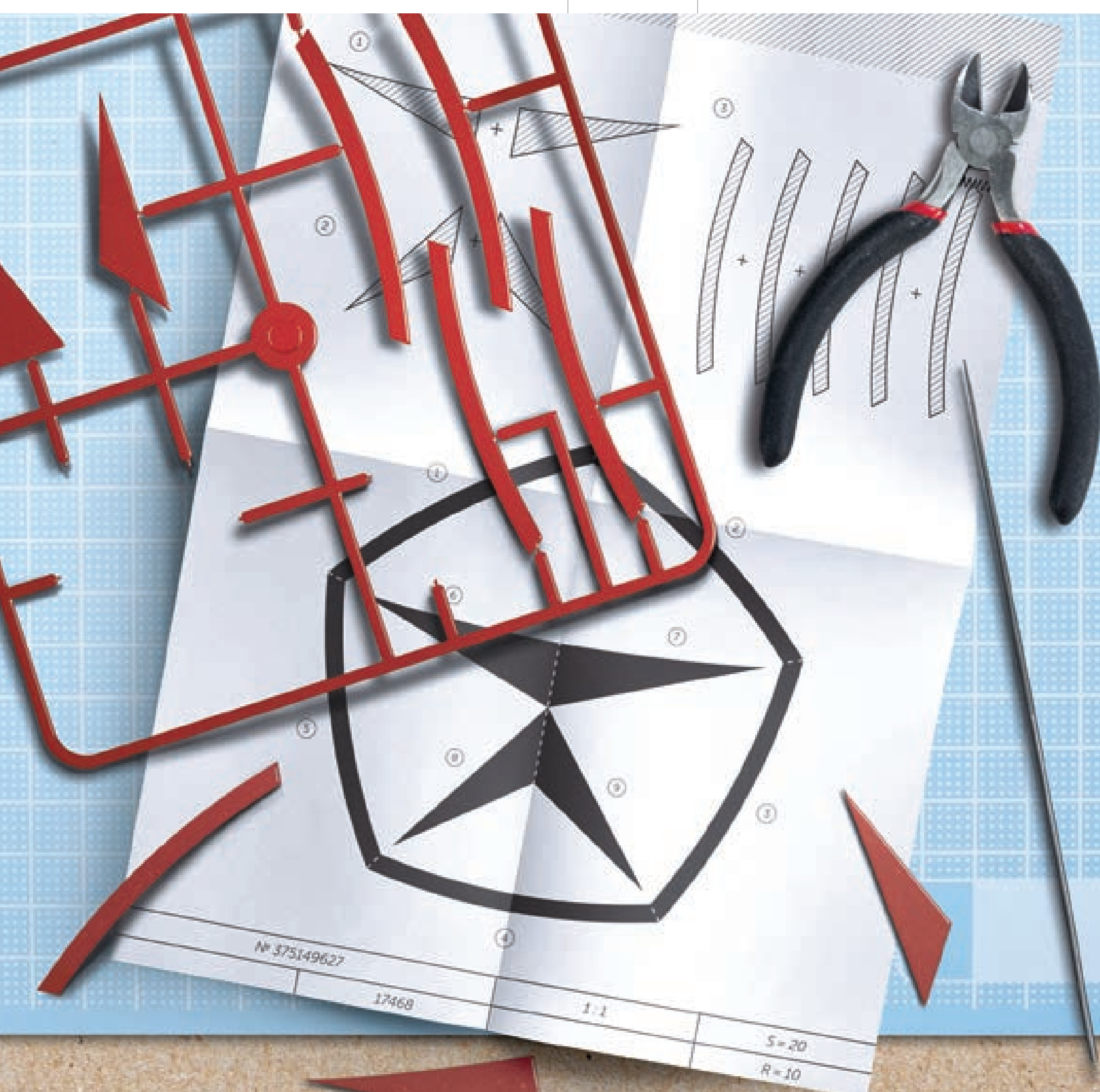
No. 4 (25)
12.2016–01.2017

Journal strategy

QUALITY OF LIFE



Journal
strategy

Founder and publisher
Alliance Media Strategy LLC
as part of ACIG Group of Companies

Address of editorial stuff and publisher:
36 Kutuzovsky prospekt, 121170,
Moscow, Russia

Editor-in-Chief
Dmitry I. Mikhailov

Feedback
Phone +7 (495) 280-01-50 (3392)
Fax +7 (495) 280-01-60
www.strategyjournal.ru
Editorial stuff: info@strategyjournal.ru
Distribution: pr@strategyjournal.ru
Advertisement: adv@strategyjournal.ru

Strategy Journal No. 4 (25)

Age limit: 16+
Signed to print: 12.12.2016
Printing date: 13.12.2016
Publishing date: 20.12.2016
Printer: Tekhnologiya TsD
Address: 84, Vernadskogo prospekt,
119606, Moscow
Circulation: 15 000

Cover: SHUTTERSTOCK.COM

Distributed free of charge

Public distribution: Russian Government, State Duma of the Russian Federation, Ministry of Justice of the Russian Federation, Ministry of Healthcare of the Russian Federation, Ministry of Culture of the Russian Federation, Ministry of Education and Science of the Russian Federation, Ministry of Natural Resources and Environment of the Russian Federation, Ministry of Industry and Trade of the Russian Federation, Ministry for Development of the Russian Far East, Ministry of Communications and Mass Media of the Russian Federation, Ministry of Agriculture of the Russian Federation, Ministry of Labor and Social Protection of the Russian Federation, Ministry of Finance of the Russian Federation, Ministry of Economic Development of the Russian Federation, Ministry of Energy of the Russian Federation, Federal Space Agency (Roscosmos), Federal Tax Service, Government of the Republic of Bashkortostan, Government of the Republic of Mordovia, Government of the Republic of Tatarstan, Government of Altai Krai, Government of Krasnoyarsk Krai, Government of Perm Krai, Government of Irkutsk Oblast, Government of Kaluga Oblast, Government of Lipetsk Oblast, Government of Moscow Oblast, Government of Novosibirsk Oblast, Government of Samara Oblast, Government of Tyumen Oblast, Government of Ulyanovsk Oblast, Government of Saint Petersburg, Central Bank of the Russian Federation, Moscow Chamber of Commerce and Industry, Russian Presidential Academy of National Economy and Public Administration, National Research University Higher School of Economics.

Strategy Journal is registered by the Federal Service for Supervision of Communications, Information Technology, and Mass Media (Roskomnadzor). Mass media registration certificate EP No. FS 77-55026 dd August 14, 2013.


ГАЙДАРОВСКИЙ ФОРУМ 2017 «РОССИЯ И МИР: ВЫБОР ПРИОРИТЕТОВ»
GAIDAR FORUM 2017 «RUSSIA AND THE WORLD: SETTING PRIORITIES»
UNILEVER25.RU
Unilever
25 ЛЕТ В РОССИИ
25 ЛЕТ В ПУТИ: ИНОСТРАННЫЕ ИНВЕСТИЦИИ В СОЦИАЛЬНО-ЭКОНОМИЧЕСКОЕ РАЗВИТИЕ РОССИИ
РАНХиГС
АИРР

The winter issue of The Strategy Journal is dedicated to the quality aspects of the global economic agenda and its echoing in Russian realities.

Our goal was to analyze the modern concept "Quality of life" not only from the viewpoint of conditions and indicators of a person's life, but also a number of various factors of the socio-economic development in the Russian society.

Our experts expressed their opinions on the issues of quality of economic growth and investment, infrastructure development, intellectual property protection and development of payment systems, education and training, health and medicine, pharmaceutical production and advanced measures taken to support small and medium business.

Traditionally, there are three thematic sections in the magazine. The first is dedicated to the global aspects of socio-economic development in the light of recent events in Europe and the USA. In the second section, experts share their opinions on the issues of Russian socio-economic policy, industry regulation and food security in the context of global trends. The third section "It's all about human capital" echoes the main title of the upcoming issue. All the articles in this section preannounce the next issue of The Strategy Journal.

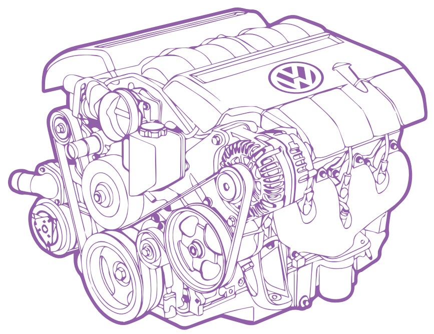
In this issue, our readers can find interesting interviews with high-level speakers, opinion articles, scientific research and historical essays, as well as take part in informal dialogue among business leaders on non-business topics.

This issue aims to provide our readership, including participants of the Gaidar Forum 2017 and all those who follow it, with food for thought on the threshold of the forum that gives a start to global business events in Russia this year.

Dmitry Mikhailov,
Editor-in-Chief

2016 in Numbers

330 banks
The number of banks connected to the financial message transmission system (Russian counterpart of SWIFT),
reported in January



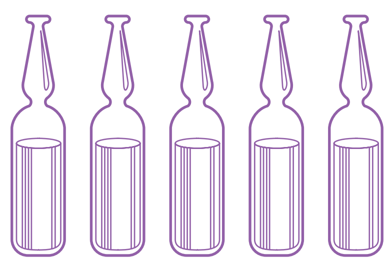
39 million rubles
The value of a human life, experts of the Financial University under the Government of the Russian Federation,
reported in February

43,000 cars
Volkswagen vehicles withdrawn to refine the engines after the diesel emissions scandal,
reported in February

10-fold increase
The penalty for violation of interaction rules by debt collectors under the act on collection activities has increased up to 2 million rubles, the Ministry of Finance,
reported in March

72%
Increase in demand for IT-specialists in the Russian market,
reported in April

400 million rubles
The amount of subsidies allocated by the Ministry of Transport for the development of domestic tourism,
reported in May



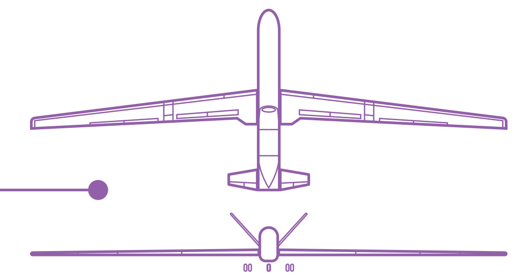
11 billion rubles
The toll fees collected by the Platon system to be allotted to Russian regions for road maintenance,
reported in May

1 mcg/ml
The maximum permissible concentration of meldonium in the body of an athlete in a doping test before 1 March 2016,
reported in April

$500 million
The fund China CYTS created along with a Rostec subsidiary to invest in the Russian IT sector and high technology projects,
reported in June

2.46 trillion rubles
The amount left in the Reserve Fund, Reuters
reported in July

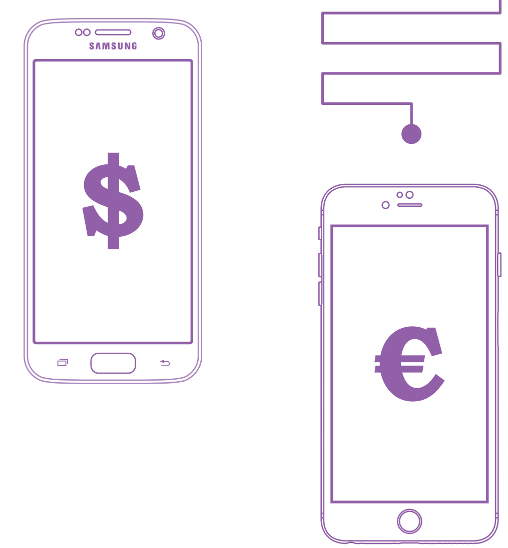
6%
Russia's share in foreign direct investment of China, the American Enterprise Institute,
reported in August



€13 billion
The record penalty Brussels ruled against Apple on charges of receiving undue preferential tax benefits from Ireland,
reported in September

$560 billion
The global unmanned transport market value over the next 20 years, according to an AT Kearney survey of over 150 companies,
reported in August

$17 billion
Samsung's loss of market share after discontinued production and sales of its flagship Galaxy Note 7,
reported in October



46 FSUEs
The number of federal state unitary enterprises subject to corporatization following amendments by the Ministry of Economic Development to the property privatization program for technical engineering and road-building military formations under the Federal Agency for Special Construction,
reported in November

Health Formula

Healthcare is always one of the top priorities for the state in any economic conditions. The quality of medical services determine standard of living, acting as a guarantor of stability and social security for citizens. Health Minister of the Russian Federation, Veronika Skvortsova, told a Strategy Journal correspondent how to improve the quality of healthcare, making it more affordable for citizens. In addition, she told us about the role of public private partnership in medicine, relevant health projects, and noted how to keep within a budget.

How do you assess health conditions of Russians?

Human health has many indicators at the population level. Certainly, the main indicators are life expectancy and mortality that are steadily improving. According to the Federal State Statistics Service, life expectancy increased by 0.7 during six months in 2016, reaching the level of more than 72 years. This is the highest rate for all the time. The total mortality of the population decreased by 2.3% during 10 months (from January to October) in 2016, compared to the same indicator in 2015. It is about 33,000 saved human lives.

Infant mortality decreased by 10.6% – from 6.6 to 5.9 – per 1,000 live-born babies. The number of deceased children under the age of one year decreased by 10.5%. It should be recalled that, according to the forecasts in 2009-2010, we planned to reach the index of 7.5 by 2020, taking into consideration the transition to the international criteria for live birth.

It is extremely important that we have reached a significant decrease in mortality: tuberculosis by 17.4%, respiratory diseases by 9.2%, diseases of the circulatory system by 4.4%, diseases of the digestive system by 4.3%, external causes by 6.5%, including road accidents by 10.1%, accidental alcohol poisoning by 2.3%. The number of deaths from neoplasms decreased by 0.8%, despite the fact this is a very special group of diseases where it is extremely difficult to reduce mortality. After all, the following two processes are being carried out simultaneously: we improve the detectability, thus increasing the incidence and prevalence of cancer, which indirectly affects the increase in mortality. At the same time, we reduce the mortality through the introduction of effective diagnostic and treatment methods. Mortality among the people who suffer cancer diseases has decreased by 6% since 2012. The early detection of oncological pathology at treatable stages with the help of a system of modern targeted health screenings, the complex of which we are accustomed to call clinical examination also plays important role. Now the indicator of early detection in the country is 53.7%. It is necessary to reduce the number of undiagnosed cases to a minimum in order to mortality from cancer (the population indicator of the number of deaths per 100,000 people) started declining in proportion to mortality.

In recent years, we have introduced many changes to the health care system. The statistics clearly shows that we are on the right way.

It is obvious that the mortality rate directly depends on the availability of medical services. How is the medical care system organized in remote areas of the country?

For the first time since Soviet times, we are systematically dealing with the issue of providing medical care in remote areas. Back in 2012, we urged the regions not to reduce small medical posts in the countryside. Then we fundamentally revised and approved the requirements to medical organizations in accordance with the number of population and remoteness from another medical organization.

That step brought good results. From 2005 to 2011, the number of rural health posts and other small health posts decreased by 12%. However, the pace has significantly slowed down since 2012. Now we are involved in not only eliminating medical posts, but also opening new ones with support of regional authorities. It was launched 800 medical facilities in 2015 – among them were 557 new medical posts and 58 offices of general practitioners.

These medical posts successfully operate in remote areas. Thanks to the Zemsky Doctor program, we managed to attract more than 22,000 specialists in three years.

Special requirements were introduced for those people who live in small areas with a population below 100 people. The so-called households have been created for the first time. Their courtyards are equipped with communication facilities and contain the required kits with medications that allow to provide first aid and call a doctor. It has already been equipped more than 10,000 households. Moreover, medical specialists have to come to these villages twice a year with the necessary equipment in order to people could pass medical examinations. Special attention will be paid to the development of sanitary aviation.

As we know, sanitary aviation refers to national projects – priority areas in the development of healthcare. Could you tell us more about these areas?

Our top priority task is to form a three-level system of medical care for pregnant women, women during the period of childbearing, after childbearing period, and newborn children. We will create 28 new perinatal centers in the regions, and change the logistics of medical care at the primary and secondary levels of the obstetrics system and neonatology.

"According to the Federal State Statistics Service, life expectancy increased by 0.7 during six months in 2016 and became more than 72 years"

Our second task is to form a sanitary aviation system. Our main goal is to increase the number of departures from 17,000 to 26,000 a year in the regions.

We have selected 34 regions where sanitary aviation should be introduced. These are regions with low population density in large areas and problems in the transport infrastructure. The government has already approved a new priority project and allocated extra 3.3 billion rubles. The funds will be spend on aviation services. Medical evacuation of patients will be carried out with the help of new domestically-manufactured medical helicopters.

Helicopter platforms will be built for medical organizations in the context of public-private partnership. By 2018, the number of additional flights in the selected regions may reach 8,500. This measure will help to save about 6,000 human lives.

The third task is to develop digital technologies in the field of medicine. All state and municipal medical organizations will be connected to the Unified State Health Information System (EGISZ). It will allow to introduce electronic circulation of documents among medical organizations, create a My Health personal account on the portal of public services. The service will help to make an appointment with a doctor or call him at home, receive access to your own medical documents and assess the quality of medical services. The doctor will receive unlimited access to all information bases, an electronic library, decision-support systems, as well as the possibility of telemedicine consultations with federal and regional organizations. In addition, doctors will release at least 30% of their time for other patients thanks to electronic circulation of documents and reduction of paper documents.

Finally, the fourth task is to protect the population from falsified, inferior and counterfeit medicines, promptly removing them from circulation with the help of an automated system for monitoring labeled medicinal products on their way from the manufacturer to the final consumer.

As for a private initiative in medicine: investment of private capital into the medical sector can be considered as a worldwide tendency. Why does the private sector tend to the public health and what benefits can this bring to patients?

Public-private partnership is an effective tool for the development of public health. Such cooperation can be extremely effective both in the field of infrastructure modernization and in the provision of medical services through active involvement of private investments in health care.

Currently, the share of private medical organizations, involved in the implementation of the basic program of compulsory medical insurance, is 29%. We saw a four-time-increase compared to 2011. It was implemented 53 healthcare projects in 24 regions of Russia in accordance with the principles of public-private partnership.

In addition, more than 20 investment projects are being considered at various stages by the Ministry of Health of Russia and subordinate institutions. Various mechanisms were used for attracting extra-budgetary investments in accordance with the principles of public-private partnership, the planned investments of which is more than 10 billion rubles.

Among the leading regions where public private partnership projects will be implemented in the social sphere are Samara, Novosibirsk, Moscow, Ulyanovsk regions, the Republic of Tatarstan, as well as Moscow and St. Petersburg.

The unified information system of public-private partnership was created in the Russian Federation to provide market participants with up-to-date information on the development of private partnership projects mechanisms and projects implemented on their basis. The system is available on the Internet.

Mikhail Murashko, the head of Roszdravnadzor, has recently announced the introduction of additional labeling for medicines. Will this require additional financial costs?

The innovation will be implemented as a pilot project on a voluntary basis. Applications have already been submitted by 15 companies. Among them are both domestic and foreign manufacturers of medicine. Distributors, pharmacy networks and medical institutions from Moscow, Moscow region, St. Petersburg, Nizhny Novgorod and Belgorod are going to participate in the project. Some member companies have already started marking their products.

Organizations will purchase products on their own, as all the required equipment for the system can be bought at an affordable price.

During a five-year payback period, the marking cost of one package may increase by no more than 50 kopecks.

"In comparison with 2011, we saw a four-time-increase. It was implemented 53 healthcare projects in 24 regions of Russia in accordance with the principles of public-private partnership"

When buying medicine at a higher price, your overpayment is a guarantee of the effectiveness and authenticity of pharmaceutical products.

The draft government decree on the pilot project about the federal state monitoring system will come into force on January 1, 2017.

Will the current budget allow to preserve all guarantees in the field of healthcare?

The draft of consolidated budget for healthcare in 2017 will grow to 3 trillion 35.4 billion rubles, which is 5.9% more in comparison with 2016. In 2017, all available spending obligations will remain.

It worth noting that an increase in the budget is accompanied by a redistribution of resources with their predominant concentration in the mandatory medical insurance system. This is extremely important, as the budget of the Compulsory Health Insurance Fund is about 80% of the total financing of medical care in Russia, and 57% of all investments in health care, including training of specialists, medical science, and construction of new facilities.

An increase in the budget of the Compulsory Health Insurance Federal Fund will directly influence the volume of medical assistance provided by its means. For example, since 2017, the Compulsory Health Insurance Federal Fund will invest in providing high-tech medical care, which is not included in the basic program of compulsory health insurance. With the help of high-tech medical care, we have managed to change its availability drastically in the field of Compulsory Health Insurance. In 2014, high-tech medical assistance was provided for 508,000 people, in 2015 for 823,000 people. We expect that in 2016 the number of high-tech operations will exceed 900,000.

Increase in the financing volume of territorial funds of Compulsory Health Insurance will allow to increase the amount of capitation standard payment for 2017 to more than 9,300 rubles (around 10% in comparison with 2016), for 2018 – by more than 10,300 rubles (-11%), for 2019 – almost 11,000 rubles (5-percent-increase).

In other words, the project budget will allow not only to preserve all available guarantees, but also extend some programs.

Priority Investment

National investment policy today faces a choice: either quantitative boost investment or priority support of "good" investment aimed to create high-end jobs, reduce resource and energy consumption, and increase competitiveness of domestic industries.

Investment Crisis: Looking for a Way Out

Investment crisis in the Russian economy has become a sad fact of reality. At the same time, while gross fixed capital formation started to shrink in Q2 2014 in real terms quite predictably amid the first symptoms of the sanctions standoff due to the events in Ukraine, the total fixed capital stock plunged down in Q4 2012 after the first signs of slowdown in GDP growth appeared. As a result, volumes of gross savings in Q2 2016 were a third – about 37.8% – lower than in the same period of 2012. The decline in gross fixed capital formation, usually borne in mind when talking about investment in the real sector of economy, was only 13.3% for the same period. However, unlike the first indicator, where a partial rebound was observed against the backdrop of improving economic conditions in H1 2016, fixed investment continued to fall. Such pattern only says that economic actors are building on circulating capital: manufactured inventories, work-in-progress inventories and inventories ready for sale. However, the actors are not ready yet to increase the fixed capital stock. Fixed capital investment in rubles in January-September 2016 was 2.3% lower than a year earlier, which means that there's no expectation to be optimistic about the outcome of the year.

The decline observed in recent years has added to the chronic hardships of the Russian economy: high level of wear and tear of fixed capital, critical underinvestment in a number of industries, including infrastructure (from electric energy to road construction), low innovativeness, and significant intra-industry contrast in productivity and competitiveness between companies. The traditional recipe to unravel this tangle of problems is more investment. As is often the case, however, this recipe raises more questions than answers. Firstly, how much more investment? It is clear that current investment downturn must be handled, but how significant should further investment growth be? Secondly, what may be its drivers? Are we ready to sacrifice current spending priorities in favor of extending long-term investment? Finally, the most important question is whether these sacrifices will bring a desired result, or all efforts in the country will impart new structural distortions to the economy, in addition to the already existing ones?

Add More Coffee?

There is a popular joke where the question about how to make coffee taste better is given an answer: "Add More Coffee!" The root of evil in this case is associated with too small a serving of coffee. Accordingly, the proposed solution also focuses on quantitative recommendations. Can you really say that investment in Russia suffers from the same problem of quantitative deficit?

To assess the gravity of the problem, an indicator is used traditionally. It shows gross fixed capital formation in % of national GDP. In Russia this indicator, measured using international methodology, was 21.9% in 2015. Is it a lot or a little? On one hand, Russia's figure looks quite respectable in comparison with both economically developed countries and some major developing economies. Hardly anyone may dare to downplay the achievements in economic development of countries such as Brazil or Turkey, where the fixed capital formation of GDP is even lower than Russia's. On the other hand, Russia's figure is quite modest by the standards of countries with developing markets. Moreover, the backlog from a number of economically developed countries is obvious – not only from high-tech South Korea, but also Canada and Australia, whose resource potential is comparable with the Russian economy. So, go ahead and fight the investment deficit? It is not as simplistic, though. First of all, countries with emerging markets have both successful examples of economic growth with the fixed capital formation of GDP at about 20%, and examples of apparent "failures of development", with significantly higher values of this indicator. For example, Burkina Faso has almost doubled the fixed capital formation of GDP over the past quarter century, but how has it benefited the country? With all the credibility of macroeconomic models, showing positive impact of investment on the economic growth, the nature of that impact is far from linear.

