8 leaders were united on this matter), the Internet has changed from a means of communication, from a place where the

most advanced technology is used, to being the most powerful political instrument; and those who ignore that fact today understand nothing in modern life. If we treat the Internet as an integrated phenomenon, if we are to think about the future, then we will find a Russian niche in the Internet. And, in any case, I am also pleased that we managed to establish the idea of registering a top-level domain (I mean, the Russian Federation, '.rf'). I think that it has created a kind of niche for Russia on the Internet, and has enriched the Internet in general. However, this is still only the start. I cannot remember how many Angry Birds programs have come out, but in all likelihood, they will appear with enviable regularity. I would like to wish the same success for my other colleagues, especially, of course, for those representing the Russian segment of the Internet, who have recently demonstrated simply amazing achievements. And as far as Internet advertising is concerned, do not worry, that will be there too (*laughter*). That is how the market works. Thank you. I am going now (*applause*).

**M. Wolff:**

Thank you very much.

OK, back to advertising, Mary. OK, what you are saying is that it will happen because it should happen. It has not happened today. There is really no model to say, 'This works like television worked.' What is that?

**M. Meeker:**

Google has done OK.

**M. Wolff:**

Google has done OK because it has an enormous number of eyeballs to sell cheap advertising to. What it has not done so well is selling high-margin advertising.

**J. O'Neill:**

Can I dive in?

**M. Wolff:**

Yes.

**J. O'Neill:**

Other than BRIC, my other obsession is Manchester United. Over the last two months, the European Cup Final probably had more people tuning in than any other broadcast. That was shown on terrestrial TV. That is why advertisers pay for that.

Some years down the line, one of these guys on the panel or, I do not know, somebody else, might succeed in prizing it away from them. Then they'll get plenty of advertising surely.

And as I said earlier, but with that there is also a generation gap. For many years I religiously watched Coronation Street on TV, which is a ridiculously British soap. My kids do not watch anything on TV, but they do not have any income to pay for advertising. When they are older, they will. I hope.

**M. Wolff:**

Well, yes, possibly. But what you said is basically that advertising will continue to follow video, when much of the businesses that we have built digitally are not video-based businesses.

**D. Ek:**

So I will actually try and chime in a bit here. From my perspective, I do not sell video advertising. I sell mostly audio advertising, which when we started out in Europe, most people said this is never going to happen, advertisers will not understand it, and so on.

And I do think that together with Pandora, we are definitely the world's leading audio advertising platform. And in our case, I think that what Jim was sort of getting at is the fact that with high-quality content, you also move over the so-called branding advertisement.

But what I think is the most interesting thing that will happen to advertising, everyone talks about targeting and how all this data will become useful to us. And I do think that that is a given. But the truth is that I also do think that that is kind of more obvious. So for me, the most interesting thing is that Google really did, except the targeting, was actually the format itself.

So what Google did was instead of displaying advertisements, which required people to spend a lot of time building a brand message which then has to go through copyright agencies, is that they just displayed, I think it was 160 to 200 characters of text, which anyone can find.

So I think the success of Google is really down to the format and that it happened sort of below the radar, because we had all these small- and medium-sized businesses, which did not normally advertise that all of a sudden, started advertising.

So for me, what is going to happen, which is probably the biggest proliferation of advertising moving online, is when content moves online, and sort of high-quality content. And in our case, we get approached every single day by huge brands that want to spend more money with us. I think the job that we have is to provide good formats the way they are, but we definitely need to innovate in terms of format.

If we can give the advertisers the creative outlook that they want but at the same time offer the targeting, that is the sort of Holy Grail on how you move more and more advertising online.

**M. Wolff:**

I have one last question, and then we will have about six or seven minutes to take questions from the audience. How worried are panel members of the bubble bursting in the very near future? Peter.

**P. Vesterbacka:**

No worries. I mean, we are not worried at all because we provide our fans with an excellent business experience. And bubble or not, we will continue doing that. And I think that as long as you continue to provide a great service, you will be fine.