Secondly, a question arises about the sources of funds for investment-fueled breakthrough. If we want to invest more, we must consume less. Are we ready for

Gross fixed capital formation of GDP, %

	1990	2000	2010	2014
World	23.9	23.4	22.9	23.3
Developed countries	24.2	23.1	20.1	20.6
including United States	21.2	23.0	18.0	19.5
South Korea	34.4	31.6	30.5	29.2
Canada	21.8	19.7	23.5	23.8
Australia	27.7	26.0	27.7	27.3
Countries with emerging markets	23.4	23.9	29.7	29.9
including Russian Federation	28.7	16.9	21.6	21.4
China	25.7	33.9	44.9	44.3
India	23.8	22.7	30.9	30.8
Brazil	20.7	18.3	20.5	20.2
Malaysia	33.0	25.3	22.4	26.0
Burkina Faso	17.7	21.2	24.5	32.0

Source: The Global Innovation Index 2016. Winning with Global Innovation this? The real disposable income of the population has been declining steadily in recent years. In January-September 2016 alone it fell by 5.3% compared with the same period last year, and the decline in real consumer spending between Q2 2014 and Q2 2016 was 12.9%. Against this background, the proposal to tighten consumption even more in favor of investment growth evokes to mind the famous words by Francisco Goya: "Hey you who cannot stand it any longer, lift me on your shoulder!"

It is also important to keep in mind that high fixed capital formation of GDP in a number of emerging economies, particularly China, is due to the specific role of the state in their political and economic system. The investment rate in GDP at the level of 35% and higher in the modern world may be observed only in the economies where the government has sufficient freedom to implement its own investment policy with no regard to consumer priorities of the population. Relatively low fixed capital formation of GDP of economically developed countries, in turn, is not least determined by citizens' independent choice between current consumption and long-term investment. So the question on the proportion of investment in GDP is also a matter of choice of the political system, which people want to inhabit.

The question is, finally, whether the game is worth the candle. What do we mean when we talk about a radical expansion of investment? Whose investment is it and in what projects? And what returns can we expect? It is no secret that discussion about the return on investment of some priority projects in recent years comes to difficulty shaking off the relevance of the Edgar Allan Poe's compelling refrain "Nevermore!" that can put an end to the debate. Undoubtedly, Russia, given its geopolitical status, has to cope not only with economic problems, incurring significant investment costs at the same time. But that's another story. So, what is the state of the investment designed to solve problems of economic growth? It makes sense to look at a broader, global context of the problem.

In general, the shift towards capital-intensive technologies focused on the use of skilled human resources combined with drastic increases in resource efficiency, both fossil and renewable, may within the next 15-20 years change the balance of competitive advantages in the global economy in favor of countries, whose investment priorities will explicitly consider this shift. The only challenge is to end up among such countries.

Sergey Afontsev,
corresponding member of the Russian Academy of Sciences, director of the Department of economic theory of Primakov National Research Institute at RAS, professor of MGIMO under the Ministry of Foreign Affairs of the Russian Federation

Investment Priorities of New Development Model

Currently, the world economy adopts a qualitatively new development model, where the role of investment factor looks different than in decades past. This is due to the nature of both key challenges for the world economy and mechanisms that generate responses of the economic system to these challenges.

With regard to the main challenges facing the global economy, they are associated primarily with two groups of factors. The first one is the changing global demographic situation, defined by aging populations in developed countries and the decreasing inflow of cheap workforce into labor markets in developing countries. The second group of factors is the increasing demand for natural resources, stimulating investment in new types and sources of raw materials, resource-saving technologies and alternative energy technologies.

Under the influence of these factors, both structural and dynamic features of the world economy development are undergoing significant changes. In particular, the role of cheap labor as a source of comparative advantages of countries is considerably diminished in the backdrop of the global economy. This source, combined with investment in the development of labor-intensive manufacturing industries, provided a radical breakthrough in East and South-East Asia among the leaders in economic growth in the second half of the 20th century and the first decade of the 21st century. The gradual increase of salaries and completion of demographic transition in respective countries will contribute to the erosion of their benefits, and other developing countries will find it extremely difficult to replicate their success.

In the economically developed countries, however, change in the age structure of society towards older groups causes a shift to using capital-intensive technologies and improving the quality of human capital. Attempts to compensate for the decline of the workforce through immigration are palliative and of little economic effect, as the influx of migrants from third world countries does not compensate for the shortage of skilled labor, and is fraught with sharp social and political conflicts that can be clearly seen in the EU migration crisis. As a result, in the coming decades, respective countries will face transition to the economic-growth-without-population-growth principle based on massive investment in creating high-end jobs that place high demands on skilled labor that might repay them decently in acute international "competition for brains".

Lower resource intensity of global GDP and flexible use of technologies aimed to replace relatively expensive resources with cheaper ones will eventually cause the world economy development to coincide with general growth in resources consumption without reaching their physical limits – reserves exhaustion or acute shortage of individual commodities in the world market. Growth or decline in the prices of some resources will stimulate investment either in alternative resources or, on the

contrary, in expansion of consumption of traditional resources. Possible refusal to use certain resources and technologies in some countries will be followed by increased consumption of the respective resources in other countries, pragmatic enough to take advantage of lower prices for the resources that have become less widely used.

Investment Policy Priorities

In the context of solving problems associated with the transition to a new economic development model, we can speak about two principal priorities of the investment policy. These priorities correspond to the creation of productive jobs and promote technological development aimed at the creation and development of new markets. Although the promotion of job creation and development of new technologies is a classic economic policy, under new circumstances it pivots toward the criteria related to assessing the contribution to increasing the competitiveness of national companies: cost reduction, increase in productivity, and expansion of share in advancing markets. It can be stated that the new investment policies are fully consistent with the challenges of the world economy transition to a new development model. On one hand, the focus on creating high-end jobs reflects the increasing role of human capital in economically developed countries and leading emerging markets. On the other hand, encouragement to develop new technologies for the creation and maturation of new markets today turns out to be utmost driven by resource efficiency and substitution of capital for labor while breeding new opportunities to build up the demand for skilled labor.

A typical example of these trends are industrial policy measures taken to aid the development of green technology aimed at energy saving, reduction of pollutants and greenhouse gases, as well as overall reduction of anthropogenic impact on the environment. It is noteworthy that a country's priorities advocating the adoption of green technologies reflect the market status in the respective countries: creation of new jobs in developed economies, improvement of resource efficiency in leading emerging economies, increase in the incomes of the poorest in "less successful" developing countries. Thus, the new investment policies are associated with the challenges and opportunities of embedding the respective countries within the emerging model of the world economic growth.

It is essential that in the light of weak economic conditions, the investment in the creation of high-end jobs and support for technological development do not lose any relevance. These priorities were in demand across the world during implementation of the anti-crisis program of 2008-2009, and are currently playing a prominent role in strategies to overcome consequences of the crisis and follow the path of sustainable economic growth, particularly in EU countries. Russia's transition to the new investment priorities, however, faces difficulties. The period of 2010-2013 saw positive trends such as active application development that provided high-end jobs and contributed to high-technology market-oriented industries. In the following years, however, the systematic increase in performance and competitiveness faded into the background. Meanwhile, they are as relevant as ever.

New Jobs

A benchmark analysis of the growth rate in major developed countries and emerging economies shows the crucial value of correlation between processes in creating new high-performance jobs, apart from the already existing jobs, and the conversion of the existing jobs into more productive through the growth of capital-to-labor ratio, technological upgrade, and increased requirements for professional competencies. The higher the conversion rate, the smaller the performance gap between old and new jobs is enough to enhance performance throughout the national economy.

In particular, if the performance of the old jobs remains unchanged, then when increasing the number of jobs in the economy by 1%, labor productivity growth then will come ahead of employment growth only if the performance of the newly created jobs exceeds the performance of the old jobs by 2.02 times. However, if 5% of the pre-existing jobs are converted into the jobs, whose performance match the new jobs, then in order to ensure rapid growth in labor productivity throughout the economy, the performance of the newly created and converted jobs will be adequate, exceeding the old jobs only by 1.17 times. Thus, in countries where there is no way to drastically increase employment at the cost of population growth or quick elimination of mass unemployment – Russia's case – the conversion of the old low-end jobs into the new, more productive jobs is a major source of productivity growth in the economy.

Investment in the conversion jobs definitely pose certain risks. In particular, they can lead to a partial rightsizing due to disposal of obsolete jobs. Firstly, such effect is not inevitable. In particular, it is missing in those cases where enhanced efficiency of the existing jobs is achieved through investment in the suppression of resource intensity. Secondly, when job profiles change radically, the rightsizing of the workforce not satisfying new qualification standards is an objective process, and its artificial deceleration threatens productivity growth in the economy. Instead of avoiding layoffs at any cost, it is substantial to come up with the incentives for businesses to cut down inefficient jobs, provided that high-end jobs are created at the same time both in relevant and related industries. Possible costs in this case are certainly justified by the results, which include not only strengthening of the competitiveness of domestic industries, but also the growth in real incomes of the population, i.e. high-performance employment pays well, it increases incentives for investment in human capital, and budget revenues. For example, on the eve of the global financial crisis, Germany had a positive fiscal effect of €18-36 thousand per year from creating a single workplace. Thus, €100,000 worth was subsidized per 10 new workplaces, which showed a positive net fiscal effect of €170,000 on average. Under this example, fringe benefits for private investors, designed to create jobs, may not deteriorate the budgetary situation, as is often the case with the implementation of public investment, but rather improve it.

Basic Choice

The economic policy of a country again finds itself at the crossroads of investment priorities. What is more important: quality or quantity? Active buildup of investment or targeted support of the most efficient investment projects?

In the first case, a risk of drift to a mobilization scenario is real, when particular politicians, experts and lobbyists prefer large investment projects with an uncertain payback period, which is be paid for at the cost of halting consumption by the most population. In the second case, the investment support appears to be conditioned by clear criteria of efficiency growth that can be formalized under terms of supporting specific investment projects: fulfilled conditions bring support; failure to fulfill them lends no support. At the same time, taking into account the existing possibilities for enhancing the efficiency of the Russian economy, primarily in the non-resource industries, the support of quality investment can lead to a medium term increase in the fixed capital formation of GDP. The government efforts to reduce public consumption will not determine the increased investment; instead, the population, attracted by the prospects of obtaining investment income, must decide itself. However, the benchmark nation will be not China or India, but rather Malaysia. This is just the case when "less is more".

Business Challenge: Adapt or Die

UN World Conference on Climate Change (COP22), held in Marrakech on 7–18 November 2016, stressed the importance of the global climate agenda and its relationship with economic growth and well-being of the world community. As a discussion platform, COP22 has indeed become a key tool to make necessary joint decisions "here and now", including for businesses. Unilever CEO Paul Polman shares his point on the results.

If you take purely economic indicators showing trends over the past 50 years, it may seem that the world has never been more prosperous than it is today. You should think so: the average per capita income has nearly tripled in half a century, and the global economy has expanded sixfold in terms of GDP.

People around the world live longer and healthier lives, and billions have escaped from extreme poverty. All this has ensured economic growth and business development.

However, this success is very superficial. As everything that is on the surface, it masks a picture less appealing. Many of the old drivers of growth are no longer sustainable. Global challenges, whether food security or unemployment, poverty or climate change, are threats to the stability of our future. Income is distributed unevenly, rooting inequality as an accepted norm.

2015 and 2016 became milestones in the history of the global fight against climate change, thanks to the events unprecedented in ambition and significance: the adoption of 17 UN Sustainable Development Goals, Paris Climate Agreement, the agreement to cut hydrofluorocarbon emissions, signed in Kigali (Rwanda).

However, conclusions of the United Nations Environment Programme show that the demand for strong and prompt actions is compelling: our planet is rapidly heading for mean air temperature rise of 2.9-3.4°C in this century alone.

The UN Sustainable Development Goals (SDGs) are the cornerstone upon which we can eradicate poverty, tackle inequality and safeguard our environment for generations to come, while securing the world's future economic growth.

It is simply not possible to have a strong, functioning business in a world of increasing inequality, poverty and climate change. That is why a business that is not positively contributing to the society will find itself more and more isolated — abandoned by consumers and shareholders.

Consumers will increasingly choose to buy products from and invest in businesses that recognize the opportunities that the SDGs represent.

Businesses must adapt or die. We need new, dynamic models for growth through the sharing economy, using advanced technologies, R&D base and big data to unlock new insights and adopt closed-loop cycles.

Those that adopt the new models the SDGs demand will have an edge over their competitors. With an estimated investment of between $2 trillion and $3 trillion a year, the potential value that can be unlocked for society will be immense — $20 trillion, or more perhaps. Hundreds of billions in individual sectors — a very attractively high payback for this global agenda.

We have seen action on climate, which influences 13 of the 17 SDGs. Businesses that actively account for climate change enjoy 18% higher returns on investment.

Strategy to combat climate change includes a program of social and economic growth, which implies an inclusive development model, as well as ensures food security and fighting hunger. UN World Conference on climate change (COP22), held in Morocco in November, stressed the importance of the global climate agenda and its relationship with economic growth and well-being of the world community.

Unilever aims to be one of the drivers of the global climate business agenda. For example, our goal is to halve the carbon footprint of our entire supply chain by 2030 as part of Unilever Sustainable Living Plan. This is despite that over the past two decades, CO_2 emissions from our factories have already been cut by two thirds.

We also have set for ourselves another ambitious task: to switch completely to renewable energy sources by the year 2030 and become "carbon positive" — generate more renewable energy than our manufacturing network consumes, and redeploy the surplus to those who live and work next door to our factories. Up to the year 2020, we aim at achieving zero deforestation related to four key global commodities: soy, beef, palm oil, and paper (pulp).

Since the launch of Unilever Sustainable Living Plan in 2010, Unilever shareholders, consumers and us can see how sustainable development has been reshaping our business and our brands.

From 2015 onwards, we avoided costs of over €600 million as a result of energy and water savings in our factories and sending zero non-hazardous waste to landfill, but processing and reusing it in other industries. Moreover, such long-term strategies, based on innovation, environmental care and sustainable growth, help protect our business from future impacts of climate change: at the moment 28% of the energy across Unilever manufacturing operations comes from renewable sources, 60% of raw materials for Unilever's food production comes from certified farms that comply with Unilever Sustainable Agriculture Code.

In this sense, sustainable approaches to farming can be effective solutions to the climate problem; hence, they need public policy support of Paris Agreement signatories. The priorities of such policy should be establishing programs for sustainable agriculture and, in particular, for land cultivation, especially in countries that are the world's largest suppliers of basic agricultural commodities — programs designed to handle a scenario of increase in average temperatures of 1.5–2°C and to respond to related social and economic challenges.

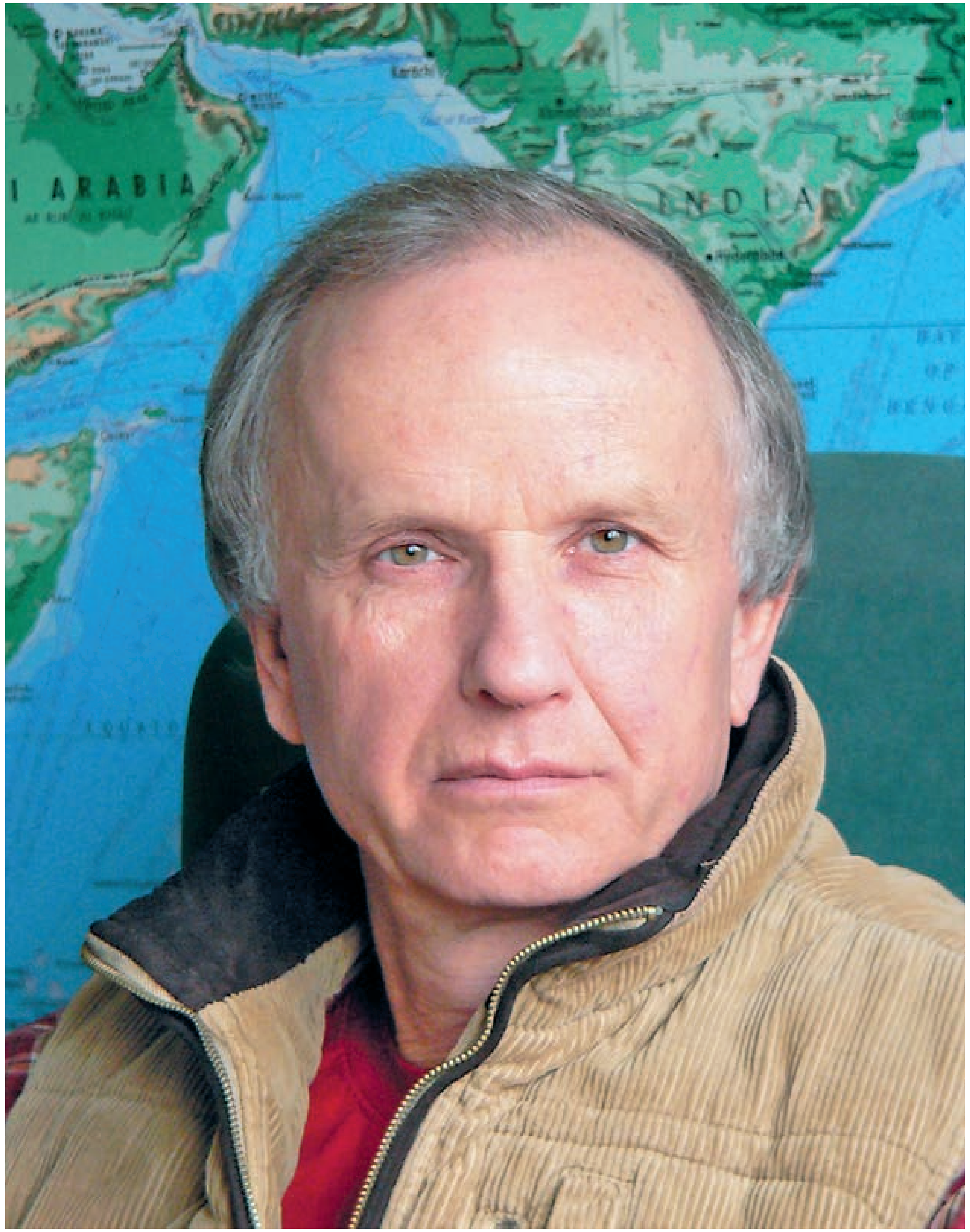
Talking to the elite of Russian business, I would like to emphasize: to advance the climate agenda, we need genuine manifestations of leadership and consistency in the actions. Only then will becomes a reality all that we imagined. Only then will we be able to avoid the disastrous consequences of continued inactivity.

Paul Polman,
Unilever CEO

A little more than a year has passed since the UN adopted the SDGs. During this time, legacy approaches to doing business became increasingly more visible; and the need for change, more obvious. Such changes do not happen by themselves.

A year ago, the world witnessed the Paris Climate Agreement signed, which marked the fight on climate change. However, the agreements reached in Paris suggest that the private sector should make even greater efforts and do it as quickly as possible.

Text: Andrey Zhuravlyov



New Pragmatism

Former Deputy Prime Minister and Finance Minister of Poland, the key architect of polish reforms proffessor Grzegorz Witold Kolodko told a Strategy Journal correspondent about the quality of global economic growth, measures of economic development and the idea of Integrated Success Index.

After the global crisis of 2008-2009, world economy has changed dramatically. Do you believe these changes pave the way for the new development paradigm, which focuses on the quality of economic growth rather than just growth rates?

Indeed, in the aftermath of the global crisis of 2008-2009, the world economy has changed significantly, but I would say neither "dramatically", nor deep enough.

Still, a lot of changes – vis-à-vis the values, institutions, and structures – must take place if we want to have something that will deserve to be called inclusive global economy. It is far from that and, therefore, also quite far from having a new development paradigm. Definitely, there is a need for such, but the need does not mean that it is emerging fast enough.

It still will take a lot of time to shift – and it will happen rather gradually than in a radical manner – from the old paradigm of neoclassical mainstream economics to the new one, which ought to focus on triple-balanced long-term development: balanced not only in the traditional economic meaning but also in its social and ecological dimensions.

In short, the new development paradigm implies durable inclusive development. Unfortunately, although we are not back to "normal", we are not yet at the "better future" which is supposed to come.

It is a long shot, but it may occur because to old train of economic thought has derailed and indeed the economics and political economy need something fresh, new, and progressive.

I do hope that what I propose within the theoretical, policy-oriented framework of the New Pragmatism is pointing in this direction (Whither the World: The Political Economy of the Future).

Are existing measures of economic development (GDP, national income, etc.) suitable to measure quality of economic development?

No doubts that the existing measures of economic development, like GDP, GNP, consumption, and so, are obsolete and thus unsatisfactory. Treating the pace of economic growth, measured by the value of GDP's increment, as the aim of economic activity means narrowing the scope of observation and often leads to biased or just wrong economic reasoning.

We are already in the beyond-GDP economy what calls for beyond-GDP theory of economic growth and beyond-GDP strategy of socio-economic development.

Upon how one measures economic performance, and especially socio-economic development, depends by what means and where one is aiming. And this has colossal implications for economy and economic policy.

In recent years, a number of alternative measures of economic development were proposed, including quality of life indices, Happiness Index, etc. Can we rely on them? Are they really better that more traditional development measures?

Even if they are not necessary better, because often they are not precise enough, they are useful.

Alternative measure of economic development widen the scope of observation and analyses, thus bring to the fore additional aspects of economic considerations. Yet one must rely on them with precautions.

The matter of measuring economic development is much more complicated and complex than measuring the value of output, capitalization of the stock exchange, unemployment, or inflation.

Yet is must be measured in the best way we can do it. I am sure that Inequality-Adjusted Human Development Index, or IAHDI, is better measure than traditional GDP, because it includes proxy for the quality of human capital (health and education) and takes into account the important issue of income distribution.

So-called Happiness Index is rather an intellectual exercise than serious economic measure but I would not ignore it if it is composed in technically comprehensive way and the time-series are long enough to make comparisons along the space and time.

The OECD-composed Quality of Life index is also interesting and should be used much more often in economic debates and designing development policies. One can also learn a lot from

"My idea of the Integrated Success Index, ISI is derived from the deep conviction that at the era of beyond-GDP economy a comprehensive, multi-track index measuring economic development is not only needed, but indispensable" sophisticated measure introduced several years ago in the Kingdom of Bhutan that is the Gross National Happiness index, GNH.

Isn't it interesting that such measure has been developed in tiny and rather poor Bhutan, and not in high-developed Norway or another Scandinavian social market economy?

In your book *Whither the World: The Political Economy of the Future*, a new approach to quality of life measurement is formulated. What is it about and what are its major novelties?

My idea of the Integrated Success Index, ISI (or in my Polish language ZIP, as the post-code aiming at proper direction), which has been suggested already in the book Truth, Errors and Lies: Politics and Economics in a Volatile World, is derived from the deep conviction that at the era of beyond-GDP economy a comprehensive, multi-track index measuring economic development is not only needed, but indispensable.

It follows the approach which has been at the foundation of IAHDI, yet it goes further and proposes to include also the appraisal of the environment and its' perception by the population as well as the subjective evaluation of quality of social and political conditions.

I stopped there, with just the suggestion in which direction further studies on the subject should go, without attempting to make the ISI operational. I am leaving this challenge for other researchers. No doubt, they will appear and will work out my idea.

Can this approach be used to address problems facing the Russian economy?

Absolutely, the ISI, or Integrated Success Index, as well as other alternative to the GDP measures of economic development, can be used for the evaluation of progress (and, unfortunately, sometime regress) of the Russian economy.

After all, we have in Russia all economic, social and environmental problems we do face elsewhere. Several alternative measures have been used to observe and evaluate Russia's situation. I believe we should go along such tract and then we will see more, we will know more what's indeed going on, and – what's the most important – where we ought to go in the future to make it better for as many people as possible. It is worth making the effort.

Brexit: Harbinger of Changes to Come

In 2010, it became clear that the European Union was to face many systemic internal and foreign policy challenges. The Strategy Journal traces the evolution of the European neighborhood in the context of modern challenges.

© SHUTTERSTOCK.COM

Enlargement of the EU in the early 2000s created the so-called group of Young Europeans — Eastern Europe and Baltic States — whose interests do not always align with the policy of Western European states. Free migration of labor resources, the need to integrate national economies into a single European area — all this caused a contradiction between newer and older EU members. Besides, the EU's expansion eastward forced Brussels to develop a common collaboration policy towards new neighbors, Russia, Ukraine, Belarus, Moldova, countries of the Caucasus. The Barcelona Process, set up in 1995, was an identical system of collaboration with southern neighbors, Mediterranean and Middle East states. At the same time, with the onset of the Arab spring and cooled relations with Russia, the EU actually was caught between the acknowledgment of its neighborhood policy as untenable and the need to reform it quickly.

From its beginning, the EU's predecessor, European Economic Community (EEC), endeavored to pursue key common foreign policy goals of the member states. Part Four of the Treaty of Rome signed by the EU founding states in 1957 regulates the association and cooperation with other countries and regional organizations.

In particular, the EEC signed the Association Agreement with Greece in July 1961 and with Turkey in September 1963. It should be noted that such agreements signed in the 60's and 70's were aimed at gradual EEC integration of the signatory states. The Agreement of July 25, 1961 ordained the European Economic Community to allocate Greece $125 million for industrialization of the economy. The community also proposed a phased transition to a common customs union with preferential transition period up to 22 years for some Greek commodities. In fact, the very preamble to the agreement stated that its objective was to improve the standard of living of Greece's population and economy, help it become a full member of the EEC. In the early 1970s, similar agreements were reached with the Republic of Malta and the Republic of Cyprus. Although before the entry of Greece to the EEC in 1981, Athens and Brussels made strong efforts to restructure Greek economy and harmonize agriculture, which contributed to the increase in the standard of living of the population. Greece eventually proved to be one of the most problematic countries in the EEC and later in the European Union. Greece's refusal of further cooperation with the West and its move into the Soviet camp was among central factors that prompted EEC to quicker integration of Greece. It was due to the difficult economic situation and political instability in the country, caused by "the regime of the colonels", as well as the popularity of the left that followed. At the same time, formal negotiations on the accession of the United Kingdom, Ireland, Denmark, Spain and Portugal to the EEC took significantly less time and envisaged no transition period to restructure economy.

Simultaneously, the EEC established agreements with key developing countries in the Mediterranean region in the 1970s. New cooperation agreements entered into force as a result: with Morocco, Tunisia and Algeria in 1976 and with Syria and Egypt in 1977. In accordance with these agreements, the EEC provided substantial economic aid to those nations, including for the development of entrepreneurship and formation of new modern infrastructure.

It is noteworthy that the agreements with the above-mentioned Mediterranean countries missed any article about democratization, public administration reform, support of free mass media. Perhaps, Brussels contemplated that the development of free entrepreneurship through economic growth in the Middle East and North Africa must assist certain democratic changes in the countries with authoritarian regimes, which, to varying degrees, included all five countries that signed the EEC agreement in 1976-77.

After the 1992 Maastricht Treaty transformed the EEC into the European Union, the policy of association and cooperation agreements with individual countries continued. In 1991-1996, a number of agreements were signed with the future Young Europeans, countries of the former Soviet Union, which desired to join the European Union. Such agreements clearly state in the first section that the obligation to respect human rights, comply with the Helsinki Accords and build market economy is integral to future EU members. At the same time, they give detailed terms and conditions on lifting customs restrictions on various articles produced in the EU or the member countries of the agreement, specify equal rights of European and national businesses, stress the importance of economy reforms and free movement of labor. It should be noted that almost all such agreements foresee assistance from the EU to restructure the banking system, build modern infrastructure, and integrate social security systems. Separate agreements specified commitments of the candidate countries to the EU. In particular, Bulgaria, Slovakia and Lithuania pledged to decommission allegedly unsafe Soviet-built nuclear power plants. In response, they were guaranteed funding for the nuclear waste disposal and preservation of the nuclear power plants.

Since the accession to the EU was an important political goal for incumbent officials of Eastern Europe, political goals overrode economical goals.

In particular, the removal of customs barriers and the equal competition with European manufacturers caused significant damage to agriculture in most Eastern European countries. The need to shut down the modern 20-year-old Ignalina nuclear power plant drove up electricity prices in Lithuania by 30-35% in a year. The

Krenholm Factory, the largest textile company in the Baltic States, was driven out by the competition of European products and went bankrupt in 2010 without state support. The history of European integration of any post-Soviet country is replete with such examples. At the same time, the earmarked funds from Brussels to Eastern European economies, damaged due to European integration, were insufficient, which post-Soviet Eurosceptics cautioned in the late 1990s. Lithuania received €450.8 million to close down nuclear power plants over 2014-2020. Bulgaria and Slovakia received €293 and €225 million respectively. Vilnius, Bratislava and Sofia, however, stated that these amounts could not cover all costs for nuclear facilities preservation.

At the same time, the population of countries integrated in the EU at the turn of 2000s took advantage of the association as they were granted unobstructed access to its labor markets. While socially they took substantial precedence over labor migrants from other countries. What's more, the Eastern European youth got significantly better access to European educational programs, and the standardization of social systems subsequently resulted in somewhat improved health care and increased retirement benefits.

Riding the wave of the EU's growth in the early 2000s, Brussels was induced to promote the common foreign policy towards the new neighboring countries of the former USSR.

At that point, the EU had already had experience of building integrated relations with its southern neighbors, the Mediterranean countries.

The Euro-Mediterranean Partnership (the Barcelona Process) was established during the Conference of Euro-Mediterranean Ministers of Foreign Affairs held in Barcelona on 27 and 28 November 1995. The conference adopted the Barcelona Declaration, which is a fundamental program of regional cooperation and integration in fields such as politics, security, economy, finance, society, culture and human between the EU and the Mediterranean coast countries.

The Eastern Partnership

Russia saw the foundation of the Eastern Partnership as an attempt to drag Moscow partners from the emerging Eurasian Union. Indeed, if we ignore political factors, the real economic effect of the cooperation under the Eastern Partnership was not too great for most of the six countries (Azerbaijan, Armenia, Belarus, Georgia, Moldova, and Ukraine).

The Euro-Mediterranean Partnership works both at the bilateral and regional level. At the bilateral level, the EU implements a number of projects with each individual country by entering into association agreements and establishing cooperation principles in the Mediterranean basin. Among the projects at the regional level, there are EuroMeSCo (foreign policy coordination), FEMISE (economic sciences), SMAP (environmental protection), Euromed Heritage Programme (protection of historic monuments), Euro-Med Youth Programme (youth assistance program to provide education and employment).

By the early 2000s, the Barcelona Process made it possible to attract substantial investment in North African countries. For example, Morocco, the leading European investment recipient, received more than $2 billion investment from the EU in 2001 alone. Undeniably, the implementation of partnership programs had substantially influenced the growth of living standards in the region, which was acknowledged at the anniversary summit in November 2005. However, the political component of the Barcelona Process was criticized too. At the summit, Algerian State Minister Abdelaziz Belkhadem criticized the European aid's dependence on reforms. Furthermore, by the mid-2000s, the partnership faced new challenges: terrorism and increased illegal immigration. At the same time, European nations and their partners had contradictions about immigration policy, which, in fact, the partnership had not solved. However, the Barcelona Summit adopted a five year program of action in 2005, and 3 years later, in July 2008, at the initiative of French President Nicolas Sarkozy, the Euro-Mediterranean Partnership nations created the Union for the Mediterranean, with headquarters in Barcelona. This international organization was anticipated to coordinate cooperation in key fields such as immigration, fight against terrorism and energy, however, a few years later, the events of the Arab spring, in fact, rolled back the 15 years of work.

Going back to the situation in Eastern Europe, it should be noted that in March 2003 the European Commission (EC) issued a communication "Wider Europe — Neighborhood: A New Framework for Relations with our Eastern and Southern Neighbors", which described Brussels' approaches to the relations with neighboring countries. In May 2004, the EC presented a strategy for the implementation of the European Neighborhood Policy and the program of regional cooperation with the Mediterranean partners, as well as Ukraine, Moldova, Belarus, Armenia, Georgia and Azerbaijan. A few years later, in June 2008, Prime Minister of Poland Radoslaw Sikorski initiated the establishment of a separate Eastern Partnership with the avowed purpose to promote EU integration of six former Soviet republics. While Russia played the role of an outside observer authorized to discuss a limited number of regional issues. The Eastern Partnership was officially established at the summit in Prague in May 2009.

If we ignore political factors, the real economic effect of the cooperation under the Eastern Partnership was not too great for most of the six countries. For example, Belarus was allocated about €20 million in 2007-2010 for the development of the cross-border cooperation program and small businesses. After 2010, Minsk received €8 million more under the program of international accreditation of medical testing laboratories, and support of Belarus healthcare (BELMED), another €3.5 million was allocated to expand the program "Support to regional and local development in Belarus". The expenses of the Eastern Partnership in 2014 break down as such: €34 million for Armenia was mostly spent on the small business development and human rights program, Azerbaijan

received €21 million on educational programs and support to civil society, Belarus got €19 million in direct support of the independent media and civil society funding.

Georgia, Moldova and Ukraine, for which the year of 2014 became a watershed moment in relations with the EU, benefited significantly more: the former two got €131 million, Kiev received €365 million. Part of the funds allocated to the Eastern Partnership to support the private sector and small business in Georgia, Moldova and Ukraine, was distributed as grants for small business projects. The EU authorities probably grounded this in the assumption that the development of small private businesses would stop the flow of immigrants to the EU. For instance, an ambassador for the Moldovan part of the European Commission public report on the implementation of the Eastern Partnership program in 2014 was Maria from the village of Berezhany. She took a business course at the expense of the EU and opened a bakery in her home village using the grant and loan from the EU (about €10,000 total).

The report underscores that she made this move to give jobs to the relatives who, otherwise, would be compelled to go to work in Europe.

Despite the fact that the publicity of the Eastern Partnership performed satisfactorily, the amounts allocated by Brussels are, in fact, insufficient to address the objectives proclaimed in the Declaration of the Eastern Partnership in Prague Summit in 2009.

The Euro-Mediterranean and Eastern Partnership are rather ongoing projects, but, in fact, they require radical transformation.

Several long-standing EU members negatively perceive political components of the both partnerships. France, Italy and Spain revolted against to the establishment of the Eastern Partnership and the declaration by a number of EU countries stating that the ultimate goal of the process was the integration of six former Soviet republics in the EU. Moreover, in May 2015, former Italian Minister of Foreign Affairs Paolo Gentiloni declared at the Eastern Partnership summit in Riga that it should not be regarded as the EU enlargement program. His predecessor Franco Frattini gave a more critical stance, saying that the Eastern Partnership "gives six former Soviet republics vain hopes" and urged to abandon such political projects, and focus the EU's efforts to development further integration within the Union and improve relations with Russia.

The Northern Dimension

Russia implemented several major environmental projects under the Northern Dimension policy. In particular, it constructed new sewage treatment plants in Saint Petersburg, and established bilateral commissions for water protection together with Finland and Estonia.

Besides, Rome has traditionally had good relations with Moscow and, being one of Russia's largest trading partners in the EU, perceives the circumstances in Ukraine pragmatically. The Italian leadership, along with the colleagues in Athens and Madrid, are paying much more attention to the immigration crisis and the situation in the southern Mediterranean and the Middle East that truly menace the economy and political stability of the southern European countries.

The Northern Dimension policy (equal partners are Brussels, Oslo, Reykjavik and Moscow) in the context of the EU relations with its neighbors must be mentioned. The policy was initiated in 1999 and renewed in 2006. The ND policy aims at supporting stability, well-being and sustainable development in the region by means of practical cooperation. The Northern Dimension covers a wide range of sectors, such as the environment, nuclear safety, health, energy, transport, logistics, promotion of trade and investment, research, education and culture, to name a few.

The Northern Dimension operates through four partnerships: the Northern Dimension Environmental Partnership, the Northern Dimension Partnership in Public Health and Social Well-being, the Northern Dimension Partnership on Transport and Logistics and the Northern Dimension Partnership on Culture. However, the growing conflict between Moscow and the West undermines the continued existence of the Northern Dimension in its current form.

As mentioned above, the challenges Europe faced in the past five years encouraged the European neighborhood policy to transform completely. The last significant blow it took was Brexit, the United Kingdom's withdrawal from the European Union following a referendum vote. Thus, the EU foreign policy focus has shifted to the preservation of the broadest possible economic cooperation with the UK, to maintain EU political influence in the post-Soviet space, including through economic stabilization in Ukraine, Moldova and Georgia, to transform the immigration policy and successfully coordinate activities in countering terrorism.

In August 2016, European think tank Bruegel proposed a continental partnership, a new form of the Europartnership designed specifically for post-Brexit Europe. It proposes creating a two-tier system of the EU membership.

The Mediterranean Partnership

Almost immediately with the start of the conflicts in both North Africa and the Middle East, it became clear that the Euro-Mediterranean Partnership and the Union for the Mediterranean could not resist the flow of immigrants and refugees to Europe. Moreover, the Declaration on Combating Terrorism adopted under the EU's Mediterranean policy, produced no tangible results, which the tragic events in Paris, Nice and Brussels proved.

In general, Bruegel gives forms of possible EU-UK cooperation in the future, depending on the depth of the UK's integration in the EU's processes. The search for a new form of cooperation will clearly take Brussels and London a long time and it will likely become the basis for a renewed matrix of EU interaction with foreign partners.

Thus, in the foreseeable future, the new format of the European neighborhood policy is likely to become as follows: North Africa and the middle East — effective counter-terrorism, attempts to ensure sufficient stability in the countries most affected by the consequences of the Arab spring in order to end or at least cut the flow of refugees; Georgia, Moldova — economic assistance and possible further liberalization of the cross-border regime; Ukraine — attempts to complete governance reforms; Belarus, Armenia, Azerbaijan — traditional support to civil society and preparing euro-oriented staff; the UK — transition to a new form of relations after Brexit.

Judging from the intensity of the events in Europe and the world, the revision of economic interaction forms and the emergence of a new series of blocs and partnerships, based on new principles and filled with new content, are to be expected in the near future.

Trump. New Twist

The victory of Donald John Trump in the US presidential election caught by surprise most political critics who used to make authoritative judgments about contemporary trends in international politics. Experts of the Strategy Journal study the events in the context of global expectations from the new US leader.

Shock and Awe

Back in the spring of 2016, the world's leading publications assumed it was almost good form to call the Republican candidate "a clown", "a showman" and "a mere populist". By the end of the summer, the most perceptive observers began to say that Trump's populism is not quite common and his radical slogans — from tightening immigration regulations to revising US trade agreements — attract suspiciously many supporters, including in the United States, traditionally a stronghold of the Democratic Party. In September–October, the US election campaign finally bore features of confrontation of respectable mainstream candidate Hillary Clinton and unexpectedly strong challenge in the face of "a racist, sexist and financier". Even the day before the election, US leading survey agencies predicted the mainstream candidate to win. Nevertheless, they were wrong.

So why was it? As usual, the explanations come flowing. Among these are a random "Clinton fainted at the wrong time", and a reasoning in the style of conspiracy theories "How WikiLeaks got access to her email archive?" and lamentations about the appeal of populist slogans for "uneducated white folks". But it is of little importance, of course. Undoubtedly, Hillary Clinton herself unintentionally helped Trump during the election campaign. A controversy involving personal email used to send classified information would suffice to ruin the political career of a minister for foreign affairs in most leading countries of the world. An even greater recklessness would be to imagine that a candidate could win the election without bothering to reveal its own economic strategy and without specifying any of its key slogans. "We will create new jobs!", but at what expense? "Our reform will enhance the rights of migrants!", but what are the outlines of this reform? Unlike "serious politician" Clinton, "showman" Trump handled the case in a more thorough manner by unveiling plans for the first 100 days of his presidency. It was the right decision to make, because he offered voters what they had long been waiting for, and had been almost desperate of getting.

This circumstance shocked the public upon Trump's victory.

The political views of the American middle-class society and a big part of blue-collar workers turned out to differ materially from the ideas about "politically correct political mainstream". First of all, we are talking about the voters, who are customarily classified as White Anglo-Saxon Protestant in its broader sense. 63% of white males and, despite all the accusations of sexism, 53% of white women voted for Trump, along with 60% Protestants and 52% Catholics. At the same time, attempts to portray Trump voters as uneducated losers do not stand up to criticism. Indeed, the lack of college education became an important label as 67% of white voters who belong to that group voted Trump. Nevertheless, 49% of white college graduates gave him their votes too. What is more important, any substantial gap between Trump and Clinton (50% versus 46%) occurred only in the group of voters with a household income of between $50 and $100 thousand (Clinton outpaced Trump by more than 10% among poorer voters, and Trump edged out Clinton by 1-2% among richer voters). These are clearly neither rednecks nor not white trash, but mostly the American middle class that has been waiting for its Hollywood action hero.

Pivot to the Real Interests

What new things did Trump propose to attract voters? Paradoxically, there are not so many truly new ideas in his program. His proposal for tax cuts as a stimulus for economy growth is largely guided by examples set during the administration of George W. Bush more than a decade ago. The claim to cancel main provisions of Obamacare voiced by a Republican sounds as natural as a requirement to destroy Carthage by a Roman. Radical rhetoric in favor of "great renaissance of America" and the inviolability of the second amendment to the United States Constitution guaranteeing the right of citizens to bear arms are traditional American conservatism. The promises of increased infrastructure investment in the US economy sounded quite nontrivially, but perhaps it was hardly surprising to hear them from a representative of the development business, whose commercial success largely depends on the quality of infrastructure?

The frankness with which Trump articulated problems and recipes for their solution, turned out to be unexpected in his pre-election rhetoric. This is most clearly manifested in the migration management and revision of US trade agreements. "Something needs to be done" about the American migration policy, it was clear to everyone, but fear of losing the votes of Hispanic population traditionally stopped politicians from radical initiatives in this area, but not Trump. The impact of United States free trade agreements (including the recently signed Trans-Pacific Partnership Agreement) on employment in the US economy has long been an object of heated debate. Trump was the only one who had the courage to voice the need to revise or terminate them. Another question is whether these agreements lead to job losses in the United States. Eventually, if this is not the case, who prevented their advocates to convince the voters? But the voters believed Trump. Well, from the arithmetic point of view, he has failed to gain an absolute majority of votes. The US electoral system and the Electoral College, however, are designed to prevent a victory of the candidate, who has enlisted the support of a limited number of densely populated States. This circumstance helped Trump become the President of the United States.

Another new thing was Trump's openly contemptuous attitude and mockery of the "sacred cows" of American political correctness: from anti-sexism and LGBT issues to the spread of democratic values in remote corners of the world. The American voter elected a leader in the person of Trump, who is not afraid to appeal to those people who are not excited about abstract philosophical problems or specific interests of exotic groups of the population. Their interest lies in real-life problems — job security, amount of taxes, quality of living environment.

In this regard, Trump's win is symptomatic. It reflects the trends secretly matured not only in the United States, but also in most Western democracies. Over the past decade (if not more) "democracy of the majority" in the United States and in most EU countries has consistently drifted to the virtual "tyranny of the minority", whose interests were given an increasingly privileged position every year. Politicians who attempted to defy this state of affairs, were generally ostracized (often branded as neo-Nazi), however, when the majority backed them, it was perceived as a cross between a black sheep and a thorn in the side (e.g., as Hungary's Prime Minister Viktor Orbán in the European Union). Yet numerous advocates of "ignored interests" don't seem to be going to keep silent any longer. The UK has voted for Brexit; The United States, for Trump. Next year will see a series of elections in European countries (including France and Germany) — it is up to them now.

The crux of the matter they have to face is best expressed by one of the representatives of German NGOs, who complained that over the last ten years in Germany, politicians have convinced the electorate that the principal problem of Germany is gay rights, migrants and victims of dictatorial regimes abroad. No one has talked about unemployment, tax increases, problems of education, crime and the rights of workers. Now the voter responds, "I want my old problems back to the agenda!" In other words, they say, "I want politicians to remember about my real problems!" This is what many truly want. Donald Trump has shown what a politician can expect, once he pledges to fulfill this.

Many representatives of the Western establishment seem not to believe the trend yet. European Commission President Jean-Claude Juncker in his recent Euronews interview commented the prospects for Marine Le Pen to become the President of France, "I can't even imagine such outcome. She will not become the president." The signal is quite clear — traditional elites are against. The same signals were given to Trump, however, their effect was the opposite. Such a negative assessment can only intensify the protest mood among many citizens of the European Union in relation to its bureaucratic superstructure, and is quite capable to trigger the increase (at least in France) of the votes to spite the ruling elites, which are firmly associated with Brussels corridors.

Black Sheep

Donald Trump's professional experience and education make him fundamentally different from American "system politicians", which has left a definite imprint on his psychology. An heir to a large construction company, who was on the verge of ruin several times, changed business areas and entered politics in a fairly mature age. Until the presidency, his career ladder contrasted typical careers of many American presidents (party activist, Congressman, Senator, Governor), but he is well-versed in the business life of the United States. Trump is known for certain public eccentric behavior, which, proves to be very well thought-out.

© AP PHOTO // EVAN VUCCI // TASS

So What Does This Leave Us?

This question can be answered briefly: if Hillary Clinton won, it would mean high risks for Russia, whereas Donald Trump's victory brings total uncertainty to Russia (and the world at large). Nobody really knows what his policy will be. The hope that it will be favorable for Russia shouldn't be exaggerated. Although, in a week following the US election, the Russian financial markets rose to new heights amid the downfall of the most markets in developing countries. US foreign policy is tied to a range of interests and values too broad to be changed overnight by a man with no experience in the diplomatic field.

However, the victory of Donald Trump still has at least two encouraging facts. First, he addresses the problems of world politics from the standpoint of the American electorate's real interests, which cannot fail to impress the Russian elites that have traditionally been capable of negotiating with foreign countries on the interests rather than values. In this respect, Republican administrations have historically been more convenient for Russia than Democrats: negotiations with the Republicans may be tougher, but they are more pragmatic, and agreements on economic issues and international security are less likely to be buried under a pile of preconditions of a humanitarian nature. It appears that the new administration will be no exception to this rule due to personal qualities of the elected US president.

Secondly, the US election may set the standard for others in Western European countries to follow. Trump's case shows that a politician, who breaks the chain of political correctness and bets on the real interests of voters, is not necessarily a lunatic or a neo-Nazi. So. "Who actually needs this?" is a very reasonable question addressed to most decisions, harmful to the needs of constituents. Europe has already lost hundreds of thousands of jobs due to the sanctions standoff with Russia. Who does actually benefit from it? So the more often such policians as Matteo Renczi in Italy and François Fillon in France begin to ask such questions, the more use voters both in Russia and abroad can get out of it.

A posteriori: The EU, Russia and Others

A posteriori means *based on experience* in Latin. Representatives of the expert community of the Italian region Veneto share their experience and expectations. International relations practicians and theorists have expressed their views on the latest developments in the European Union: the UK leaving the EU, the perspectives of the Transatlantic Trade and Investment Partnership and the relations with Russia.

Ex-member of the Italian Parliament, a member of the Russian-Italian Inter-Parliamentary Commission in 1996-2001
Fabio Calzavara

Brexit

Brexit was approved by a legitimate referendum, so I support it in every respect. This outcome is due to the blatant errors of governments, politicians and European economists. It is impossible to consolidate contrasting states, populations, territories and economies using centralist and anti-democratic methods without considering interests of the parties, without serious analysis, without profound understanding of cross-national contrasts, without planning and especially without public referendum (similar votes were held twice, in France and Denmark. Both times, according to the results of the democratic vote, the Constitutional Treaty of the European Union was clearly rejected). In other words, the intention was to build the European Union in the shortest and trouble-free way, yet the European project has completely fizzled out. I find a mainland partnership interesting for the most part; however, there are a bunch of issues that require a deeper analysis to better understand the objectives of the partnership and the targeted results.

Transatlantic Trade and Investment Partnership

I'm absolutely against the TTIP. This mysterious agreement is a result of secret negotiations between Washington and an unelected European commission. European citizens do not have the slightest opportunity to secure a democratic referendum on this issue, or even read the full TTIP text, this includes the Parliament members! In short, the agreement is non-democratic because it suffocates small and medium-sized businesses, acting on the behalf of multinational corporations and, anyhow, not in the interests of European citizens. Moreover, it secures the total domination of international corporations, which gives them the privilege to influence the decisions taken by individual states, non-governmental organizations, as well as the right to act against individuals exclusively based on alleged commercial damages, seeking huge compensations. It is an unacceptable situation for any country that pretends to be sovereign and democratic.

Relations with Russia

Immediate removal of mutual sanctions would be the first move towards the normalized political and trade relations. The second move should be the elimination of the already useless and obsolete NATO defense. Afterwards, it would be helpful to strengthen cultural exchanges in order to enhance mutual understanding and encourage qualified tourism. Visa procedures must by simplified, if not canceled, for example, for the business. The removal of restrictions on extended stays or, at least, the display of more flexibility in the terms and length of stay. Thus, the pace and volume of mutual trade would increase, this would result in mitigated customs and tax control for exporters/importers with regular certificates and, at the same time, strengthen the fight against corruption and related offences. Obviously, such measures must be implemented reciprocally.