**M. Wolff:**

OK. No worries. Dmitry.

**D. Grishin:**

Yes, I think one of the biggest differences right now compared with companies in the year 2000 is that internet companies really are making a lot of money. They are profitable and growing very well. So this is a big difference.

And I think we are not in a bubble. Of course there is the question of what the P/E ratio should be, if it should be 50 or 70. This is a question. But definitely, in terms of the difference between 2000 and right now, companies are making a profit and they are growing because they are making money. This is a big difference.

**M. Wolff:**

OK. No worries. Jim.

**J. O'Neill:**

People look for black swans under every stone. There is too much bubble-watching going on.

**M. Wolff:**

No worries. Yuri.

**Y. Milner:**

Well, I agree with Mighty Eagle. He said the product will ultimately win. So the best products are immune.

**M. Wolff:**

Arkady.

**A. Volozh:**

There could be worries, but they are definitely not our worries. We are in the real business. I mean, if we were investors investing with bankers involved in professionally evaluating things, then we should be worried maybe. But being in real business, we do real things, get real money, and are not dependent on other relations. We will continue to be profitable.

**M. Wolff:**

Daniel.

**D. Ek:**

Well, I mean, it depends on what you define as a bubble. But are the valuations too high? I do not know, someone else could probably explain that. But I think the big difference that someone else here pointed out is the fact that there is real revenue in these businesses today, and the difference is that with the first bubble, there were a lot of businesses that were relying on VC funding and inflated valuations.

I think that the difference is that this time around, the really big companies, the successful companies, will not lose business out of this. It is just a matter of

whether it is priced incorrectly, which it might be, but who knows. I am not the person to answer that.

**M. Wolff:**

Mary.

**M. Meeker:**

Well, the value of a business is the present value of future cash flows. It sounds boring, but it is true. And there are, I think, net-net. There are a small number of businesses that will absolutely surprise on the upside and, as we often see, there are a lot of companies that will fail. I think that with every private company funding that happens, there are more on a percentage basis that will fail. But net-net, we think there is still a lot of opportunity in front of us.

**M. Wolff:**

As for me, I only worry about a bubble when no one is worried about a bubble. We have a few minutes to take questions from the audience. The gentleman with the silver hair.

**K. Lawrie:**

Thank you. Kevin Lawrie from Sony Music. I found it interesting that the President was in the room for a few minutes, and one of his primary comments was about copyright and copyright protection and the issue that is facing the G8 and the world. And I think it could be, Michael, one of those downsides for the future if that broken window in the building that is the future of the internet is left broken.

And the interesting thing is for music content providers or the providers of football games, Champions League or whatever, expect from TV and expect from people who use their content a fee and compensation so that footballers can be paid, so

that musicians can be paid, Russian or American or Chinese. And for the future of the Russian internet building, I think it is incumbent upon the group to address that broken window.

And my question to the panel is, how will you address that? And I can tell you, as a representative of content providers, we have reached license agreements with Russian companies such as Yandex and Swedish companies such as Spotify.

And I think that if these issues can be resolved in a reasonable way by both parties, that window gets fixed, and the Russian companies that are represented here can become truly global. Because one thing that Apple does with iTunes is they get a global license and they address compensation issues and they deal with that.

I think it is going to be increasingly difficult for countries to launch potentially global brands without fixing that broken window.

**M. Wolff:**

Does anyone on the panel want to take issue with that cogently expressed view of content holders?

**Y. Milner:**

Maybe I will try. We are one of the few companies which have been trying to build a market for content distribution, musical content in particular, here. We have killed six years. We have never gained a dollar of profit from that. Yet. And I must say that the content providers need to address the new reality somehow on your side as well.

There is something you are doing dramatically wrong. I do not know what it is. Being on the other side, maybe we could create something. But we try our best to be legal to promote. But something wrong is in the model because it is not being consumed by your customers. We are just a channel for you. And we are a

good channel, but you use us somehow wrongly. You could make much more money in this transitional world.