Historian, ex-Undersecretary of Italy for Foreign Affairs Franco Rocchetta

Europe today and Brexit

Europe today resembles the situation in the 19th and 20th centuries or the state modern Africa is in, with its conflicts and civil wars, whose territory is a sort of chessboard of clashing colonial and imperial ambitions of large (and not so large) powers. A territory of conquest and looting.

I see Russia (the entire nation across to Vladivostok) as an integral part of Europe, such as France, Germany, Spain and Italy. I believe that the United States are a foreign and immature fraction of Europe. Many features of the political, institutional, economic, diplomatic and military systems the United States deployed in the 18th, 19th, 20th centuries and even into the early 21th century remind me of Nazi-era Germany, where my father was kept in a concentration camp from September 1943 until the end of World War II.

Brexit has its upsides and downsides. Clearly, it would never occur, if the EU were built on the principles of justice, humanity, moderation, realism, overcoming nationalism and gradual emancipation of internal colonies of EU members, such as the Veneto region (Venetia), the great architect of the Peace of Westphalia dated 1648. The state of Veneto has been a colony of the Italian State, was ruthlessly exploited and impoverished for the past 150 years (from 1866 onwards).

Transatlantic Trade and Investment Partnership

As for the TTIP and CETA (Comprehensive Economic and Trade Agreement), their unnatural nature with oppressive forms of economic and legal terrorism is clear. A cage to hold peoples and civilizations in captivity.

Relations between the States and peoples of Western Europe and Russia

I condemn the morally the unacceptable and self-destructive NATO policy, which has waged war in the European territory and beyond, as well as sanctions against the Russian Federation. I hope that my teenage dreams of a common European house built on mutual respect and mutual assistance among all its historic partners, on the principles of justice and humanity, can come true. That is, on the principles that the European Union lacks.

Director-General of the municipality of San Bonifacio (Verona), Director of the magazine about the culture and politics Il Giornale dei Veneti Fabrizio Comencini

Brexit

Personally, I have always respected decisions that come from popular sovereignty; the British have never been pro-European (neither towards the construction of a united Europe, nor a federal union), they joined the European Union for economic reasons: they will be better off outside the EU.

Transatlantic Trade and Investment Partnership

I emphatically oppose the TTIP. This treaty, which mistreats the real Italian and European economy, composed of small and medium-sized industrial enterprises, encourages supranational economic giants, especially American, unreachable for supervision by the European states. I support close and continuous liaison with the Russian Federation, which I think is an integral part of cultural and economic Europe.

Relations with Russia

The European Union must understand that Europe's economic relations with Russia, considering its colossal natural resources, and complementary to each other are only natural not only in the energy sector, but also in research, industrial and agricultural areas: in both the production and the consumer market. Russia can engage in the European Union system under an equitable agreement.

President of the Industrial Association of the province of Belluno Franco Roccon

Brexit

I endorse. The UK vote clearly demonstrates the vital importance of consultations with the people (referendum).and shows the defeat of the authorities: political and economic, British and European, led by the European Union and the European Central Bank.

Transatlantic Trade and Investment Partnership

I do not endorse. Purely economic problems will arise, related to the monopolization of markets and inflated prices. Tracking of the origin of goods (especially foods), product quality assurance and assertion that a purchased product is authentic and trademark is crucial in the international trade. The TTIP poses a threat to the safety and quality of food in the future. I also have an opposing stance on the existing economic and market restrictions imposed by the European Union against the Russian Federation, because today we see fake Italian food brands (for example, cheeses, hams, wines) in the Russian market. This has caused enormous economic damage to important enterprises, especially in the Veneto region, which has dependably had good relations with the Russian Federation.

Relations with Russia

Partnership. Free market coupled with democratic laws, providing a variety of superb branded products and services — these are the priorities we must adhere to. The cooperation should occur between the associated businesses and public offices without burdensome interventions of the state bureaucracy. For example, the Italian Institute for Foreign Trade (I.C.E) today does not reflect the diversity of the Italian private industrial sector. The strengthening of relations between the Italian and European regions and the Russian Federation should focus to significantly improve the quality and avoid its decay, associated with the cheapness race (as is now the case with Chinese merchandise). This must underlie fruitful cooperation for shared economic growth and friendship.

Member of the Regional Council of Veneto Stefano Valdegamberi

Brexit

I believe that the EU could provide an excellent opportunity for the peoples of Europe, if it was able as a union of independent states to become an entity that could assess foreign policy critically and independently. So far, the EU displays too many internal differences and explicit subordination to external actors. The EU should embrace a federal model based on respect for different nations and territories, without the imposition of non-democratically adopted models. If the EU is not able to make a move focused on growing the confidence of the European citizens, there will be other Brexits.

Transatlantic Trade and Investment Partnership

I have the impression that after the fall of the Berlin Wall our American allies have lived under perpetual stress fueled by fear that Europe communicates and integrates the trade with the Russian Federation and Asia. The United States fear the formation of a large commercially and politically integrated Eurasian area that would shake its political and economic hegemony. Hence the desire to covertly lobby the TTIP, to “lock up” European countries in a situation where they have been for more than fifty years, under all-embracing political and commercial influence, by erecting new barriers against the Russian Federation in the east and beyond.

I think that Europe has every reason not to accept this agreement and, by contrast, become a major partner of the Russian Federation and the Asian world in order to ensure the growth and development of our companies.

Relations with Russia

The European Union policy is strongly influenced by NATO. European citizens criticize this organization, saying, this is not the Ministry of Foreign Affairs of Europe! As a European citizen I do not deny the importance of NATO during the Cold War, but times have changed. The Soviet regime has collapsed, but the great opportunities to create peaceful relations and closer cooperation between Russia and the rest of Europe that arose at that time have been lost. I see today congenital Russophobia, which affected pretentious European governments. With the fall of the Berlin Wall, NATO achieved its military objectives. At that point it had to either dissolve or transform into an organization for global security, including the Russian Federation, under the banner of the United Nations. However, that did not happen. NATO expands eastward and relentlessly rises new tensions and concerns, which we would willingly stay away from. NATO seems to inevitably need to come up with a foe to give a valid reason for existence.

I advocate close partnership between the EU and the Russian Federation free from negative stereotypes. I reiterate my argument, which I has officially voiced in an interview with Pravda newspaper: we cannot think of Europe that does not regard Russia as its integral component, as there are many historical, religious, cultural and economic premises to that.

Dr. Ramirez Formula

Living standards directly depend on qualified medical care. Today, almost all countries provide medical services. However, people prefer Spain to any other country in most cases. Institut Guttmann, a university hospital for neurorehabilitation, is among the most prestigious medical centers of the country. Dr. Josep M. Ramirez who has been the head of the institute for many years, told Strategy Journal about achievements and problems of the centre, as well as a duty of care.

Many people are interested how to become a leader. What played decisive role for you in choosing a profession and what circumstances led you to Institut Guttmann? What qualities are especially important for a leader?

The word 'leader' sounds too loud. I was just lucky. I joined a team that consisted of true professionals who can realize all the best projects that come to our minds together or one by one. There were two factors that could be identified as the key factors in the development of any serious projects. The first one is to believe in the successfulness of the project. Since my childhood I've always wanted to devote myself to people. All the time I got involved in various social projects. Institut Guttmann was an ideal place to make my passion come true. The second factor is the ability to organize and unite people. This is a necessary skill to become a leader of serious projects. Your team should understand perfectly where we are moving, why we are doing this, and why it should be done only this way, not otherwise. In addition, you should arouse enthusiasm amongst members of your team. I think that I have succeed in this field. The team should aim to achieve goals with enthusiasm.

Could you tell us about your career before you were appointed as Managing Director of Institut Guttmann?

I started working at Guttmann as an orthopedic doctor. Firstly, I received the MBA degree in hospital management and worked as a consultant in this field. After some time, Doctor Sarrias, the director of Guttmann, offered me to be responsible for organizational processes. A year later, he retired, and I was appointed as Managing Director. I have been heading Institut Guttmann for 26 years. It was pure luck for me. This is a very uncommon situation in Catalonia.

Could you tell us what Institut Guttmann was like 26 years ago?

Institut Guttmann was the first center in Spain for those patients who suffer from spinal cord injuries. At that time, we did not treat brain diseases or other neurological problems. That place 'radiated' humanity. The institute had great potential. However, that time we had a lot of problems: the center had an extremely low budget and we had no strategic vision for the future. It was impossible to create an exemplary center of rehabilitation in our old building. It took us 16 years to put up a new building. It was one of our first decisions. I am glad that it happened, but it took us so long time to achieve this goal. Thanks to that step we managed to create a professional team and verify organizational algorithms. It would be impossible to put up a stunningly beautiful and comfortable building without these two most important things.

What strategic decisions are the most important, in your opinion?

I will focus on the three main decisions. About 20 years ago, we could remain a private foundation or become a state organization. There was a tendency in the country to transfer ownership to the state. It is very convenient, but not always effective. I think that the decision I insisted on was absolutely right. Institut Guttmann was established as a private non-profit foundation without shareholders. All funds are spent on development, but at the same time we meet the requirements that are imposed on state centers. The temptation to transfer your property to the possession of the state guaranteed good financing at that difficult times for the institute. It was great, but nevertheless we decided to remain independent. Today there is a council of trustees and administrative council in the institute, but we still continue to work as a private organization. We made our choice then and now you can see our results. At the same time, we meet all the requirements of quality in full measure and even exceed them. We have managed to become an exemplary center in Spain and Europe. In addition, we succeeded signing and supporting contracts with the state during all these years, and at the same time remain independent. It was great luck both for us and our patients. If we had taken another decision, our company would have turned into a specialized department of neurorehabilitation in some large hospital. In this case, we would not have been able to help our patients in the critical majority of cases. Moreover, we would not have a research base and failed to form an outstanding team that consists of true professionals. At the same time, now we satisfy all the necessary requirements of quality that are imposed on state centers and examined by various commissions, and even exceed them.

As for the second strategic step, a fully computerized system was created 15 years ago. It monitors and records all information about patients in our hospital, examine all quality of indicators in accordance with the criteria of all relevant international organizations and compliance with international accreditations. Even then we were ready for this. We had an amazing team with first-hand experience in this field in our country. We organize and follow an absolutely clear methodology. One of the very first decisions I made after being appointed as Managing Director was to give such guarantees. That decision allowed Institut Guttmann to grow into a university hospital and an institution with the strongest teaching

"We improve our expert skills by treating 4,500 patients who suffer from severe lesions of brain and spinal cord injuries" and research base. Today, 80% of our specialists have a PhD, not only in medicine, but also in physiotherapy or psychology. We ensure the continuous growth of specialists so that they could always receive the latest information in this field. The ability to learn and to teach is the most important thing that determines the potential of a medical center.

Each year, 150 professionals from around the world receive a master's degree or specialist's degree in the field of neurorehabilitation. We participate in research projects at the international level, and we have already received 7 international patents. In addition, we focused on translational researches, as their results are often put into practice. We have managed to attract leading research centers, universities and companies. We cooperate with 70 technology organizations on an ongoing basis. It gives a very serious impetus to the development of the institute. If earlier we collected information in part around the world, now we can not only develop new methods and technologies, but also turn into a center where specialists and delegations from five continents come for training. We rely on researches and teaching. It is the second and the most important strategic decision.

And the third step is a social orientation of our activity. According our decision, we are not an ordinary medical and research center. We fight for the rights of people with disabilities, an inclusive society with real equality of opportunities. Guttmann always had a special soul. And we decided that it is one of the most valuable things that we have. A number of social programs and campaigns have been created to prevent injuries to the brain and spinal cord, enlighten the public, and support specific legislative measures to help people with disabilities. And all the work is carried our simultaneously with daily activities of the hospital. All the things we do in cooperation with leading associations are aimed at supporting people with disabilities. Those people know best of all about difficulties they face in their lives. Only together we can become the driving force that influences the society.

You have been held the position of Managing Director of social services in Catalonia for several years. What initiatives have been implemented?

In 1994, I was appointed as the head of social services of the autonomous community in accordance with the personal request of the President of Catalonia. By that time, Catalonia had all competencies in this area and disposed the budget, but there was a little chaos in social services. Their activity were discoordinated. The services operated without management, but consisted of numerous administration members. Social services were a conglomerate of individual organizations and working groups, each of them tried to take their advantage.

There was no common strategic vision at the state level. It was a common case when daily problems prevented from analyzing the situation globally and building further activity systematically. We started from collecting information and compiling a portfolio of services. Above all, needs of different categories of citizens: pensioners, people with disabilities, children, women (victims of domestic violence), and drug addicts. Then we created a map of the whole territory with a homogeneous distribution of these services and eventually ensured their coverage for the maximum number of people. In the same year, the first autonomy report and the first complete balance sheet appeared that took into account all aspects: what kind of services were used, how much they costed, and how many people they helped. As a result, a completely systematized development plan for the future was created thanks to step-by-step actions. By that time, we formed a single team from disparate groups. It was terrific experience for me. Now I have no prejudice against civil servants. Before that, I was convinced, like many other people, of the low efficiency of officials. It turned out that I was mistaken. If the leadership is able to inspire a common idea, they can work extremely effective, well-organized and loyal to the project. Loyalty is especially important thing. In addition, we were able to move from the dead point: we dynamized the market of social services and eliminated the monopoly of the state. Then the main provider of social services was the state. All the services were very expensive. For example, the cost of personnel was disproportionately overestimated; the interaction algorithms were poorly thought-out. In general, I believe that the administration under the existing economic system cannot provide us with the best services. State institutions are non-flexible and non-dynamic. It is more difficult to adapt state institutions quickly to the relevant needs of people.

We insisted on the fact that these services should be provided mostly by private institutions in more creative, innovative and adapted form to the needs of people. That large-scale introduction of private players began to destroy the stiffness of the market that was monopolized by the state and improved the quality of these services. According to facts, accreditation systems started working in two years. However, accreditation is not based on structural indicators. They are extremely uninformative, but functional.

«The only way to make an objective assessment is to compare your results with international scales of other reference centers»

As a result, the state select the best candidates. Then we created clear criteria for access to these services and gave the population a choice.

If earlier a citizen suffered from inefficient services, so now he can choose services himself. For example, earlier a pensioner had the right to use a certain service that could be provided only by the relevant institution. We have determined accurate means that the state began to allocate. People could take the decision on their own. Thanks to this, we have allowed private companies to provide high quality social services. After that, we achieved the highest efficiency and cost reduction. When I headed social services in Catalonia, a pensioner paid the state €2,000. Four years later, the sum reduced by €500. In general, our team achieved not only a reduction in costs of all social services in Catalonia, but also an increase in the coverage of patients. Then I returned to my beloved Institut Guttmann. It was the main condition from the very beginning when the president appointed me as the head the social services in Catalonia. At that time, we just started putting up a new building. Certainly, I could not help missing that process.

Could you tell us about your team. How would you describe your colleagues?

Mutual assistance, the highest level of involvement, and motivation are the main features of my colleagues. And another two important features: mission and self-discipline.

Colossal perfection to yourself makes people act in the best way and inspire others. And there is an effect of multiplied enthusiasm. I am very proud that we can not only show excellent results to the world. According to the vast majority of patients, our specialists as extremely competent and kind people who can work as hard as they can. The results of our work change lives of our patients and their families. We tried to create a team of people who love their job and inspired by their desire. The best prize for them is the recognition of patients. Salary is also important, but not the main thing. Our specialists work here not for the sake of money. I know companies where salary is much higher. We have such a saying in our hospital: "Guttmann either captures or passes by you." It means that everyone who comes here either falls in love with our hospital or does not stand the test. Fortunately, more often those people who join us, spend the entire life here. They live in their work and, thus improving their professional skills. Our team does not consists of stars, but we have a dream team.

Ecosystem for Innovative Business

First business incubators and accelerators began to appear in the late 60's to support new entrepreneurs. They became widespread in the early 2000s. Their average age in Russia is seven years. Their main task is to market innovative projects, help monetize research, and support companies in the early stages of development. Experts speak out about what has changed since the launch of these projects, in a brief interview for the Strategy Journal.

CEO and Co-founder of UBI Global,

Ali Amin

UBI Global, together with RVC conducted an analysis of Russian business-incubators. Upon its results, the respondents received a brief report with their key performance indicators and comparisons with the aggregate indicators of the Russian and foreign colleagues. How applicable are foreign practice for Russian realities?

Business incubators are not just local, regional or national phenomena. They exist anywhere in the world, and they all face identical issues and challenges. Russia is one of the world's biggest economies, though it is not without blemishes. For example, there is an absence of far-reaching comprehension of work models and procedures during the incubation period in the ecosystem. UBI Global, together with RVC conducted an analysis of Russian business-incubators. In the study, we used a methodology developed by UBI Global. The used benchmark framework is the world's most comprehensive model that can match more than 40 key performance indicators. Together, they reflect the level of value impact a business incubator has on its own ecosystem, start-up clients, investors, as well as the post-incubation development of companies. That is why the involved methodology is thought to be the most extensive and unique. We are extremely curious as to what results we could achieve. We have already observed a few cases in a recently published ranking, where Russian business incubators have shown excellent results. We hope that our research will help identify the capacity of many others in the national, regional and worldwide innovation community.

Which nations are in the top ten with the best business incubators? Do the achievements of incubators make a difference to regional economies?

UBI Global identifies indicators of individual business incubators. Next, we summarize the results to get an idea of the macroeconomic levels and see if we can recognize key trends and patterns. Representatives from around the world entered 2015 rankings of the best business incubators. Canada, Italy, the Netherlands, the United States, Taiwan and China were among particularly prominent.

With no doubt, business incubators have an impact on regional economies. Key success factors are job creating, attracting and retaining talented employees, as well as preserving the investment in the company.

What business incubation models are most effective?

Sadly, we have no answer to this question. We have effective profit-oriented models, as well as competitive models, but they are not profitable. We are familiar with some great business incubators and the most effective programs that often can be used free of charge. Nonetheless, despite the fact that each ecosystem has something in common, some difficulties arise while utilizing it and during interaction with the investment community at the national and international levels.

Acting General Director of RVC, Evgeny Kuznetsov

RVC initiated the first study of Russian business incubators and accelerators. What are the results? Who topped the ranking?

The study involves an aggregate of 59 universities and 13 independent incubators of Russia. The analysis demonstrates that Russian accelerators and incubators have achieved great success in a short time frame and have turned into an indispensable element of the ecosystem. They have helped to create 309 start-up jobs over the past five years.

The analysis uncovers a number of weaknesses. For instance, Russian acceleration programs encounter difficulties when it comes to providing start-ups access to financial capital, as an average number of investors is 4 times less than in Europe. Notwithstanding this, Russian innovation entrepreneurs have a keen interest in business accelerators. By and large, Russian programs handle 181 applications annually, which exceeds indicators of the European counterparts by 18%.

Some of the most successful university business incubators are based in ITMO University of St. Petersburg, Irkutsk State Technical University, and Tomsk Business Incubator “Druzhba” TUSUR.

Do the successes of incubators impact regional economies?

Monitoring results show that universities are beginning to assume an increasingly important role in socio-economic life of the region, although the engagement in regional economic clusters is insufficient. University still play small part in the creation of new jobs through the development of small innovative enterprises, thus creating only a few dozen jobs in most cases. Leaders reach 130 new jobs.

How applicable are foreign business incubation practices for Russian realities?

From one perspective, the worldwide practice is a certain standard that we must take into account in our work. Then again, Russia has a particularity associated with immaturity of our venture capital market.

Principal foreign users of the infrastructure are technological companies or engineers with an already strong understanding of how the business functions. They require specific support, such as in the management of intellectual property, and in the cooperation with investors. Unlike foreign peers, Russian businessmen or developers do not generally possess basic skills in business, they should be taught the nuts and bolts: company establishment, effective management, transparent tax administration. Our fundamental distinction from Western markets is that the Russian innovation sector is in a sense engaged in the development of entrepreneurship in general. Foreign incubators or accelerators are comparable to a postgraduate school, where people come to write a thesis, whereas in Russia it is more of a master's school, where they learn essential things.

In Russia, there is a strong bias towards organizing events and networking. Since a great deal of incubators and accelerators subsist on public money grants, which demands accountability, activities might happen for the sake of reporting. It is an erroneous practice. The main objective of an incubator is not so much to conduct events, as to trace real changes in a company. As a matter of fact, it resembles work of a consultant and assistant to investor relations.

World's best practices are incubators and accelerators that aim to patronize a company, perceive problems and offer solutions. This requires competences and experience in business development from accelerator and incubator teams. We have this deficit.

The main challenge for Russian incubators and accelerators today is the development of entrepreneurial skills to pass them on to the companies.

Do you forecast that Russian business incubators may help improve the economic situation in Russia?

I am sure that Russian business incubators should and will be able to help. Their main undertaking is to create proper environment for the development of companies and their growth. We are already seeing a lot of working centres, technoparks and incubators in Novosibirsk, Tomsk, Kazan, St. Petersburg and Moscow. Furthermore, founding companies in Russia is not enough, they must be preceded by grown and developed infrastructure. As I mentioned earlier, the Western people understand how to organize business, whereas in Russia it is often otherwise. Here, a team seldom makes a move to a project, and then to a company. This function needs to rest on a preaccelerator created to establish companies, specifically for teams. We are actively engaged in the development of such programs, since the lack of relevant infrastructures will cause scarcity of companies with prospects for further development.

Deputy Head of Research & Training Laboratory of Higher School of Economics business incubator, Mikhail Erman

Do the successes of incubators impact regional economies?

Business incubators and accelerators are among the infrastructure organizations that make conditions for the development of new entrepreneurial ideas. We estimate there are more than 200 business incubators in Russia today. In my opinion, as far as cooperation with innovative companies and alumni success, the best business incubators are Ingria (St. Petersburg), Kazan and Naberezhnye Chelny IT parks (Tatarstan), Academpark (Novosibirsk), Moscow State University (Moscow), and HSE. Most Russian business incubators are established by the state and support not so much innovative companies, but rather small and medium-sized businesses in general. Western business incubators constitute centers that concentrate expertise and entrepreneurial experience, and represent wide network of contacts and recommendations. In Russia, incubators are looked upon as cheap landlords and suppliers of accounting and legal services. The difference in attitude and range of services is mirrored in the results. Numerous unicorns (start-up companies valued at more than $1 billion) are founded by foreign universities, business incubators and accelerators, while Russia can boast no such story. On the other hand, it takes at least 5-7 years between implementing an idea and the success story of a company; however, many incubators are younger than that, so a real contribution to the economy we be, I believe, in 5-6 years.

The Government is a main sponsor of business incubators in Russia. Why is this?

Business incubator models are very complex and often unprofitable. Given that most incubators do not take stake in businesses of the residents and work with the companies at a low-capital stage, it is hard to relate to the incubator as a highly-profitable business. In this way, most incubators in the world are not profitable and subsist on sponsorship money (often from successful entrepreneurs and large companies, as well the governments). Business accelerators were created in an attempt to build a more sustainable economic model. They combined the basic ideas of early-stage business incubators and venture capital funds that profit through equity participation in the graduate companies. Even such structures are rarely profitable. By now, there are a few cases of private incubators in Russia: Lift (Astrakhan), PERI Innovation (Makhachkala) and several others.

Do you forecast that Russian business incubators might help change the economic situation in Russia?

Business incubators are one of the essential components of the innovation ecosystem, which works with early-stage companies. The growth of companies into billion-plus businesses requires not only incubators, but also demand on the graduates.
A considerable lot of those who ran incubators 5-6 years ago have left their posts because of they gave up waiting for rapid growth of ecosystems and rapid success of the graduates. On one hand, we have accumulated experience in working with early stage start-ups, on the other hand, there are currently fewer players in the market at all stages of the innovation ladder. I reckon that we will see first truly successful companies hatched in incubators in another 5-6 years.

Quest for Internal Reserves

Crisis-stricken companies often look for ways to keep up their market positions through layoffs or new product releases. However, there exists another long known and proven way to improve organizational effectiveness through quality administration of internal and external business processes.

Operational Excellence

For decades, business consultants and analysts have been studying successful cases of different companies worldwide to answer a straightforward question: what is a generic recipe for organizational success? Maybe it is all about a correct strategy. Or the availability of strong competencies. Or a charismatic leader. Or a unique corporate culture that encourages employees to work smarter.

We can state that such versatile recipe is never to be found, since the external environment populated by companies and organizations is always unique and would never be replicated, not to mention the countless intricacies of the internal arrangement of these organizations. The formula for success will consist of a combination of elements, and in each case, it will incorporate a unique set of such elements.

One such component of success, identified by analysts, is the concept of Operational Excellence.

The concept of Operational Excellence is widespread and adopted by companies and organizations to develop various techniques purposed to improve the quality of their operations: Six Sigma (Motorola and General Electric), Total Quality Management (United States Navy), Toyota Production System (Toyota) and many others.

The Essence of Operational Excellence

To better understand this term any organization should be regarded (commercial, public or any else) as a system consolidating different functions (departments) that interact among themselves, as well as with external partners, to produce goods or services. It should be borne in mind that the same work routinely performed by any department can be repeatedly done with deviations in quality and time.

This is due to a variety of objective and subjective reasons: both external (e.g., the delay in obtaining any documentation or late delivery of components) and internal (e.g., employee error due to overwhelming workload or miscommunication between employees).

In other words, we can accept the following as axiom: any organized activity invariably includes an element of operational instability and unpredictability, which slows down activity, reduces efficiency and increases both financial and temporal costs.

Moreover, this instability or unpredictability factor can likewise have an adverse impact on the corporate spirit of an organization and trigger a vicious circle, where a disheartened team causes growth of this instability, which in turn further wears down the spirits of employees, and so on. The essence of Operational Excellence comes down to three basic steps. The first is the identification of deviations and disruptions in the execution of an organizational process caused by operational instability and unpredictability. The second is the identification of key reasons they occur. The third is the elimination of these reasons, so that an organization will never confront factors negatively affecting the quality of its operations.

Operational instability or unpredictability can be diminished, and effectiveness can be enhanced in any organization in such a fairly simple manner with little investment. It should be understood that the result of consistent and orderly implementation of Operational Excellence is a distinctive improvement in the quality of goods or services, financial performance of the organization and its competitiveness.

The Importance of Operations Quality

How valuable is the quality of operations for an organization? How about we look at three industries that we encounter almost every day — aviation, medicine and energy— and compare their performance with 99% quality (defect-free) operations and 99.99966% quality operations (level also known as Six Sigma). The difference in operations quality between these two scenarios is under 1%.

The two juxtaposed scenarios show that a small difference can have a huge impact on the cost and quality of a finished product made by a company.

Naturally, each of us would want to live in a world where operations quality would make 99.99966%, not 99%.

Now imagine that the basic process of your organization consists of ten successive stages

Comparison of scenarios by the defect level of operations

	Scenario 1	Scenario 2
	Defect-free operations at 99.99966% (6 Sigma) 3.4 defects per 1 million operations	Defect-free operations at 99% (3.8 Sigma) 10,000 defects per 1 million operations
Aviation	1 emergency landing in 5 years	2 emergency landings every day
Medicine	1.7 surgical errors a week	5,000 surgical errors a week
Energy	1 idle hour without electricity in 34 years	7 idle hours without electricity a month

Financial performance of the largest automakers

Manufacturer	Market capitalization, billion US$	Revenue, billion US$	Gross margin, %	EBITDA margin, %	Operating margin, %	Net profit margin
Toyota	195.49	246.16	24.46	15.77	10.05	7.41
Daimler AG	73.56	165.91	21.3	12.25	8.52	5.83
Volkswagen	69.06	236.7	16.55	21.74	-1.91	-0.64
BMW	54.6	102.29	19.67	19.18	10.41	6.94
Honda	51.39	121.19	22.39	7.97	3.45	2.78
General Motors	48.58	152.4	12.01	8.89	3.51	6.31
Ford	45.18	149.5	15.42	10.82	5.11	4.93
Nissan	42.31	100.73	19.63	13.23	5.22	4.53
HYUNDAI	32.35	81.29	19.85	9.94	6.89	7.08
RENAULT	25.05	50.3	20.37	11.26	4.8	6.53

Source: Google Finance, companies' own data. Market capitalization as of 08.11.2016, other data is for 2015.

(in real life, the number of stages is many times more, and they often have a much more complicated and inconsistent structure). Assume that the execution quality of each of these ten stages is 95%. In other words, each stage has a 5% rate of cases deviating from the norm. The other 95% of work on each stage brings the desired quality on time and without additional costs.

What is the likelihood that your organization will complete the entire cycle from start to finish without disruptions and delays?

According to probability theory, your organization would run effectively from start to a finished product or service with success rate of 0.95 (95%) to the power 10 (ten stages), that is 0.6 (60%). In this way, in 40% of cases your organization will face unexpected costs and disruptions, which will reduce its viability, increase the cost of your product and impair your financial performance.

Toyota + Operational Excellence

One of the most striking and well-studied examples of successful implementation of Operational Excellence is Toyota, which has for many years been the largest company by market capitalization and one of the world's most reliable car manufacturers. The set of methods and practices adopted by Toyota under Operational Excellence has been referred to worldwide as Toyota Production System.

The ultimate goal of TPS is production of pre-ordered vehicles in the shortest possible time and in the most efficient way in order to deliver them as quickly as possible. Toyota determined to accomplish this goal by minimizing workflow unpredictability and instability that exists in three types.

The first is redundant and poor work or assets that generate no cost (excessive inventory, reworking, troubleshooting, patching up, excessive time to complete operations, defective products).

The second is irregularity in workflow that may occur, for example, on account of bottlenecks in processes. The third is excessive efforts and overstrained workers and hardware.

One of the most important TPS principles is involvement of rank-and-file employees to identify factors of instability and unpredictability. This principle is built on a fairly simple idea: regardless of how brilliant and professional a manager is, only ordinary employees know better at what workflow stages all those negative factors, which infect organization in day by day life, manifest themselves and how they can be promptly addressed.

Such workflow optimization across an organization is not a privilege of employees, but their duty. This approach brings about an increase in motivation and employee satisfaction in most cases.

One prominent example of such inherent rights held by ordinary Toyota employees is to stop the assembly line when they notice a defect, rather than pass it on.

The successful implementation of Operational Excellence in Toyota has resulted in an interesting paradox that was revealed by researchers in the late 80's: it produced twice as many vehicles, twice as fast, and used production area, workforce and inventory two times less than the competitors.

To achieve this level of operational perfection requires commitment of all Toyota employees. By virtue of this positive corporate culture, the company has been successfully identifying and eliminating grounds of instability in all its processes for several decades.

The case of NUMMI based in Fremont, California is a classic example. In the early 80's the automobile assembly factory, owned by General Motors, was ill-famed as the worst factory within the structure of the Corporation. The top management of General Motors believed that the factory team was inclined to wrongdoing and was pathologically reluctant to work, often staged labor strikes, the workers did not meet their obligations, the product deliveries had lots of imperfections.

The assembly of a single vehicle took twice as much time as any other General Motors factory. Daily absenteeism rate was 20%. Liquor, drugs and prostitution flourished. The workshop chief managers bore weapons for fear of being assaulted by the workers. Once, four were killed at the plant in a fight for drugs.

Eventually, General Motors resolved to close the factory in 1982. However, in 1983, Toyota wishing to organize a quick entry to the US market, proposed General Motors to restart the plant as a joint venture. The project was named NUMMI (New United Motor Manufacturing Inc.). The plan envisaged simultaneous release of two vehicle models, Toyota Corolla and Chevrolet Prizm. One of the key elements of this plan was TPS training of the factory employees, to pursue which 450 workers and foremen were seconded to Japan to Toyota plants.

In 1985, NUMMI car assembly factory resumed work, this time using Toyota Production System. By the end of 1986, it peaked in product quality and performance in the whole General Motors structure. The number of defects dropped from 12 to 1 per vehicle, assembly time halved, and absenteeism fell to 2%. The factory staff nurtured some 10,000 proposals for rationalization in the first operation year alone. From 1985 to 2010, NUMMI earned five quality awards.

What is amazing in this case is the fact that the most pre-Toyota staff kept their jobs. Toyota Production

System learning and thorough implementation of its principles prompted to a radical change in the conduct of workers.

Where to Start?

Development and implementation of the principles, adjusted to the needs of the company, is a daunting task requiring deliberate and systematic approach. The main difficulty is that the effect of the introduction would be possible if the leadership will understand the value and viability of this concept and will be ready to invest a bit of their time (about 10%) in the work on this project.

Successful experience of hundreds of other organizations and companies from different industries around the world shows that this goal is attainable and realistic when there is serious intent on the part of the leadership of the organization.

Japanese specialists have an interesting background in Operational Excellence (in Japan, this concept is more known under the name of Kaidzen) and effectively share it during various public events, including in Moscow.

Experts say that the introduction of Operational Excellence begins when workers spend five minutes at the end of workday acknowledging one or two problems they encountered that day that caused the greatest annoyance, frustration or disappointment. At that point, they should look for the root cause bringing around these problems, and guess why they caused such a backlash.

The third step should be a solution that would drastically eliminate this key cause and keep these problems from recurring in the future.

On the off chance there is insufficient information for this solution to come about, the workers should be involved in this process, since the introduction of Operational Excellence has a greater chance of success in teamwork.

Challenge as a Positive Signal

Sooner or later, every company winds up in a situation of unpredictability and instability of the external or internal environment; a key attribute that differentiates a leading company from a conventional supplier of products or services is an effective behavioral strategy in such uncomfortable conditions.

Conventional organizations, faced with daily deviation in their workflow, make heroic efforts to shake off the “symptoms”, often missing the opportunity to dispose of the root causes of the problem.

For successful organizations, these challenges are a positive signal that the workflow system organization requires revision as it critically affects performance and therefore competitiveness.

There are well-known examples of companies that have been leaders of their business sectors and have consistently left the competitors behind for many years. All of them (both leaders and outsiders) are, as a rule, in identical external conditions and have similar suppliers, customers and regulators. The success of leading companies often lies in awareness of the imperfection of their internal processes and systematic work on improving them. After all, if external conditions are the same for everyone, how can the competitiveness be increased? In my opinion, the answer lies in the concept of Operational Excellence.

Timur Shikov,
consultant in strategy and operations, MBA (Sloan Fellow in Innovation and Global Leadership), MIT Sloan School of Management

Spanish Medicine

Olga Solovieva, Executive Representative of Barcelona Medical Agency and Director of Barcelona Medical Consulting, told a Strategy Journal correspondent about specifics of the healthcare system in Catalonia, modern approaches to treatment, as well as experience of Barcelona as a Spanish medical capital.

You noted in an interview that Catalonia spends twice as little on medicine than France. At the same time, the Spanish health system is considered as one of the best in the world. How have you managed to achieve this goal? Do you know any ratings that confirm this information?

Let's start with the facts. WHO reported that the Spanish health system, especially the Catalan, is recognized as one of the best in the world. According to ratings released by The Financial Times or Newsweek, Japan and Switzerland take the lead over us. Despite optimistic forecasts for Spain, I will cautiously express my opinion about ratings. It seems to be profitable for us. However, due to a number of reasons we should be careful about ratings in this field. Currently, there is no agreement what criteria should be considered as fundamental for quality assessment. For example, if you assess the effectiveness of individual procedures for pathologies in the best US hospitals, it turns out that they are the most urgent in the world. But if we include accessibility for the population in the assessment, then the US will immediately 'roll back' to the 100th place. Detailed reports on key indicators of all medical institutions are published today only in Catalonia, Great Britain, Australia and Canada. This is the reason why it is often impossible to compare how successful operations are performed in particular areas (where patients are interested in it). We simply do not have indicators of other countries that reflect the majority pathologies. Therefore, assessment of health systems is one thing, and achievements of specific centres are another. The basis for success is always the willingness to compare yourself openly with the best participants. Members of several leading medical institutions in Catalonia promote in scientific communities the idea of establishing common criteria and their publication. Real benchmarking and further work on improvement are impossible without it. Healthcare is on the rise in Spain now. We compared a number of indicators of the health system: life expectancy, availability of health services, infant mortality rate and others. Catalonia has the lowest indicator of infant mortality after Singapore. In addition, we used objective statistics from different countries to analyze achievements in specific areas: effectiveness, survival and complications in procedures. Our system is one of the best in the world. At the same time, I cannot seriously compare Spain, Japan, Switzerland, Spain and Singapore with each other. I feel as if I compare Tolstoy with Shakespeare. 'Price and quality' are the criteria that marks Spain out of other countries, making it a truly unique country. Catalonia spends only €1,144 per capita annually, while neighboring France spends €2,840 per year. Meanwhile, the performances of Catalonia is higher, if we compare them with statistics of survival potential, complications and other indicators for specific pathologies, as well as global indicators of the system such as life expectancy, infant and maternal mortality ratio.

Why Barcelona is called the medical capital of Spain? What diseases are the most typical for foreign patients?

We have a tradition in Spanish medicine. If you are invited to work for one of the leading hospitals in Barcelona. It is like to sign a contract with Barcelona FC. You simply can't resist the temptation! Seriously speaking, Barcelona is known for being a European leader in several areas. Above all, in the field of oncology. Instituto Oncologico Baselga is located in Barcelona. Its founder is one of the world's most cited oncologists, the president of the American Association for Cancer Research and the medical director of the Memorial Sloan-Kettering Cancer Centre in New York, Jose Baselga. Medical director, Josep Tabernero, is the president of the European Society of Medical Oncology and one of the most cited oncologists in the world. This is just the beginning of a long list.

We are among the world leaders in children's complex surgery and pediatric oncology. Registration of all operations in the field of pediatric cardiovascular surgery in Aristotle Score has been used in the world medicine for many years. This is the most accurate indicator that reflects the complexity of performed operations. Correlation Aristotle Score with the results (survival rate, number of complications) gives an absolutely objective idea about the level of the clinic. Therefore, we can surely say that today our results are comparable only with the Boston Children's Hospital.

Neurorehabilitation is the third thing we are proud of. Institut Guttmann is recognized as one of the standard centres in the world in respect of the effectiveness of recovery after lesions of the brain and spinal cord. Today we can receive patients from all the five continents.

What countries do patients mainly come from to Barcelona for medical help? Are there many patients from Russia?

Europeans rarely travel to other European countries for treatment, as the quality is quite high in all European countries. Moreover, it is not easy to be abroad and far away from relatives. Therefore, Europeans often intend to receive in neurorehabilitation or oncology. Especially when it is important to choose a centre

"According to WHO indicators and ratings released by The Financial Times or Newsweek, the Spanish health system, especially the Catalan, is recognized as one of the best in the world"

with a better reputation, or when a patient needs to be examined in special complex cases. Reproductive medicine is also well-developed in Spain. There is not only excellent results, but also lenient legislation in the country. We also have a lot of patients from the countries of the Persian Gulf and Russian-speaking countries. Currently, I am at the head of the organization, the so-called Single International Department for Barcelona's leading hospitals. Annually, we provide medical care to more than 800 patients from Russian-speaking countries. It may seem insignificant, but many patients are undergone operations of the highest complexity: oncology, neurorehabilitation, and pediatric surgery. Today it is unnecessary today to undergo operations in Catalonia, Switzerland or somewhere else. A lot is done in Russian healthcare, but it requires a lot of time and resources to implement the reform. While this development continues, people turn to the best international centres in critical situations.

What are the main differences between Russian and Spanish health care systems, in your opinion? What positive experience of Catalonia should be used in Russia?

This question deserves a dissertation, rather than an interview. The difficulty is that I perfectly understand organizational features of the Catalan healthcare model, but I know a little about features of the Russian healthcare model. Any consulting project in the field of healthcare always begins with a careful analysis of the country's realities. It is impossible to use the experience of another state. That is why I would refrain from answering the first part of the question.

However, I can answer the second part with great pleasure. The matter is that Catalonia has several universal practices in the field of health that other countries intend to adopt. Above all, it is necessary to guarantee reliable knowledge of the needs and the real state of things in healthcare. It is about collecting, structuring and analyzing information from all medical institutions without exception. The Catalan government obliged all medical institutions to perform this procedure. Non-fulfillment of all required actions during registration and failure to provide complete informatization led to withdrawal of accreditation. Speaking about structured information, we mean relevant and important information, as well as functional analytics. These measures helped to implement planning of medical services in the territory so that geographically accessible services could provide a fairly homogeneous coverage of all the population's needs without duplicating each other. This was a very difficult decision, but it would be difficult for any government. Our experience says that this choice has become one of the key factors for the success of our healthcare system as a whole. Let me give an obvious example. When a reform in the health care system began in Catalonia, there were only four hospitals in Barcelona that treated patients with severe burns. Severe burns are quite a rare case. If we remain the burn departments in all four hospitals, then the annual number of patients will not allow doctors to keep up a high level of expertise. The concept of "critical mass of cases" is a cornerstone in medicine. The experts who were engaged in the reform took the only right decision: three branches were closed and only one burn centre remained in Barcelona. As a result, the centre has become one of the best in the world. Certainly, doctors and the directorate of the three other centres were against it. Everybody assured that they were the best specialists, protested and expressed dissatisfaction. However, the result confirmed the correctness of the reformers' decision. Thanks to them, the required environment and structure were created to ensure the best conditions for developing the system of treatment and examination by doctors, and, therefore, better services for patients.

Another example is technical equipment. It makes no sense to equip all 50 centres with magnetic resonance imaging if doctors take only 10 images a day, as the results of experience and expertise will not be high in this case. It is much easier to buy technical equipment than to accumulate and develop experience of professionals. We can discuss various success formulas: the creation of financial and administrative tools that stimulate improvement, professionalism in hospital management and development of quality control tools. I know that the issue of success formulas of public-private partnership in health care is widely discussed in Russia. The high level of prevalence is the thing that distinguishes Catalonia from other regions of Spain. To adopt a law on public private partnership is only a small step on the long way. It is necessary to create tools so that all players could believe in this formula and start acting in accordance with it.

It is extremely important to highlight that the system will not work without the highest level of selection and training of medical specialists, as well as culture and the population's corresponding attitude. The profession of a doctor is one of the most prestigious professions in Spain. It is necessary to receive the highest marks to enter a medical university. Nobody thinks of entering a university by backstairs influence. It is extremely difficult to study at a medical university in Spain. The best world hospitals invite Spanish doctors without re-certification. It is very important, as for patients this may be a matter of life.

"Currently, I am at the head of the organization, the so-called Single International Department for Barcelona's leading hospitals. Annually, we provide medical care to more than 800 patients from Russian-speaking countries"

You are in charge of one of the most ambitious international projects that unites the leading hospitals in Catalonia – the Barcelona Medical Agency, as well as the director of Barcelona Medical Consulting. At the same time, by your first education you are a teacher of Russian literature, a candidate of science. Why did you join medicine? Have you ever regretted that you had changed your profession?

I am a philologist by the first education. Frankly speaking, I still feel like a philologist. Tender attitude to the language helps in any activity. I have lived in Barcelona for almost 20 years. At the beginning, I tried to teach Russian literature at a university in Spain. Unfortunately, it is impossible to do it at the professional level here, as there are a few students who study Russian literature in Spain. However, it would be very useful for them. It was uninteresting for me to work two days a week. The family tradition, circumstances, and volunteer experience in previous years played significant role in my life. One day I read an article about the Association of Barcelona Hospitals in a newspaper. No vacancies were announced there. As soon as I understood that article was written for readers rather than those who were looking for a job. Nevertheless, I was interviewed by the director, and the next day by the president of the Association. After the interview I was employed. In my opinion, it was pure luck. After that I received the MBA degree, and started working with hospitals. At the very beginning, I worked as a manager for the Russian region, then for international development. After a while, I was instructed the Association and the management of patients from various countries.

I do not regret that I decided to change my profession. I continue to read a lot. When teaching I liked to see how students were eager to get information that was difficult to comprehend. I also liked when something difficult became more clear or inspired them. Then it suddenly turned out that I was doing the same when delegations came to Spain from different countries in order to exchange experience with us. I have managed to foster love for literature in my children and friends. This summer my oldest son decided to read War and Peace by Leo Tolstoy in Russian on his own initiative. I also have a tradition to present my colleagues, directors and doctors of Barcelona hospitals, with books by Russian writers.

You noted that sometimes you have to work for 14 hours a day. Is it difficult for you to work efficiently all the time?

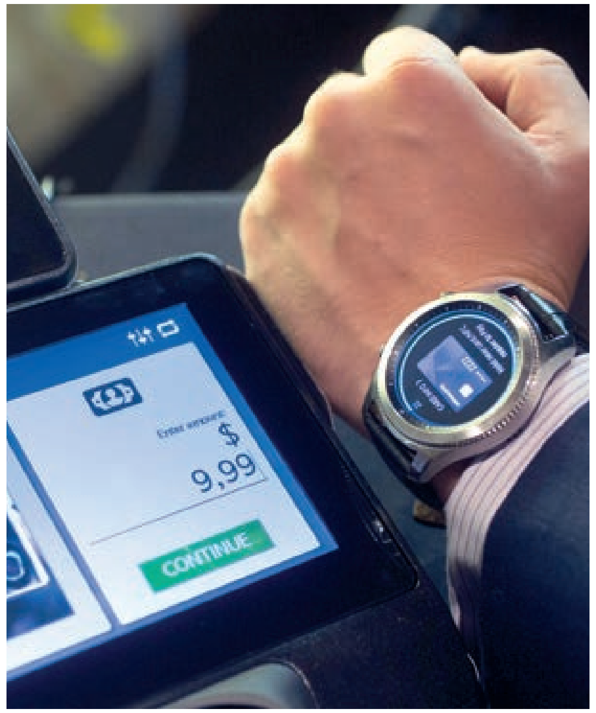
Well, I can finally answer the question laconically. The secret is very simple. The main thing is to love what you are doing!

Text: Alina Kulikovskaya

Payment Revolution

In the autumn 2016, the payment market was replenished with new participants: Samsung Pay and Apple Pay came to Russia, Megafon and MTS launched payment applications. Even social networks VK and Odnoklassniki launched payment platforms too. A month later, the millionth Mir national payment card was issued. Reporters of the Journal Strategy learn what new players can expect and what the future holds for the payment market as the modern age enforces the transition to contactless payment.

Technical progress has dramatically changed our lives and transformed the market of payment systems in recent years. 15-20 years back, an average Russian could not imagine that he would be able to pay without cash for a product or service only using a piece of plastic, but today there are about 2.25 plastic cards per holder, or 1.5 per every Russian. As per the Bank of Russia, nearly 249 million payment cards were issued in 2015. The largest issuer, self-evidently, is Sberbank: it accounts for 102 million payment means, nearly half of all the issued. The payment market infrastructure, so-called acquiring, also becomes increasingly available: according to the information portal Banki.ru, as of 2016, there are about 1.5 million terminals and banking equipment in retail outlets.



© AP PHOTO // MARK LENNIHAN // ITAR-TASS, ANTON NOVODEREZHIN // TASS

"The aggregate number of cards increases due to the development of the card infrastructure: POS terminals, internet acquiring, mobile acquiring become available not only in major cities. Card usage has turned into a daily habit — withdrawing salary, day-to-day spendings, travelling the world. It is currently not uncommon to meet a client with 3-4 plastic cards for different purposes (bonus programs, beneficial withdrawals, usability abroad), which surely is a driver for increasing emissions," says the General Director of Otkritie Holding JSC Ruben Aganbegyan.

In addition to positive dynamics of transactions, growing number of issuing banks, improvement of common infrastructure for accepting payment cards, the Russian market has expanded with another player: NSPK, the first national issuer of Russian cards was established in 2014.

73% of Russians hold payment cards, according to National Agency for Financial Studies

"The geopolitical circumstance and the threats of unilateral termination of servicing international cards in Russia were precursors for the creation of a national payment instrument to secure payments. For this purpose, the first Russian card under the brand name Mir was released in December 2015," says the President of the Association of Russian Banks Garegin Tosunyan.

The public authorities actively support the adoption of payment means by attracting all state budget organizations to use it. According to NSPK, the cards are already accepted in 700,000 businesses, more than 150 banks have joined the system, and their number is constantly growing.

Text: Alina Kulikovskaya

NSPK reports that
MasterCard and Visa account for 49.4% and 44.7%
of cards in Russian payment market respectively

As of late, bank customer expectations have changed significantly. Financial office-less companies are gaining larger share. One of the global trends in the payment market is the shift to mobile solutions. Consumers incline toward convenient services and ability to manage their finances online, availability of simple and direct crediting and investment products that can be obtained in an instant via the internet. We believe that users will continue to switch from the contemporary bank services to convenient payment services, including our Megafon Bank and debit cards. In some case, a subscriber finds paying with a credit card more convenient, in another case he uses mobile commerce services. There is, for example, Mobilny Bilet ("the mobile ticket") service that enables public transport payments with a single tap of a smartphone. That is why those who selectively offer customers necessary and convenient financial solutions will finally have better outlook.

Yan Kukhalsky,
Megafon Director for New Businesses and Partnerships

It is too soon to judge, whether the first Russian means of payment is to wind up a competitor to Visa and MasterCard, and to challenge their domination at least in the Russian market.