**M. Wolff:**

Another question?

**P. Vesterbacka:**

Actually, can I still add as one of the online content providers to that? I think we should actually focus much more on providing value than about the various rights and all of that. I totally agree that the model is broken in somebody's interface, and of course music is a good example.

And if you look at games, the reason why we have been able to roll out globally and be number one in 80-plus countries is because we do not have a very heavy licensing scheme behind everything. And I think that there is a lot to be done there and I think that copyrights, yes, it might be a broken window, but there are many ways to fix that.

**M. Wolff:**

An elegant framing of the issue on both sides. Please.

**R. Lemmens:**

Thank you very much. Renier Lemmens, responsible for PayPal in Europe, Middle East, Africa. First of all, Peter and Daniel, thank you very much for being customers. Much appreciated.

Russia is our number 12 market globally, and we want to bring it into the top 10. So we are entering Russia. What advice would the Russian panel members have for us? So are we too late?

**M. Wolff:**

Also elegantly expressed. Another question? Please.

**R. Lemmens:**

But we are open to discussions.

**From the audience:**

I know a lot of engineers and programmers from countries that are working worldwide, and at the same time, each country is building its own Silicon Valley. Maybe it is time to build something like this worldwide. So maybe it is time to join?

**P. Vesterbacka:**

I think it is time to stop building all these wannabe Silicon Valleys. There is innovation happening everywhere. Of course, we know that Silicon Valley is innovating like crazy and more than ever before, but I think that we have different skills and competencies if we look at the world and we can build different models. So what works in Silicon Valley, Israel, what works here, they are different things. But I think that innovation and leadership comes from doing stuff first and not copying Silicon Valley or what have you. And I think that that is what we need to do. I mean, I am from Finland, Daniel is from Sweden. It can be done.

**M. Wolff:**

So a Silicon UN. Sounds bad.

**D. Ek:**

I will actually just add to that, because I think it is funny. For me, a lot of the great strength of the Valley is the actual community itself: the community of capital, the community of entrepreneurs, the spirit of learning from each other. And if there is anything that we can learn as global companies it is really that even though the

physical proximity of Silicon Valley really helps in creating the Valley, we ourselves are not really using the tools that we are helping in creating to share ideas to the same extent as we are urging others to do.

So if anything, I will invite you guys to a chat room or something and we will start a board about that.

**P. Vesterbacka:**

I will join it.

**M. Wolff:**

The gentleman in the red tie.

**G. Levi:**

Yes. Hello, my name is Gabriel Levi, creator and founder of a Russian startup. And my question is very simple: how can we make a Russian startup, a Russian idea, global and successful in the world? What do you think is the secret?

**M. Wolff:**

Yuri, you want to take that?

**Y. Milner:**

Well, I think the secret is just go ahead and do it. I think.

**M. Wolff:**

Nobody is stopping you.

**Y. Milner:**

What I have noticed particularly in the Silicon Valley is that every startup is prepared to be global from day one. And they do not have any hesitation and

they do not have any second thoughts and the capital is always available to do that. So I guess the idea is to just break the psychological barrier. And I think that is the most important thing.

**A. Debelov:**

Hi. So my name is Alexander Debelov. I am a Russian tech entrepreneur based in Silicon Valley. And the difference that I have seen between Silicon Valley and Moscow in terms of the tech scene is that in Moscow, the most successful tech startups are usually clones of the ones that are based in Silicon Valley. And one other thing is the incubator called Y Combinator in Silicon Valley is extremely successful in producing billion-dollar companies.

So I was wondering from the Russian investors and Russian entrepreneurs here on the board, what do you think about creating a similar incubator that is focused not on cloning American companies or successful services abroad, but actually innovating and starting something new and scaling and making it a global service?