"It is premature to talk about a share of the payment systems market that NSPK can take, since the third stage that includes activities to permeate the NSPK product line with payment products and services, including outside of Russia, is scheduled for 2016-2018," says the assistant to the Minister of Economic Development Elena Lakshina.

Financial analysts say that success of a new player in the already established market is unlikely. The successful example of China UnionPay can serve as a counterargument: Chinese national payment system has become a global leader in 15 years.

According to The Nilson Report (2015), UnionPay cards are accepted in 150 countries, representing 53% of the global market.

Even though Russia still belongs to the countries with low non-cash turnover, all the modern world trends are inherent in Russia. Among the principal trends in the development of payment instruments, experts call the growth of contactless payment, mobile payment, p2p transfers, including through social networks and instant messengers.

Today we can not only pay with plastic cards, but also easily purchase goods and services through smartphone apps in a social network, with a single click.

Mobile and Safe

The fundamental driver of the growth of electronic payments is online business. As reported by the Association of Internet Trade Companies, the volume of e-commerce Runet exceeded 760 billion rubles in 2015. The maximum growth in the sector of mobile payments is 120 billion rubles in the first half of 2015.

Earlier, the consumer had to choose from a limited number of bank cards. Today, the market is packed full of payment instruments, and it does not matter what application to use when making a wire transfer or payment. Customer engagement and loyalty through mobile payment services will be an important aspect for new players to endure in the market of payment systems. The emergence of new players has not increased the market in size, and the number of transactions will not outgrow the market natural growth rate. Therefore, in the near future there will be two approaches to develop payment systems: a merger or acquisition of traditional and alternative payment systems for the purpose to increase the proportion of older players in the market and the fragmentation of the market, where each part further enhances the service, hinging on its target audience.

Ilya Tishkin,
Head of Marketing Research Department at Alliance Consulting

According to PayOnline, almost 40% of online shoppers made purchases from cell phones over the past year. A mobile network operator today is almost a payment system with obvious advantages: a phone is always near, applications run faster and functionality is wider.

In addition to online retailing, mobile technologies are picking up popularity in the trade and catering outlets. Polls show that every sixth Starbucks payment is via a phone.

In Russia, the future prospects of this market are clear: a survey of marketing research company Nielsen says that 98% of Russians have cell phones, which ranks Russia world's 2nd on this criterion.

Largest smartphone manufacturers could not dismiss the emerging market of mobile payments. In October 2016, market leader Apple launched Apple Pay payment service in Russia. Now iPhone owners can pay with their devices using NFC technology, while the payment is deducted from their bank cards linked to the app.

Google and world's largest cell phone manufacturer Samsung have also launched their payment services, Android Pay and Samsung Pay. A phone user simply unlocks his phone and taps it to a contactless reader to verify the payment. Russian e-payment service Yandex. Money began to work with Apple Pay and Samsung Pay more recently.

However, many experts are skeptical that mobile apps will become competitive players in the market in the nearest future. Samsung Pay and Pay Apple will unlikely be popular in the country soon, as the number of phones with contactless payment technology is still low. For example, the number of iPhones with NFC payment functionality in the country does not exceed 1.5 million devices, which makes for 300,000 end users.

Beside phone manufacturers, mobile network operators, including Russian, do not fall behind. In August this year, MTS presented MTS Money app that uses a virtual card of MTS Bank to pay for purchases with a smartphone. At the same time, Megafon, MTS main competitor, announced a new product: the world's first merged account combining bank account and phone balance in a single card serviced by MasterCard.

"We have more than 77 million subscribers, each has own personal account, which implies that each one is a potential card holder. It's easy to refill the card in a familiar way: self-service terminal, cash, online bank, in an office or via money transfer from another Megafon subscriber. Anything that improves experience from use of mobile phone as a payment instrument is good for our customers and for our company. For instance, Megafon subscribers today can directly pay for iTunes content with their mobile phones. Things like these encourage use of the phone as a wallet, we are beginning to play an increasingly critical role in daily lives of users by moving beyond purely basic telecommunications services," says Megafon Director for New Businesses and Partnerships of Yan Kukhalsky.

The smartphone becomes a full-fledged financial market instrument, a means of transferring, accumulation and control of money; at the same time, a bank account, a mobile phone account, and electronic money may act as a money source. The ownership of a bank card, according to financial experts, is no longer necessary.

Social Perspectives

Uncommon a few years ago, e-commerce in social networks and messengers is now a rightful participant of the payment system.

Until recently, social networks only acted as a showcase and a method of communication between a seller and a buyer. Now we see how public pages or communities turn into genuine online stores.

Odnoklassniki became the first .RU website running its own payment system this autumn. This measure was partly a necessity: as internet portal LiveInternet reports, daily website audience amounts to 50 million individuals, it has more than 8 million added cards with the annual 30% increase in payments.

Another popular social network VK has also introduced its user-to-user money transfer system. Now a message can transfer a payment.

Predictions are that the emergence of alternative payment systems and new non-bank financial institutions can transform banks into vaults of client money and deprive them of their commission income. The development of information technology provides tremendous opportunity for the emergence of non-bank institutions and new financial services.

Biofuture

In addition, we increasingly hear about biometric authentication as an alternative payment method, which has been seemingly impossible a couple of years ago. Some of these payments are applied today: fingerprint, face and voice recognition.

Contactless biometric technology is a routine abroad. Spain launched biometric payment systems in 2012. Some banks in Japan accept birthdates and scan hands to identify a person who withdraws cash from an ATM. Finnish company Uniqul launched a face recognition payment system in 2013.

"Indeed, technological progress strongly advances banking services and payments. Face and voice recognition technologies are currently coming to the market. Not only it protects from fraud, but is also convenient: no need to drive anywhere, no need for documents," says the President of the Association of Russian Banks Garegin Tosunyan.

Sberbank, the most active player in the market of payment systems in Russia, outpaces competitors here as well. The bank embraces new identification technologies, which subsequently will restricts the use of plastic cards.

"A few decades ago, biometric authentication technology seemed more fictional than real," Tagline observer cites PayOnline General Director Marat Abasaliev. "Today we provide fingerprints when filing documents for visa, students pay for lunch using Ladoshka ("the palm") biometric service launched by Sberbank last year."

Biometrics in Russia has been implemented for the most part under trial projects, as it requires sizable investment, and is accessible only to the market leaders. Innovations such as payment using fingerprint or face recognition require significant improvement, as they only exist as a prototype.

Today, the competitors in the market of payment systems comprise not only international payment systems, as well as mobile network operators, device manufacturers, and social networks. Often new players come into an established market and share client base, overlapping for the most part. For example, the daily audience of Odnoklassniki and VK is 44 million and 62 million respectively and the same users make up two-thirds of each.

Financial market analysts argue that today new players have to contend for every transaction, for consumer's attention, for every payment sent via a messenger, social network, or cell phone.

Earlier, we had to choose from a limited number of bank cards that were not always fully integrated, well, today's market is packed full of payment instruments. The card payment principle is receding into the past, according to experts.

The development of alternative means of payment is generally good for the economy, as it reduces cash circulation and decreases costs per transaction. The shift to electronic payments is no longer a popular phenomenon; this is what will determine the financial image tomorrow.

Smart Devices

Digitalization is a major trend to define the future of the industry. More and more users get permanent access to the internet, including through mobile devices, online trade grows. People wish to pay not only quickly and safely, but with a convenient device. MasterCard Impact of Innovation study, conducted in Russia, showed that 58% of respondents preferred mobile phones among payment options (tablets or watches). It is important that the phone links online and offline environment due to digital convergence. It enables online and offline payments from various devices (smartphone, wristwatch, key fob, clothes), provides advanced payment security and applies new identification methods, for example, biometric (face recognition, fingerprint, heart rate) instead of passwords, and introduces payment functionality to smart devices. There already exist web-connected refrigerators that order, pay for and arrange the delivery of products to home. Advanced technological solutions drive a new customer experience and create a more comfortable urban environment, Smart City, and a new world without borders.

Introduction of biometric technologies is having an increasing influence on the market of payment cards: payment using biometric ID in mobile devices (Apple Pay, Samsung Pay), and ATMs. These technologies enhance the security of payments, and potentially reduce expenses of banks by abandoning physical media. Another popular idea is blockchain, which makes identification easier, increases transparency of payments and protects against fraud. Banks will integrate unique payment technologies with successful customer acquisition cases. Among such is Rocketbank, a part of Otkritie Group, or Simple, purchased by BBVA Group. These perspectives also depend on legislative regulation. Payment instruments based on digital currencies already exist (bitcoin wallet, Ripple wallet); however, they are still niche products. Development of such systems is curbed by a vicious circle: the infrastructure is immature because of little demand, and little demand is due to poor infrastructure. Nevertheless, each of new payment services will find its user pool. We anticipate new services to give impetus to development of contactless payment and to further penetration of such payments in other areas. We expect growth in turnover and increment in the number of operations in the short term due to overall desire to give a try to the new service.

Ruben Aganbegyan,
General Director of Otkritie Holding JSC

Text: Darya Kichigina

Spot Your Business

Information system SME Business Navigator designed by SME Corporation was launched in early September. Andrey Anisimov, the Head of the Directorate for Marketing and Information at SME Corporation, talks to the Strategy Journal about the ways the project can assist small and medium-sized enterprises.

What is SME Business Navigator?

The SME Business Navigator is a resource for entrepreneurs who want to start or develop their business in an honest and lawful way. First, the Navigator can help learn what sort of business is more feasible to start in your city, what location to choose and what investment and documentation is required. It can estimate demand for goods and services based on data on real consumption of over 900 products by Romir Research Holding. The system utilizes 2GIS data and points out how many competitors are around.

If a person has a limited amount of money to start a business, the Navigator will suggest an affordable business model.

The Corporation develops draft business plans and partner banks can accept them attached to loan applications. In addition, the Business Navigator displays the location of bank branches and their credit products accessible to small and medium enterprises.

The Navigator also features contact information about public guarantee organizations, broken down by regions that issue guarantees and warranties, when entrepreneurs need public support to obtain loans.

The SME Business Navigator incorporates a single database of all state and municipal organizations that support small and medium-sized businesses in the city, and the map shows their contact details.

If a user has more questions, he can call the hotline, contact the nearest My Documents center or immediately contact the Business Navigator team by through using a feedback form.

Those who are already run business can also use two Business Navigator services. The system contains a database of public and private real estate for lease or sale, specifying state and municipal assets offered to small and medium-sized businesses.

The Navigator contains information about all major procurement plans of the largest companies with public shareholding: more than 200 procurement plans are updated weekly. Entrepreneurs can locate tender opportunities in the official directory of products and services, and filter the entries by date. For complete information, users can visit the official website, as well as browse procurement documents of principal tenderers.

When was the SME Business Navigator launched and what cities can already take advantage of it?

The system with database of 76 largest cities with population over 250,000 each was put into trial operation in July 2016.

We schedule to collect, process and upload data on 93 largest 100,000-plus cities that concentrate 60% of small and medium-sized businesses by the end of 2016.

We are currently winding the test run down, which receives much positive feedback from the business communities, regional authorities and partner banks that were involved in the system design process. The Navigator is being constantly refined and improved based on customer feedback.

Based on the results of the SME Business Navigator test run, before the end of 2016 the regions will receive guidelines for state and local governments, which would clarify ways to collect the information necessary for new cities to join the Business Navigator.

Have you learned from the experience of foreign countries when creating the platform?

First and foremost we learned from the experience of Germany, United Kingdom, United States, and Australia. The basic rendering was built on the US version, and was further greatly expanded in functionality and complexity. So, none of the equivalents can draw a business plan and provide a single directory of organizations that make up the infrastructure to support entrepreneurs.

The basic focus of the Business Navigator are requirements of entrepreneurs. From the very beginning of the system, the working group included members of business associations (Opora Rossii ("the backbone of Russia"), Delovaya Rossiya ("Business Russia"), Chamber of Commerce and Industry, Russian Union of Industrialists and Entrepreneurs), Agency for Strategic Initiatives and banking associations. Throughout the

"If a person has a limited amount of money to start a business, the Navigator will suggest an affordable business model"

development, we received feedback from entrepreneurs in the sessions on design thinking, powered by Sberbank and Delovaya Sreda ("the business environment").

What is the procedure of information collection? Are you certain that the figures are not overstated or understated?

The system relies on data from independent organizations. This includes the research on effective demand and real consumption of over 900 various mass goods and services supplied by Romir Research Holding, GIS database and spatial data (2GIS, Yandex. Maps, Sputnik, Rosreestr public cadastral map), information about all types of federal, regional and municipal support to SMEs, accessibility to special credit products, as well as commercial real estate offerings.

The Business Navigator contains a set of libraries that encompass indicators of effective demand and competitive environment, marketing strategies and execution plans, key components of the investment program and operating costs, financial and economic models and indicators of investment effectiveness based on data from over 5,000 operating Russian companies, and reconciled with trade associations. This makes possible the identification of market niches and development of sample business plans.

This makes conceivable recognizable proof of market specialties and advancement of test strategies for success.

This information is collected by special research and analytical agencies or is obtained from copyright holders, then formalized, processed and verified by SME Corporation. Therefore, we have no reason to doubt its objectivity, it reflects the current market practices.

We also collect and upload official statistical information and data on state and municipal property intended for provision to small and medium enterprises, and on the infrastructure of public support for entrepreneurs, including special My Documents centers for business.

What technologies were creating the SME Business Navigator?

The Business Navigator is built entirely on freely distributed Russian open-source software.

We have used EverGIS license by Everpoint as a basic geoplatform, and it has established itself well in such a complex application in terms of performance and reliability.

The SME Business Navigator portal, which registers and authorizes user access to the Navigator, uses SiTex license by Sistematika Group.

Who can access the portal?

Individual entrepreneurs and legal entities, as well as individuals who are intent upon entrepreneurship, can access the system.

At the same time, SMEs can exercise the whole functionality and complexity of the system; however, users who are not SMEs are restricted in a number of calculations.

What will the system result in?

Now the SME Business Navigator portal has more than 3,700 registered users. We collect user feedback through the questionnaire in the portal. I believe that the results will be ready to view in January 2017, yet the interim results are positive enough.

We will continuously improve and complement the line of the Navigator's services. The Corporation, therefore, expects that by the end of 2018 at least 280,000 businesses will open and run using this service.

How shall the platform change the face of Russian SMEs?

The parameters and types of the most popular businesses involved in the Business Navigator, are selected in partnership with business and trade associations. The format of drawing exemplary business plans is designed together with banking organizations, business support entities, state and local authorities.

The system will raise awareness among potential entrepreneurs about the existing market niches, financial and other support tools. The Business Navigator will stimulate primarily the massive SME sector, which is expected to lead to an increase in demand for loans and guarantee products for SMEs provided by the National Guarantee System.

"The Business Navigator is built entirely on freely distributed Russian open-source software"

Grapes of Glory

Not by bread alone does man live — there must be something to drink too. This eternal truth accurately describes the current Russian economic reality: amid sanctions and import substitution, the business finally pays attention to winemaking, a feeble domestic agribusiness. But was the glass of local wine always half empty? The Strategy Journal tells about the history of winemaking in the Russian Empire and what winemakers managed to pull out from a bottle at times.

Storm in a Glass of Wine

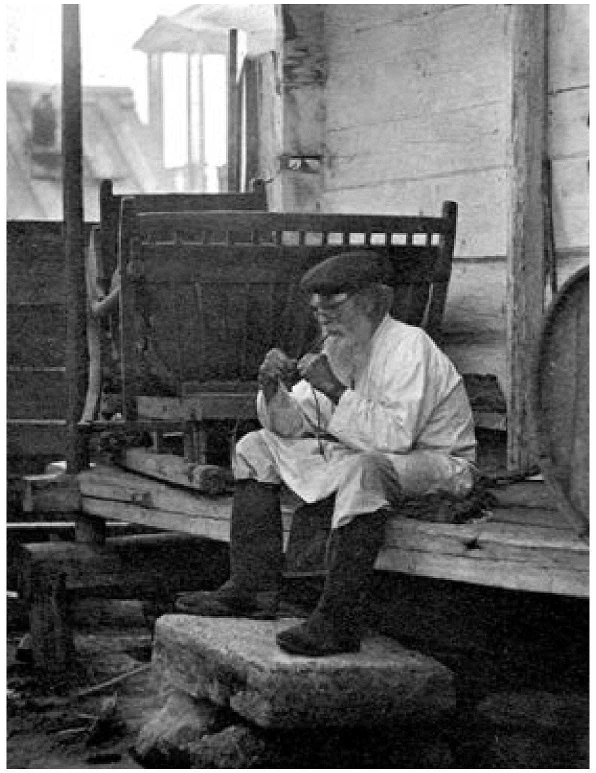
"A lot can happen before a glass of wine reaches lips", as Aristotle used to say, not mentioning, however, that a lot more happens before wine reaches a glass. At least, Russian winemaking looks like this: the incorporation of Crimea into Russia has revived the industry, although it is not clear yet, whether the growth is natural or artificially stimulated from above. The area of vineyards in Russia has increased by 50% (from 60,000 hectares of soil), nevertheless Crimean wineries are in extremely poor condition. Legislative amendments now permit small winemakers, who produce less than 65,000 wine bottles per year, to legalize its distilleries and get a huge license discount (65,000 rubles license fee for 5 years, instead of the standard 800,000 rubles fee, on condition that materials used in production are Russian-grown). At the same time, garage winemakers can occupy a maximum 10% share of the market in the coming years. Winemaking remains a business for the wealthy: development of 1 hectare of soil costs about 1 million rubles. Export of Crimean wines is growing steadily, however, only a third of 1 million liters of wine products consumed in Russia was made in Russia, another third was imported pre-bottled, and the rest was imported wine material further bottled under Crimean labels. Curiously, even though our winemakers successfully participate in international exhibitions, it has a rather negative affect on the domestic market: the Russian consumer has more trust in European-certified products, and manufacturers aspire to obtain it primarily to swell prices of the produce. Besides the Russian-European trade sanctions, randomly violated by all parties, and the absence of a special law on winemaking (now equated to the production of spirits), the situation is complicated by a whole lot of contradictions. However, Crimea is not the only wine region in Russia: about a dozen regions claim to be the main wine region, including Stavropol and Krasnodar krais, the North Caucasus, Volgograd, Rostov and Astrakhan oblasts — these are where Russian winemaking was born. By the way, the idea of import substitution in the winemaking industry is not a new thing: oddly enough, originally it belonged not to legislators, but foreign scientists, though it was likewise associated with the annexation of Crimea in 1783.

The First Take on Import Substitution

In 1796, Baltic economist Wilhelm Christian Friebe published the study "Russian trade, agriculture, industry and production" that paid considerable attention to issues of winemaking: "How profitable it would be for Russia to make it's own wine in Tavria (Crimea)! We must understand the worth of improving viticulture because today France does not export wine due to the devastation inflicted on the Rhine Valley. The price of wine stays too high to long, which braces us for the worst counterfeit wine. Except for Spanish, Hungarian and Portuguese labels, the most wines are adulterated at the present time..." Another Russified German, a traveller around various parts of Russia, a member of the Saint Petersburg Academy of Sciences, Peter Simon Pallas, published some years earlier "Travels through the southern provinces of the Russian Empire", where he scrutinized a familiar protectionist mechanism: "To encourage the cultivation of different varieties of grape in Crimea and other southern regions of Russia, not only the nation must be prosperous and populous, but foreign wines, imported partly through the ports of the Black Sea and partly from Moldova down the Dniester River, must be subject to higher duties, at least as for several years, with the purpose to mark up the price of foreign wines and thus to allow local land owners to plant new vineyards, which requires minimum 5 years treatment before a first harvest, and compels to join together a lot of strength, courage and capital. Over 15-20 years, winemaking in southern regions will develop so much that all regions of the Russian Empire, to Moscow and beyond, will be stocked with domestic, good wines rather than harmful, watered-down, colored and counterfeit drinks from foreign countries, paid for by Saint Petersburg alone, excluding other ports of the empire, annual 1.5 million rubles." At the time both books were published, the Russian Empire only embarked on industrial winemaking, however, it began to look promising — the two preceding centuries of constant experimentation did not have Russian distillers idling around.

The cultivation of grapes in the Rus was first documented during the reign of Ivan the Terrible: in 1547, the Tsar ordered Saxon Johann Schlitt, a member of the Tsar's court, to invite "crafted people", including "grape growers" and "hop growers", to Russia. A bit later (in the 17th century), German geographer Adam Olearius depicted grapevines Persian merchants brought to Astrakhan, where they were further cultivated by a 100-years monk from a local monastery, a former captive from Austria, a convert to Orthodox Christianity. Tsar Mikhail I Fyodorovich assumed patronage over him to have regular supply of grape berries, and he soon became the owner of 14 Astrakhan vineyards, bought by the State Treasury from individual owners. Jacob Botman, an experienced wine grower from the Duchy of Schleswig-Holstein, replaced sakia irrigation, used by local growers, with windmill irrigation. About two-thirds of the grapes he grew proceeded to Moscow (live bunches of grapes or molasses), another third went to the production of local church wine. By 1669, some 200 barrels of white wine and 50 buckets of grape vodka rolled in the Tsar's court every year.

Reforms of Peter the Great affected winemaking. They spurred the enhancement of all the Astrakhan vineyards and brought specialist from Saxony, Hungary and France. Wine grower Posiette, who took charge of the emperor's "orchard office", soon "propagated Hungarian and Rhine sorts and delivered 7 wine samples to the court". Although his earliest attempts apparently failed (the governor of Astrakhan Artemy Volynsky was ordered to distill the wine he had into vodka and plant new vineyards by the Terek River), Posiette succeeded considerably over 40 years in Russia. Hungarian wine experts left Astrakhan for Derbent after the emperor's military campaign incorporated it into the Russian Empire in 1722.



A Cossack selling Tsimlyansky wine

During Catherine I's birthday celebration, Peter the Great regaled guests with berries grown there, which, according to foreign envoys, were very reminiscent of Muscat grapes from Provence.

Peter the Great is customarily considered to be the founder of illustrious vineyards in the Don River basin, however, Cossack garage winemaking, apparently, flourished there long before the emperor's visit. Shaped using Donskaya Chasha method of shaping vines, the vineyards occupied slopes of the right bank of the Don River and were fed by mineral spring waters. They were so prolific they rarely demanded additional treatment. The foundation of Kizlyar immediately influenced the development of Terek winemaking. It was briefly populated by Georgians and Armenians who, having mastered winemaking, brought along effective Liman irrigation. The Armenian businessmen sold wine to Astrakhan profitably, and with the money bought various goods, such as textiles and resold them to Cossacks and highland peoples. The Government encouraged new immigrants (free land, medals and gifts distribution), which was a catalyst for the development of Terek industrial winemaking. Swedish naturalist Johan Peter Falk who visited local Cossack settlements, noted in a diary that almost every Cossack yard had a grape garden. A year later, 8 settlements in lower reaches of the Terek River produced 3,400 barrels of wine. Commercial benefits, safe transportation of goods, proximity of the Volga River basin, lack of competition in the Russian wine market — such favorable conditions drove up the number of vineyards. A half-century after Kizlyar was founded, a narrow strip of neighboring land, low-lying, tidal and reed-covered (21 km long and 10 km wide), was inhabited by grape gardens that produced 300,000 buckets of wine annually.

By the early 19th century, the number of vineyards and distilleries in the southern Russia grew more rapidly from day to day. The relevance of public investment in the infrastructure was obvious, as well as institution of a legislative and scientific base for further development of both garage and industrial winemaking.

Pure Science and Dirty Business

Paul I fetched a whole expedition to Astrakhan to appraise the potential for national winegrowing and winemaking to be expanded. The terrain between Kizlyar and Mozdok was acclaimed to be the most prospective of all, though scientist Karl Gablitz remembered that it suffered from "careless winemaking, lack of diversity, lack of cellars and desperate need of barrels, which coerced the owners to swap emptied barrels for filled ones at no cost". The low price of wine also disturbed garden tilling and cultivating, nevertheless, local winemakers successfully produced good red wine that "resembled the French produce and could stay non-bitter for a few years".

In 1806, botanist Christian von Steven founded the Russia's first school of viticulture and winemaking on the Astrakhan route. The State Treasury pledged 10,000 rubles to develop it. Moreover, the school invited wine grower Bart to take up the position of director along with a collective of professionals from the Rhine province. They successfully planted both vines brought along (Riesling, Malvasia, Cypriot, Zante, Pedro, Oporto, as well as Muscat) and local varieties. Word of the new Terek wines spread beyond regional centers and reached Saint Petersburg and Moscow. Over there, they were sold three times higher than Kizlyar Cossack wines. When Bart retired after 40 years of service, he handed over his well-maintained vineyards to be almost perished in hands of inept Stavropol supervisors. Then, viceroy of the Caucasus Aleksandr Baryatinsky had winemaker Gasten assigned to keep the gardens, but the latter failed to grasp the peculiarities of the local terroir. In 1866, founder of Kizlyar bank Kaspar

Grape harvest in Astrakhan

Terek town, 1647

Mamajanov bought the wilted and frostbitten garden through a public auction. The recuperated garden lasted for many years and produced famed Tokaji and Sultana wine, even though the production of these sorts of wine was now far from an industrial scale.

Cossack winemaking, based on local grape varieties, advanced tentatively. The Terek Cossacks were subject to dangerous, grueling and life-long military service, so no opportunities or ambitions were left to transmute winemaking into art. In other circumstances, it could be enhanced by local merchants, the most numerous and influential Kizlyar social class, which consisted of different nationalities and faiths. Local merchants were in charge of the trade between Russia, the Transcaucasus and Persia. Kizlyar and Astrakhan were crossroads of the famous Julfa trading company, with Armenian merchants, traditionally committed to the wine business, as main stakeholders. However, a special edict issued in 1775 obstructed merchants from taking part in the distilling business, which was a paradox, since the famous Catherine II's manifesto ensuring freedom of enterprise was issued concurrently.

Curiously, the wine business, patronized by European monarchs since Charles the Great, was long thought to be dishonorable and even more so among the Russian nobility. But this did not stop many families (Dolgoruky, Kurakin, Gagrin) from earning a great fortune from it. The 1765 Distillery Act privileged the nobility to engage in the winemaking industry. Only landed nobles could run the winemaking business, exclusively on request from the State or tax farmers. The essence of the tax farming system was that the State procured wine, and the tax farmers only held rights for sale (at prices no higher than those agreed with the State). After several amendments, it lasted until the adoption of the "Regulation of drinking fees" (July 4, 1861), which introduced the excise system that regulated, among other things, the production and trade of alcoholic beverages. State monopoly on alcohol was established in 1894. It was quite an intricate system that split responsibilities between public and private enterprises (the latter were slightly troubled, but eventually the monopoly boosted the quality of their products). The Catherine's rule saw the prosperity of patrimonial factories, leaned on the exploitation of peasants. They were most prevalent in wine distilling. Work in vineyards was reputed a "grape servitude" among the peasants. It was especially dangerous to be assigned to any wines and spirits factories, where workers could easily scald in a boiler, because virually no semblance of occupational safety existed in the mid-19th century.

Due to the number of social and environmental circumstances, winemaking in the South Caucasus and the Black Sea region developed far slower. Back in 1803, the Government issued the "Addition to the internal order and management of Novorossiya foreign colonies", specifying that all colonists in these regions received between 5 and 10 grape seedlings upon arrival. When Russia annexed Bessarabia in 1812 (viceroy Prince Mikhail Vorontsov himself was passionately keen on winemaking), the region was flooded by German and Swiss settlers, invited by the Government specifically to develop winemaking. Specialist on import substitution Peter Simon Pallas, mentioned earlier, soon opened a school of winemaking in Sudak (Crimea) and founder of Kizlyar school Christian von Steven founded Nikitsky Botanical Garden, which was the first experimental garden facility in the South of Russia, as well as a research center for winegrowers.

Winery Takes It All

Since 1820, the Ministry of Internal Affairs strengthened control over the rapidly growing industry: all producers were obliged to hand over information on vineyards, indicating the harvest yield and the quantity of wines and distillates produced (spirits were regulated by the Charter of Drinking Fees, a prototype of the present EGAIS). The next year marked the beginning of protectionist policy for local winemaking: increased duties on imported wines "that could be replicated in Russia". Winemaking in the Don, Terek, and Black Sea regions prospered, while Russian wines were so sought-after that they were massively counterfeited.

Novocherkassk became a center of the wine trade, frequented by Greeks who loved the Don wine: two of them — a white wine from stanitsa Razdorskaya and a red sparkling wine from Tsimla — gained worldwide fame. That is particularly valuable, they were made from indigenous varieties of grape. Kutuzov's army celebrated the defeat of Napoleon's troops with Tsimlyansky wine. It also went down in history as the favorite wine of legendary ataman Matvei Platov, a hero of the Patriotic War of 1812. Moreover, Tsimlyansky wine, having stayed trendy at the court for many years, could be called the most "literary" wine of the 19th century: mentions of it are found in works of Lermontov, Turgenev, Nekrasov, Chekhov... A known wine connoisseur, Alexander Pushkin mentioned it — in different tones — countless times. It's funny that the existing Tsimlyansky plant of sparkling wines makes Onegin Extra Brut, as the Pushkin's hero, a snob and a dandy, who used to exclusively drink French champagne, treated the much cheaper Tsimlyansky ironically. It is easy to guess, if we remember the birthday scene at the Larins': "Between the roast and the dessert // Tsimlyansky sparkling wine was brought, //

Then rows of tall and shapely glasses, // Just like that waist of yours, ah me! // The crystal of my soul, Zizi".

Though Tsimlyansky is considered the most famous Russian wine, the most famous winemaker is, no doubt, Prince Lev Golitsyn. His professional biography is easy to describe as a list of highlights. He studied winemaking in champagne; bought Crimean estate Novy Svet ("New World") in 1878, where he cultivated up to 500 varieties of grape and was the first in Russia to launch the production of high-profile sparkling wines; had the world's only collection of 17th-20th century wines; created Abrau Durso Winery; held the position of chief winemaker of the Appanage Department in 1891-1898. The first batch of champagne by Golitsyn branded "New World" and "Paradise" (1882), received huge international acclaim. The "New World" was served during the celebrations that followed the coronation of Nikolas II in Moscow in 1896, where it was dubbed "coronational". The 1900 World's Fair in Paris brought the Golitsyn champagne Grand Prix. Several details of his business background are more interesting.

The Prince was known in Europe as "the expert king": he had a rare ability to distinguish grape varieties only by the shape of leaves and to identify the varietal characteristics in blends of any complexity. Golitsyn accurately guessed by the taste of wine the soil characteristics and the weather that dominated throughout the year of harvest, rainy or sunny. This flair helped Golitsyn and appanage experts to reveal the true names of grape varieties in Crimean vineyards (a fair amount of confusion reigned before) and select the best combination for each area, which increased the yield and improved wine properties, as well as sped up the expansion of vineyard areas.

Golitsyn was the first to see that only fortification and aging of Crimean South Coast wines made them interestingly elegant. At his time, the fame of Massandra dessert wines was only hatching in old cellars of private estates. In 1898, under the leadership of engineer Adam Dietrich construction of the main tunneled cellar (new type) was completed. Before it had been encountered only in the finest wineries in France. Golitsyn could convince the emperor to invest 1,100,000 rubles in this venture. This resulted in seven diverging tunnels with total length of two kilometers, and total barrel capacity of up to 80,000 buckets or 1,000,000 million bottles. Earlier, cellars were rebuilt in Sudak, where experimental production of champagne began. These experiences later formed a basis for industrial production in Abrau Durso.

In the 1890s, Golitsyn developed winemaking and viticulture in all appanages (the Caucasus, Kakheti and Tiflis) and successfully exhibited appanage winemaking at international fairs. By this time, the Southern Caucasus, basically, developed into a wine center of the Russian Empire: local vineyards were the largest by area among all vinticulture regions and the second by production after Bessarabia, making an average of 7,340 buckets a year, that is, a third of all wine produced in Russia.

Withering on the Red Vine

Golitsyn struggled against wine counterfeiting, and in 1903 he submitted a draft of the corresponding law to Nicholas II. That was a reaction to the decision by the Odessa winemaking congress, which recognized that the wines with added of molasses, elderberry, tar, beet sugar, potato spirit and other safe ingredients should circulate in trade under the same names as natural wines. It perfectly reflected interests of Bessarabia winemakers: the areas and yields of vineyards were huge, but the wines remained mediocre, which did not hurt their commercial success among the local population.

At that time, being the minority, the Prince anticipated the adoption of the "Law of the Russian Empire about grape wine of 24 April 1914", supplemented with technical regulations "Rules on manufacture, storage and sale of grape wines". The document imposed strict regulation of the quality of wines produced exclusively "using the method of alcoholic fermentation of fresh juice or grapes dried on bushes or in another way, but not of raisins"; it forbid adding fruit juices, water, spirits (excluding fortified wines). This law summed up a number of reforms of the cabinets of Pyotr Stolypin and Vladimir Kokovtsov in viticulture and winemaking, accumulating all previous regulations and imposed severe penalties for counterfeiting wine. Unfortunately, their work was futile: when the Bolsheviks took power, USSR remained one of the world's wine producing leaders; however, the traditions of fine winemaking were almost entirely wiped out.

Although the world looks brighter through a full bottle of wine, French or Russian, we can only raise a glass and wish Russian oenophiles to never resort to this consolation. Let us hope that the prospects of the domestic wine only seem illusory.

Larger Than Business

Daniel Bell's prophecy seems to come true: “progress is increasingly determined by the success in harnessing knowledge.” However, the failure to protect that knowledge, or rather, intellectual rights makes even thinking about it meaningless.

Patent Diplomacy

First actions for intellectual property protection at the international level were already taken in the late 19th century. The Paris Convention (1883) was adopted for the protection industrial property; the Berne Convention (1886) was and intended for the protection of literary artistic works. Since then onwards, by protecting the interests of right holders the governments have been able to use the influence of brands, demand for licenses, and sustainability of the national innovation system to enhance the country's competitiveness.

The dominance of the national intellectual capital at the global level, not only contributes to the economic, but also adds to geopolitical influence.

Today, some of the most vital agreements are the Stockholm Convention (1967) that constituted the World Intellectual Property Organization (WIPO), and the 1994 Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). The totality of all of the agreements constitutes the international legal regulation of intellectual property rights.

Echoes of War

After World War II, the winner nations carried out the so-called “intellectual reparations” policy towards Germany: modern technologies and patents were harvested and conveyed out from the territory of the Third Reich. Western specialists estimate the intellectual resources exported only by the United States and Great Britain at about $10 billion in 1940's prices or over $120 billion in 2010 prices.

The intellectual property system today comprises the patent law (inventions, utility models, industrial designs), new intellectual properties (disruptive innovations), integrated circuits, breeding techniques), copyright and related rights (forms of creativity, objects of related rights (broadcasting, performance, audio recordings) and means of individualization (brands and domain names, logotypes and trademarks, trade names and business names, signs and labels).

Naturally, the relations between the two countries were seldom good neighborly. For example, at the height of the Cold War, in 1951, the US Government unilaterally discontinued the 1937 trade agreement, which prompted to the cessation of trade between the USSR and the USA. The US-based National Patent Development Corporation's mission visited Moscow only in 1961, and that was a real breakthrough in Soviet-American scientific and technical cooperation. As a result, new forms of international trade activities evolved. For example, the all-Union Association Licensintorg established in 1962 under the Ministry of Foreign Trade of the USSR. The purpose of the association was commercial transferring of international technologies. Later, in 1967, the USSR State Committee on science and technology founded the all-Union Association Vneshtechnika.

The main treaties adopted during the incumbency of Aleksey Kosygin (1965-1980)

1965	The USSR joins the Paris Convention for the Protection of Industrial Property (1883)
1970	The USSR joined the WIPO
1973	The USSR joins the Universal Copyright Convention (adopted in 1952 in Geneva, revised in 1971 in the Paris Conference)
1976	The USSR joins the Madrid Agreement Concerning the International Registration of Marks (1891)
1977	The USSR ratifies the Patent Cooperation Treaty (1970)
1980	The USSR ratifies the Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure (1977)

Subsequent years (1965-1980) can rightfully be called the golden age of Soviet patent diplomacy. The USSR finally joined the Paris Convention for the Protection of Industrial Property (1883) in 1965 and the WIPO in 1970, which had prime influence on the foreign trade activities. The Russian Federation and the Republic of Belarus are the successors to these agreements. Currently, the Federal Service for Intellectual Property (Rospatent) carries out the functions of a central patent office in Russia. The federal service also carries out international cooperation, monitoring and enforcement of the commitments of the Russian Federation in accordance with international agreements.

On May 29, 2014, the treaty on the Eurasian Economic Union (EAEU), an international organization for regional economic integration, was adopted. Five Member States (Armenia, Belarus, Kazakhstan, Kyrgyzstan and Russia) established a supranational regulator, the Eurasian Economic Commission (EEC), where the issues of intellectual property are handled by the Business Development Department.

In 2016, EEC announced the development of the Strategy for Security, Protection and Use of Intellectual Property within EAEU. Besides, an expert group at the Advisory Committee for Intellectual Property of the EEC Board is appointed to improve the legislation in intellectual property protection within the global economic and cultural space.

This is relevant and timely, as the ongoing rearrangement of international trade space entails changes in transferring patents and technologies. For example, the already existing European projects Eastern Partnership and Energy Community, and the lobbied pro-American international trade and investment regimes (Transatlantic Free Trade Area; Transatlantic Trade and Investment Partnership) are a threat to the protection of intellectual property rights.

The management of transnational corporations has unprecedentedly strengthened the control over the array of infrastructure and prevailing patents and licenses in ICT, materials science, pharmacology, biotechnology, which has already led to the increased interstate and in-country social imbalance. There is a possibility that states will grow dependence on global infrastructures, including information, thus consolidating unequal access to technologies. This raises the problem of preserving sovereignty and the growing importance of protecting intellectual property rights.

Which challenges related to intellectual property are most pressing today within the EAEU?

Firstly, it is increasing the share of intellectual property involved in the legal stream of commerce, which will lead not only to increased taxes, but also to a gain in the state's prestige.

Secondly, it is a tougher fight against counterfeit products. Today, the offenders are generally aware that their felonies are inadequately prosecuted, and the battle against counterfeiting consumer goods with high added value (luxury goods, branded clothing, alcohol, auto parts) prevails.

The advancing Great Recession marks the stages of the world economy evolution: in the second half of the 20th century, the leading economic powers set the course from industrial (manufacturing) capitalism to service (post-industrial) capitalism, with the unconditional dominance of financial capital, then in the early 21st century the impact of intellectual capital increases as a factor of production amid diminishing role of finances.

Maksim Fomin,
research scientist of the Institute of World Economy and International Relations, Political Science Ph.D

The Global Innovation Index 2016 (128 countries)

Country	Total rank	Some specific ranking indicators			
		Knowledge-intensive employment	University / industry research collaboration	Patents by origin / PCT patent applications	Scientific & technical articles
Switzerland	1	3	3	1/1	4
Sweden	2	5	11	9/1	6
United Kingdom	3	8	4	16/18	14
United States	4	26	2	6/14	38
Germany	10	17	10	1/10	31
Japan	16	57	15	1/1	47
Russia	43	14	65	18/48	67
Armenia	60	49	102	23/49	24
Kazakhstan	75	41	82	28/77	121
Belarus	79	33	no data	27/66	84
Kyrgyzstan	103	78	118	17/28	99

Source: The Global Innovation Index 2016. Winning with Global Innovation

The third is the harmonization of intellectual property legislation in the Eurasian Economic Union Member States. Today, the distinctions in the laws result in unequal economic turnover. The institution of the concept Union Trade Mark, introduction of a single Union's trade register, and issue of a single protection document for right holders — these tools must become irreplaceable in the future international trade and economic development of the Union Member States.

Premier Patent League

The modern intellectual property legislation is a primary factor in the development of a legal business culture, the quality of the economy. For instance, there is a notable story when the capitalization of intangible assets doubled in a decade: in the early 2000s, JP Morgan experts evaluated the cost of brands, patents, licenses and copyrights at 1/3 the value of the respective companies' shares, however, in 2014, Brand Finance declared their value at 62%, which is $19.5 trillion of $31.6 trillion in monetary terms across the entire market value of the companies in the world. Clearly, this trend — "intellectual property rights are larger than business" — will continue its progress. The emerging trade restrictions will either cause the business to step up to a whole new level of technology development, industrial design and branding, or significantly slow down the stable and safe development and the Eurasian Economic integration process.

According to member of the Russian Academy of Sciences Abel Aganbegyan, the knowledge-based economy (research and development, education, IT, biotechnology and health care) makes 15% of Russia's GDP. Likewise, the Western Europe's share is 35%, and in the United States, more than 40%. Innovative leadership in the 21st century is unequivocally determined by intellectual superiority. One must but agree with member of the Russian Academy of Sciences Aleksandr Dynkin, that "an innovation is a purely market, economic occurrence. This is neither a technological leap forward, nor a new discovery nor invention. An innovation, product or services, are born in the convergence of

Illicit Turnover

The International Chamber of Commerce reports 5-7% counterfeit products in all international trade or about 500 billion dollars per year in absolute terms. According to Rospatent, the turnover of bootleg goods (including consumer goods) in the Russian market amounts to 80-100 billion rubles per year (unofficial data claim 150-200 billion rubles per year).

social needs (demand, in other words) and technology." However, an innovation is based on specific discoveries and inventions. The commercialization mode (patenting and licensing, or copying and imitating) depends on the level of legal and business culture, and the quality of legal mechanisms. The protection of intellectual property rights should be an inviolable guarantee for rights holders that they will succeed commercially.

Dominance and Superiority

EAEU Member States should respond adequately to the above trends. For example, the high-profile scandals in the copyright market, lack of transparency in copyright societies, and controversial distribution of royalties and expenses has prompted the Government of the Russian Federation to raise the question about establishing of a public patent company (a single organization with a supervisory board) for state control over royalties for right owners. De facto, this will lead not only to the translation of cash flows of copyright societies (Russian Authors Society, Russian Union of Right-holders) into the Federal Treasury of the Russian Federation, but also to the change in the distribution of the funds. The need for state-controlled merging of copyright market participants based on contractual standards stays debatable, nevertheless, new methodologies and technologies can actually increase fees and royalties.

These changes do not apply to the rights overseen by the authors and authorized organizations: patents, microcircuit topology, brands, industrial design examples and other innovative objects. Here the situation is slightly different. Let us note a few basic stages necessary to revitalize and strengthen the national innovation system for today's needs. The first is the audit and inventory of the entire array of patents and technologies, identification of technological capacities and promising sectors. The second is the modernization of engineering schools and refocusing the structure of industrial technologies deployment on full life cycle contracts (not products like a lamp or a computer, but services like illumination or big-data). The third is the training reformation for industrial design and branding (the principle of "design and brand as a continuous cycle of launching innovative development and value creation").

The superior "packaging" of the intellectual capital — preparations for correct startups selling, licensed commercialization of developments and investment in patent-related projects — must focus on cooperation with Technology and Innovation Support Centers (TISC), established as part of the implementation of the memorandum of understanding between Rospatent and the WIPO. Almost every stage of the innovation process can involve a certain kind of intellectual property (design sample, expertise, trademark).

In the case of multiplication and relaying this experience to the EAEU, a special complex of design offices under the patronage of the EEC can be arranged for the interaction between successful patent holders, startups, investors, interested parties, and for the creation of an ecosystem of intellectual growth and superiority of the Union. Such offices, combining groups of researchers and venture entrepreneurs under various cross-disciplinary principles, can provide truly breakthrough achievements in development. Given the uneven distribution of intensive economic activities, these free ports of innovations will be the magnets attracting innovators and scientists.

However, the accumulation of intellectual capital (and the contents of patent repositories) is to a great extent dependent on the demand, and the demand depends on the quality of the structure of economies and institutions. Furthermore, building motivation to research, invention and high-tech entrepreneurship is no less important than ensuring a positive business environment, open competition and the protection of ownership rights to promote demand for patents, development of knowledge-based industries, and to diversify the economy.

EEC can serve not only as an ideologist / integrator of new policies, but also as a central place of collective actions: to define rules and incentive mechanisms, coordinate the realization of plans and provision of intellectual property rights

Past Victories

In 1965-1991, the all-Union Association Licensintorg generated revenue more than $1.7 billion from the sale of patents abroad. Among the sold patents were continuous steel casting technology (Japan, Germany, India, Italy), metal solidification using magnetic fields (Sweden, Australia, USA, Japan, Switzerland, France), coal hydraulicking (Japan, USA, England), production of isoprene (England, France, Japan) and production of high-pressure polyethylene (Germany).

Text: Darya Kichigina

Change Your Approach

According to forecasts, the number of people living on the Earth may increase by one billion in 2030. The number of those who are over 60 years will increase by 500 million, reaching 1.5 billion people. The population on our planet is getting older. It means that the number of patients who suffer from chronic diseases will also continue to increase. From time to time, state budgets for health suffer severe budget cuts. According to experts, a serious shortage of investments in medicine is unavoidable in the near future. Vadim Vlasov, the president of Novartis Group in Russia, told in an interview with a Strategy Journal correspondent about trends of effective pricing for medicines.

According to the expert community, health financing needs to be optimized. How do you assess the situation from the position of the largest international pharmaceutical company in Russia?

There are a number of mechanisms in Russia for providing the population with medicines at the outpatient and inpatient stages. The main source of financing for hospitals is the system of compulsory medical insurance.

In recent years, high-tech medical care has been actively developed for those patients who need complex and expensive therapies.

At the outpatient stage, the main financing mechanisms are the Seven Nosologies program. Federal and regional preferential provision for certain categories of citizens is provided mainly for disabled people and veterans of wars.

In addition, there are various regional targeted programs aimed at providing therapy to patients. There are a lot of financing sources today in the country. The state has an important task to use these funds effectively within these mechanisms in order to achieve significant medical and economic results.

This issue is becoming more relevant due to the limited budget for health care and challenges from the aging population of our country.

What principles should be in the foundation of pricing in order to achieve the greatest effectiveness from one or another therapy?

The result one or another therapy should become the basis for the formation of a fair price.

According to numerous studies, innovative medicines can reduce the load on the health care system. In a long-term perspective, the high quality of these medicines will help to prevent the development of conditions that subsequently require expensive medical treatment.

It is necessary to introduce the concept of the medicine value or a therapy value in the structure of medical care. There are four fundamental aspects of value: medical, value for patients, health care systems and society.

"Above all, medical value is to reduce mortality or the duration of cancer remission."

The value for patients is the preservation and improvement of living standards. Firstly, it is necessary to recover from a disease, but at the same time, it is important to minimize side effects, exacerbation periods of diseases and the duration of therapy.

The cost optimization reflects the value for the health care system. We should take a bit broader view of the issue, taking into account such various aspects as specialist consultations, procedures, hospitalization, the duration of primary treatment and a number of repeated visits to doctors. All these things directly form how much money the state will spend on one patient.

The issue of rapid recovery of patients' ability to work is the main value for society. It is important both for us and representatives of the pharmaceutical industry to develop innovative medicines of real value for patients and the healthcare system.

In our opinion, people should pay pharmaceutical companies not for the number of medicines, but specific results of treatment in future.

In recent years, Novartis has been working on various models of contractual relations and pricing that would be effective for the patient and the health care system in general. Pilot agreements in oncology and heart failure have already been implemented in some markets. The payment was made following the results of treatment.

What principles and additional mechanism may lay the ground for effective interaction between the state and manufacturer?

Pharmaceutical companies are striving now to find new approaches to the treatment of socially significant diseases. Innovative therapies can drastically change results of treatment, and therefore, patients' living quality. It is important that the number of these medicines is constantly increasing.

We make significant investments to development and improve innovations. For example, Novartis invested $8.9 billion in

"Above all, medical value is to reduce mortality or the duration of cancer remission"

searching for new solutions in 2015 in order to improve quality of services and longevity of patients. A company needs to develop and clinically examine more than 1,000 molecules in order to bring to a new innovative medicine in the market. This fact explains high cost of production.

The state faces a difficult choice: how to allocate these limited funds among therapeutic areas, innovations and standard therapy in order to meet the growing needs of the population and increase the effectiveness of medical care.

Procurement of medicines is an essential thing, however it is not the only and not the largest item of budget for health care. In addition to direct provision of therapy, the state finances this system, starting from making payments to physicians, patient routing, maintaining and repairing medical institutions and purchasing equipment.

Complex initiatives aimed at improving the system of specialized medical care that exceed the limits of selling usual medicines are becoming relevant.

Novartis offers solutions that can support the development of the health system and optimize the state spending on treatment of nosologies. For example, in the field of cardiovascular diseases.

We consider that this approach will help to release budget funds and use them for purchasing innovative medicines without changing the amount of funding allocation to the health care system, significantly improving its effectiveness.

In Russia, we are actively engaged in a dialogue with representatives of ministries, departments, and regional administrations on introducing innovative approaches to the healthcare practice and signing contracts for the supply of medicines where indicators of the therapy effectiveness has always been the main criterion for making payments.

In addition, the possibility of implementing complex partnership programs aimed at improving the organization of medical care in certain nosologies are being discussed now.