**A. Volozh:**

Well, we modestly believe that we are one of the successful companies here, and we do not clone so much. There are a lot of services which were born here starting with search, continuing with the unique Yandex.Market or actually the Yandex Traffic Jams or a dozen other services.

Of course we watch around, we see what other people do, but we do it for our local circumstances and we innovate locally. And sometimes it is even applicable elsewhere. So I could not agree that they are all clones.

We just launched Yandex.Fabric, the startup-supporting facility. And we now see a lot of innovative teams and groups with quite unique ideas. So it is not always just cloning. There are not so many successful clones.

**M. Wolff:**

If we rush, we have time for a few more.

**A. Kunafambar:**

Hi. Andrei Kunafambar. My question is for Arkady Volozh. First of all, congratulations on the successful IPO on the NASDAQ market. I think it is a great example for Russian companies and there should be more companies like you to serve as examples for Russian aspiring entrepreneurs. And my question is, now that you have sold a part of your company, are you planning to expand your operations on the international scale? And maybe kick Google in the butt a little bit? Thank you.

**A. Volozh:**

OK. First of all, we are already expanding our technologies abroad. If you take into consideration Ukraine, Belarus and Kazakhstan, we have already started working there. So this is our abroad. Talking about the global world and talking about search in particular, we have many businesses, many projects talking about search.

What we have noticed in the world is that whenever the market is open and there are several search players on the market, the distribution of the market shares between the players is almost the same in all the markets. Take the US, take Russia, take Japan, Korea, the Czech Republic in some cases. In all those markets, the number one player gets 60%-70% of the market, the number two gets 20%-30%, and 10% for the rest.

But the global landscape is different. There are several open markets, competitive markets, which I just named, and there is China with its separate rules, and the rest of the world where there is no competition at all. There is Europe, the Arabic countries, Latin America, the rest of Asia, where they have

just one player. I do not know why Bing is still not there, but it is still just one player who has 95% market share.

So we believe that in comparative markets, it takes a lot to change the initial market share. You need to offer a completely different product to change the market share, to break the rule. But if you are just offering something which is of good quality to users, your natural market share should be somewhere in one of these natural layers, the first layer of 60%, the second layer of 30%, and 5% for the rest.

So if you introduce a quality product to the audience, I think that the audience would prefer freedom of choice rather than using just one service. And there is a place for a second player in all the markets. Who will it be? Who knows. Maybe us, maybe not. It is not easy.

**M. Wolff:**

The gentleman with the elegant haircut and microphone.

**R. Czensky:**

Hello, my name is Roy Czensky, CPCIS. Actually, I am here for a very simple question. I think there are options available, but still, in a bid to see internet business, who do you think should be the final leader and final decision-maker? Is it the person with the technical background? The IT person? Or is it more maybe the marketing person or, say, the person who is like the general team leader? What do you think? Of course, I am talking about a project with a limited budget where you cannot afford everybody, as usual.

**M. Wolff:**

A quick answer to that question. Somebody go for it.

**D. Grishin:**

Yes. I think you are talking about internet companies, right? Or are you talking about...

**R. Czensky:**

Internet companies, yes.

**D. Grishin:**

I think for internet companies, a good combination is a person who understands the product and has a technology background. This combination is the best, I think.

**M. Wolff:**

If you can ask it in 30 seconds and if we can answer it in 30 seconds.

**From the audience:**

So two questions in 30 seconds, both to Arkady. Can you tell us a little bit more about the future of Yandex cloud? What kind of services will we have from your cloud? And the second question is very simple. I know that you invest a lot in your research and development. So in comparison with Google, what do you think of your pure research? Is it better than Google today?

**M. Wolff:**

I think you cannot do it in 30 seconds. So he will talk to you privately.

I want to thank all of the panelists. This has been great fun. Thank you so much.

**Y. Milner:**

Mary, thank you for your heroic effort.

**M. Meeker:**

Thank you.

**M. Wolff:**

Hey, Mary, thanks a lot.