I hope that in the near future we will be able to implement pilot projects in a number of regions.

Strong Pharmaceutical Industry in Russia

Today the pharmaceutical industry is not only an important part of national security, but also one of highly profitable and rapidly developing segments in the world economy.

The Russian pharmaceutical industry can be rightly called as one of the main drivers of the industry. In 2015, the industry saw a 26% increase, the largest growth in comparison with other industries. During the first half of 2016, the production grew by almost 38% compared to the same period last year. Now the Russian pharmaceutical market is among the ten largest markets in the world. Moreover, it is one of the most dynamic and fast-growing markets.

Progress of the Russian pharmaceutical industry is directly depends on the successfulness of import substitution strategy. This policy was determined long ago before the Pharma-2020. At the same time, there is a clear understanding that it is neither a momentary event nor a fashionable campaign, but a long way that requires preliminary analysis, well-balanced planning and clear implementation. It requires not only well-organized actions, but also mutual responsibility both from business and the authorities. The manufacturer has to guarantee high quality and stable price, as well be able to supply the required volume of medicines. The state, in its turn, must act as a demand catalyst for import-substituting products.

We can surely say that it is practically impossible to solve the problem of diabetes in the country without state support. It is good that the state understands how relevant this topic is now. It is extremely important to produce insulin locally in Russia. However, the production is only one part of the integrated system of measures aimed at solving the issue of diabetes in our country. The other important part is to organize activities related to the diagnosis and treatment of the disease. We are proud that insulins produced by our factory in the Russian city of Orel are identical to the insulins produced in Germany. It confirms the GMP certificate that had been issued by the European Medicines Agency. While realizing the export potential of the production localized in Russia, we have a plan to start delivering analogues of advanced insulin to the European countries for the first time in the history of Russia at the beginning of 2017.

Naira Adamyan,
General director at Sanofi Russia

The results are impressive. According to the Minister of Industry and Trade, Denis Manturov, 40 new domestically produced medicines for treating oncological, infectious, cardiovascular diseases, hemophilia have appeared on the Russian domestic market. The share of domestic medicines from the list of vital and essential medicines should reach 90% by 2018 in accordance with the decree signed by President of the Russian Federation. As of September 12, 2016, it has already exceeded 76%. Among the significant achievements are antitumor medicine Rituximab, the production of the entire blood factor line, the reproduction of Glatiramer Acetate for treating multiple sclerosis and other high-tech medicines.

In April, the Chairman of the Government, Dmitry Medvedev, addressed to the participants of the 8th All-Russian Congress of the Workers of the Pharmaceutical and Medical Industry. He stated about the importance of introducing scientific achievements, stressing that the industry "is the sector of the national economy that can be effectively developed with the help of advanced achievements of the domestic and world science." Pharmaceutical companies operating in the Russian Federation have been confirming this thesis for several years. Today the Russian pharmaceutical

In June 2015, the Novartis Group completed the construction of the Novartis Neva pharmaceutical plant in St. Petersburg. The project was developed in the context of the strategic investment program that had been implemented in Russia since 2010. The Novartis Neva plant will produce 1.5 billion units of solid dosage forms per year. The original and reproduced medicines by Novartis Group will be used in socially important therapeutic areas, such as cardiology, transplantology, oncology, gastroenterology, neurology and diabetes. The plant will also become a platform for the introduction of advanced pharmaceutical technologies in Russia. The new plant will meet the requirements of GMP (Good Manufacturing Practice) rules for the organization of production and quality control of medicines.

Vadim Vlasov,
The President at Novartis Group of Companies

industry combines innovative technologies and the latest equipment, as well as employs highly qualified specialists. The sector is developed in accordance with world trends. For example, widespread adoption of GMP standards (good manufacturing practices) and promote replacing low-skilled jobs and manual labor with robotic processes, and in the growing export-oriented industry.

Thanks to high requirements to the quality of medicines the pharmaceutical industry has become one of the most 'regulated' sectors. This is the main feature of the sector. The state strictly controls the production throughout the life cycle, starting from the development of medicines up to disposal of these medicines. It is difficult to find an industry where so many regulatory bodies are involved in monitoring the circulation of products.

Despite this, we have managed to create a comfortable investment climate. In recent years, significant inflow of investments have been attracted largely due to state support measures implemented in the context of the Pharma-2020 strategy and the federal targeted program "Development of the pharmaceutical and medical industry of the Russian Federation for the period till 2020 and further perspective." Sergey Tsyb, Deputy Minister of Industry and Trade, says: "It has been allocated 35 billion rubles of budget funds for five years, about 120 billion rubles were private investments." Foreign companies come to the market through localization, the purchase of assets of local companies and the transfer of technologies. According to marketing agency DSM Group, over than 20 out of 400 foreign companies, including Sanofi, Takeda (Nycomed), KRKA, Servier, Stada, Novartis, AstraZeneca, Berlin-Chemie / Menarini localized the production of finished pharma products, and 500 companies even launched the process of wrapping medicines in Russia.

The state is implementing special measures based on business requests in order to support the pharmaceutical industry. In 2015, the Industrial Development Fund gave loans to 15 companies amounted to 4.567 billion rubles for creating the necessary production facilities to launch production of innovative medicines and medical products. Subsidies for replenishment of current assets were a relevant tool for supporting the industry. In addition, the regional authorities provide significant support to clusters through reducing the tax burden and creating "input" infrastructure.

The development of biotechnology is of particular interest. This step can help us to open up new opportunities for preventing and treating socially significant diseases. In 2015, the total volume of the world biopharmaceutical market was estimated at $264 billion. Today, the market continues to grow. Russia has good prospects in this sector.

The pharmaceutical industry is one of the most socially important sectors of the economy where all issues should be solved with due consideration of their impact on the population as a whole and each patient individually. "The most important priority of the healthcare system is to ensure the availability and quality of medicines, including low-income patients," Prime Minister Dmitry Medvedev stated. New models and principles of interaction are being studied now in order to achieve these goals, including the foreign experience of insurance medicine in the field of medicine insurance. The issue of providing the healthcare system with low-price medicines (below 50 rubles) from the list of vital and essential drugs is being discussed now. However, it has become unprofitable to produce these medicines due the crisis phenomena and an increase in the exchange rate. So, it is necessary to achieve a balance between the interests of producers and consumers through a system that ensures the profitability of production and the financial and physical accessibility of medicines for patients. Unfortunately, current price regulation does not lead to keeping the balance, and medicines from this segment leave the market. It is necessary hold a constant dialogue when solving such issues, as lives and health of patients directly depend on this fact.

The industry significantly affects the current political situation. There are more than 4 million insulin-dependent patients diagnosed with diabetes. All of them, their family members, relatives and friends are voters. These interruptions in the supply of insulin may automatically provoke discontent among this group of the population and lead to a negative rating of the authorities, and therefore, negative results at the elections. The companies involved in the production of insulins in Russia have achieved significant results. This is why it is possible to reduce such risks to a minimum.

Today we can say with no false modesty that the success of the pharmaceutical business directly influenced the health indicators. According to the Ministry of Health, life expectancy of Russians increased to 72 years in the first half of 2016. In 2015, it was 71.22 years. Mainly, due to decrease in mortality from the most common causes: tuberculosis by 8.2%, from diseases of the circulatory system by 3.4%, respiratory diseases by 3.4%. According to WHO, Russia was among the top ten countries in 2015 that have made the greatest progress in recent years in the field of combating non-communicable diseases: cancer, diabetes, heart and lung diseases. There is a prolongation of active life in working age that positively affects the economy of the country.

It would be impossible without well-organized and effective work of all participants in the pharmaceutical industry.

© DONAT SOROKIN // TASS

Business-Changing Technologies

The volume of the Russian Internet of Things market in 2015, according to J'son & Partners Consulting, was $527 million or 16.2 million Internet-connected devices, the 0.3% of the world's total. The IoT market is just emerging in Russia. Nevertheless, an increasing number of projects related to the IoT mounts every year. The Strategy Journal presents four new Russian Internet of Things projects.

When introducing a monitoring system, a company builds an environment where machines begin to comprehend the surroundings and communicate over Internet Protocol, bypassing the operators, independently addressing issues to improve efficiency or prevent emergencies. The world industry is entering a new era, Industry 4.0. It is based on "smart factories" structured into a network. It knows everything there is to know about the production process and takes over the function of decision-making, previously performed by a human. We create a kind of environment for such machine-to-machine communication.

Vasiliy Churanov,
Development Director, Twins Technology LLC

DISPATCHER Monitoring System

Developer: Twins Technology LLC.
Venture capital: 4 million rubles.
Completion of a first working prototype: 16 months.

About the project. The system combines all the equipment of a industrial company into a single network. DISPATCHER provides real-time efficiency analysis of production hardware and personnel.

The monitoring system evaluates the real workload, excluding log methods in workshop reporting, which are often very subjective. The real data show bottlenecks in technological chains, equipment overload, technical development practices of the enterprise. Determining the actual capacity and workload enables accurate operational planning of production, launch and release schedules.

Relevance. The efficiency of equipment is a comprehensive indicator of all company's services, the entire production process. Having information on the equipment, you can expand productivity, reduce production losses and closely monitor the efficiency of investment utilization. The uniqueness of the design is that the system monitors any production equipment of the company, regardless of type, manufacturer, and year of release.

The average load factor of production equipment in Russia is no more than 50%. A number of large companies has the ratio below 30%, which implies that the machines stand idle two-thirds of the working time – the companies lose millions of rubles monthly.

There are over 5,000 industrial companies and more than 70,000 modern machines in Russia. The increase of the load factor of equipment by at least 5% would increase the profits of the industry by 200 billion rubles a year. That money is enough to retain the specialists, modernize the equipment, train the staff and guarantee the effective economic growth.

AllGateKeeper Cloud Service

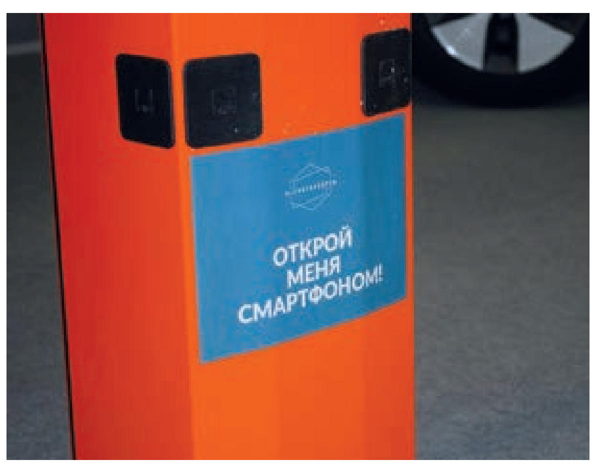
Developer: Revolta Engineering LLC. Venture capital: 8 million rubles. Estimated market value in 2018: 400 million rubles.

About the project. AllGateKeeper is a cloud parking and property access management.

It is takes 15-30 minutes to connect any automatic barrier, gate opener or turnstile. At that point, users can remotely administer the gates via Internet. For example, open gates using the mobile app, give guest access, charge parking fee.

Relevance. AllGateKeeper can reduce financial costs. The cloud service and mobile software displace expensive equipment and security staff. The same application is used for a variety of objects, for example, to access a private house, office or guest parking during a business meeting.

ThingWorx platform, an IoT solution by PTC, was used to develop the service. AllGateKeeper is one of the first projects in Eastern Europe powered by the ThingWorx platform.



Our main task is to transform the way people organize and manage parking areas. Earlier, many processes required expensive equipment, yet today, a cloud service and mobile application are enough. With regard to the economy, as indicated by statistics, around 10% of the Russian able-bodied male population is employed in the security industry. Moving this workforce to another sector can have a significant positive effect on the economy of a region.

Maksim Osorin,
General Director, Revolta Engineering LLC

FINGER Payment System

Developer: Inform Systems Group Venture capital: 6 million rubles. Estimated market value with federal banks participation: 500 million rubles.

About the project. The FINGER system enables payments for merchandise and services with a tap of a finger. Identification with fingerprint takes 10 seconds.

Relevance. FINGER is supposed to work with five major types of consumer payments: shopping, transport, fuel, eating places, cultural and leisure institutions. The developers intend to capture 5% of payments in these areas in the project's first year.

The system is a Russian design. It will reduce expenses of shop owners and chain retailers, and will help consumers get a discount. FINGER acquiring fee is 1%. Most banks that equip shops and retail chains with POS terminals charge 2-3%.

Purchasers pay no fees. The FINGER system increases the transaction speed and unburdens store registers. According to the developers, at the moment, it is one of the world's fastest as a transaction takes less than a second.

To use the FINGER system registration is required on the website, via the FINGER Wallet mobile app, or SkySend self-service payment terminals.

The account recharge is available via a self-service payment terminal or using a Visa or Mastercard card.

Inform Systems Group has created complex transactional solutions, encryption and data distribution systems for a long time. A non-bank credit organization as a settlements center, newest methods of cryptoprotection, years of experience in transactional financial systems and transparent legal work scheme according to the law "On the National Payment System". This allows us to provide customers with highly reliable service, which is why the FINGER system is ideal for savings depositing.

Aleksey Ignatyev,
Chairman of the Board of Directors, Inform Systems Group

Scorpion 2 Hoverbike

Developer: Hoversurf. Venture capital: 2.5 million rubles. The platform value is between $50,000 and $150,000.

About the project. Scorpion 2 is a hoverbike. It is a successor of Scorpion 1, the world's first electric quadcopter to lift a man. Hoversurf designers make flying platforms, engines, propellers, frames and flight controllers. Also the company's programmers develop a system that tracks flying machines in the air. This software functions as a dispatching service that uses no radars and human control, so as to prevent collisions in the air.

Relevance. The project's principal idea is to create the most comfortable hovering platform landing smoothly on a standard car parking space, and compact enough to enter a doorway. The successful implementation thereof may significantly change the future vehicle market.

Right now primarily athletes and extreme sportsman find most interest in the project Scorpion 2. Further, the developers plan to design a drone-taxi to transport people.

A research shows that the hover vehicles market will soar beyond several billion dollars. Companies such as Google, Microsoft and Intel have shown enthusiasm for the new type of transport service.

We produce hover vehicles of the future and by doing this we want to bring closer those scenes from sci-fi movies where people travel by air rather than on the ground. In January, we will run flight tests either in the park Patriot or in Skolkovo. This summer we conducted tests in Skolkovo at Startup Village. The hover vehicles can fly at 100 km/h. Altitude is limited to five meters for safety reasons. We do not disclose the information on engine power, flight controllers and batteries. The battery-powered vehicle can stay in the air for 27 minutes, and a hybrid version equipped with a free-piston engine generator can run for 60 minutes. The vehicle runs on regular gasoline too.

Aleksander Atamanov,
Cargo Drone and Hoverbike Engineer and Developer, Hoversurf

Perspectives of Smart Cities in Russia

The increase in the number of information and communication technologies, monitoring and control tools cannot help influencing the development of those cities where the bulk of innovations is concentrated. Their implementation helped to improve the quality of urban management and availability of new apps and facilities that can simplify access of residents to urban services. Strategy Journal will try to find it out whether smart cities appear in Russia in the near future and what prospects they will have.

The Smart City concept involves the use of intelligent and information and communication technologies for the management of urban property. The main goal of the concept is to meet the needs of city residents. The Smart City technology involves almost all areas of city management, including public administration, transport mobility, utilities, health, education, public safety, finance, trade, production and the creation of residential environments.

Intellectual innovations based on information technology and data analysis are an important element of the concept. Their availability has a direct impact on the economic landscape. In addition, it creates new fast-growing areas, or fundamentally changes already current landscapes. At the same time, the process data for generating innovation can come through the two channels: from automated accounting systems that register various parameters of urban systems to city residents who create formalized requests for making changes.

The development level of smart cities can be determined by the number of management areas supported by intellectual technologies, by complexity of technologies and complexity of their operation. As a rule, implementation of the Smart City concept starts from the introduction of technologies individual and unrelated with each other areas, including e government systems that improve communication among the city administration, various institutions and residents. It makes it possible to improve the processes of collecting and processing information about cities. The development of technologies on the basis of large-scale integrated platforms and the integration of city elements into a single system increases the efficiency of management and the development of smart services for various groups of users.

By now, the Smart City concept is being actively developed in the USA, as well by well-developed economies of Europe and South-East Asia. The two main approaches for implementing the concept has been singled out on the basis of experience of these countries.

The first approach is to implement Smart City technologies through the design and creation of new cities. This step will allow you to think carefully over the infrastructure of the future city and ensure the maximum integration of all urban systems. For example, this approach helped to develop or implement projects of smart cities in South Korea, the United Arab Emirates and China.

In most cases, these are small populated areas where the infrastructure is initially created in accordance with rather strict standards. The development of such cities is often considered as a single megaproject, which is detailed for individual projects and subprojects. Initially, its effectiveness is accessed from the viewpoint of economic effects.

The second approach is more widespread. It involves the implementation of the Smart City concept in already existing cities where local or complex projects on the introduction of intelligent technologies are being implemented on the basis of the current infrastructure that subsequently combine into systems. Among the leading countries are Amsterdam, Stockholm, Barcelona and Singapore. With the help of intellectual technologies they connected vast areas of urban economy, significantly improving the efficiency of urban systems and the quality of the populations' living standards.

Smart Cities are shown a keen interest due to the possibility of obtaining various positive effects (economic, social and environmental). The use of information and communication infrastructure and technologies makes it possible to adapt urban systems to actual needs and loads, which results in lower costs through reducing consumption of resources, improving quality of services, and creating new preconditions for economic growth.

The introduction of intelligent technologies has an impact on almost all areas. Increase in mobility sector and decrease of time costs for the transport. Reduction in cost savings for health care due to better disease diagnosis, as well as less load on medical facilities, simplification of access to health care, quality control services, improvement of public health. The control over learning process, personalization programs, improving access to knowledge in the field of education. As for the financial sector, reduction in costs, increase in transparency, security and simplify transactions, development of crowdfunding and new payment systems, improving the targeting in the budget management. As for the environment, quality management of environment and buildings, introduction of new efficient materials for the retail sector, a more accurate identification of consumers' needs, reduction in time spending for production and construction, optimization of manufacturing processes and inventory control costs. In addition, the Smart City concept increases the overall level of security, including environmental, reduces emissions and resource consumption. Significant results are obvious in the cities that have been working on the implementation of smart cities for a long time. The use of intelligent technologies allowed them to reduce energy consumption by 30%, street crimes by 30%, traffic by 20%, and water loss by 20%. Indirect effects achieved through the adoption of best management decisions and the development of more high-quality urban environment, manifested in the form of increasing economic and social activity, economic growth, increasing incomes and budget.

Economic effects on implementing intelligent technologies consist in reducing the costs of city residents and budget expenditures, as well as increase in revenues of local companies. It worth noting that released financial resources may be returned to the economy as expenditures of households and companies in other areas, investments for improving services. It should be taken into account that multiplier effects may also have an additional impact on economic growth.

Stimulating growth can be achieved with the help of more efficient use of the city budget (redirection of redundant costs in other areas) or reduction of local taxes for the companies of priority sectors in the economy.

Smart City Concept in Russia

Interest in Smart City is on the rise in Russia. However, not so many implemented projects in this field may serve as a good example. Only a small number of cities have significant experience. Among the leading countries in the development of intellectual systems are Moscow, Kazan and partly Skolkovo.

Moscow is the most advanced city today in terms of implementation of the Smart City concept. Pilot projects are implemented in the capital – from selected segments to complex development through the involvement of an ever wider range of data, uniformity of platforms and active feedback from end users.

The Smart City Kazan project is at an early stage now. The main efforts are focused on creating the necessary infrastructure that allows to monitor and collect information in such areas as transport, housing and communal services, security, urban environment and environmental control. The Skolkovo Innovation Center is a good example how to create a smart city in Russia from scratch.

We have initiatives for implementing individual smart services in other cities of Russia. The experience of applying the appropriate technologies was obtained during the preparation of the Olympic Games in Sochi. Projects on the introduction of smart systems in the field of ensuring security and rational management of urban municipal services have been announced in St. Petersburg and Tomsk. The initiative to create a smart city was also expressed by the authorities of the Moscow Oblast. It is planned to implement pilot projects in a number of cities in order to develop smart energy. A research of the potential for the development of smart technologies in 164 Russian cities with a population of over 100,000 people were conducted by the Institute for Regional Studies and Urban Planning of the Higher School of Economics. Among the leaders were Moscow, Yekaterinburg, some cities of Moscow Oblast, Khanty-Mansiysk and Yamalo-Nenets autonomous regions.

In practice, the development of intellectual technologies primarily affects cities with significant economic potential whose budgetary security allows to implement such projects. The authorities are well aware of these advantages of smart cities.

The most attractive areas for implementing intelligent technologies in Russia are those areas where benefits of their use are obvious. Including the energy sector. Its modernization allows companies to significantly reduce costs and resources. The introduction of intelligent transport systems also allow to achieve complex effects, starting from optimizing traffic flows in cities, reducing the load on the road network up to improving road safety and the ecological situation in cities.

According to experts, the most promising areas are education, medicine, and the provision of social services. The introduction of smart city technologies in these areas help to individualize services and control their quality, adjusting them in accordance with consumer requests, improving safety and at the same time control budget expenditures in these areas.

Prospects of Smart Cities in Russia

How can we encourage developing smart cities in Russia? It is necessary to meet a number of conditions in order to implement the Smart City concept. Firstly, it is important to create progressive, modern and adequate regulatory environment, well-developed infrastructure, including IT, which is ready for innovations, monitoring, data collection, processing and control. Secondly, a well-developed city management system based on single standards, integration of all systems, clearly identified customers of changes, smart and ready-for-changes users who ensure the consumption of services and stimulate the development system.

The absence of one of these elements can significantly hinder the process of creating and implementing intelligent technologies. Sometimes problems in all these areas create serious barriers to smart cities. Among the main obstacles are low priority of the topic on the agenda at all state levels, insufficient experience in applying the Smart City concept in Russia, a slow exchange of knowledge in this field. In addition, among the main barriers are low coordination and disunity of infrastructure management systems, the heterogeneity of the interests of various departments, the poor quality of the physical infrastructure in Russian cities, the limited demand for innovation from the population due to low knowledge of technology capabilities.

These problems lead to a limited introduction of technologies in large cities with sufficiently large markets where the concentration of the population with high incomes creates a sufficient demand for innovation. However, it solves only local tasks in narrow areas. It is more difficult to introduce intellectual technologies in cities with a weak economic potential. Moreover, it often leads to the lagging behind of these cities, their further loss of competitiveness and reduced attractiveness. Large complex projects on overcoming these barriers could provide a radical paradigm shift in the development of urban systems. However, there are no such initiatives in Russia at the moment. According to international experience, the main customer for the development of the Smart City concept is the authorities that ensure the formation of a long-term vision and integrated approach to the introduction of technologies. The state can become an independent customer of new technologies and solutions, create incentives for business to introduce the necessary technologies. An important aspect of the concept implementation is a clear understanding of the goals achieved and the expected results, including in economic metrics.

The authorities have to determine long-term goals and create conditions for their achievement in Russia. The development of the necessary infrastructure can be ensured through various models of public-private partnership. Financing of key projects can be carried out through the provision of preferences, budget funds, banks and funds. The main functions in the implementation of smart city projects can be transferred to a specialized development institution.

The development and implementation of intelligent systems should be accompanied by the involvement of all parties interested in sustainable development of the city (residents of cities, local communities, public and non-profit organizations, professional associations, representatives of large, small and medium-sized businesses). The state should act as a coordinator of such interactions, ensuring the identification of opinions and interests of all these parties, as well as opening access to the management and use of data, services and infrastructure. About 75% of the Russian population lives in cities. New technologies can stimulate the economy, improve the management of urban systems and the population's living standards – one of the most urgent tasks. Along with the infrastructure modernization, new technologies solve the most important task of eliminating the technological backwardness of Russian cities. Moreover, intelligent systems creates a basis for future sustainable development.

GMO-Free Russia

The global public has divided in two about genetically modified organisms. Some dynamically introduce genetic engineering in agriculture, and seed more farmland with transgenic grain. Others, on the contrary, introduce new restraining measures and try to shut themselves off from the dominance of GMOs. Whose side holds the truth? What's more, should we fear genetically modified organisms?

The Development of Genetic Modification

The law banning cultivation and breeding of genetically modified crops and animals on the territory of the Russian Federation was adopted in July 2016. The bill did not incite a sharp reaction and the society had a peaceful debate over it. Most consumers have been reassured that GMOs in Russia are now totally banned, but is it really so?

In 2014, the International Service for the Acquisition of Agri-biotech Applications reported data showing that over 18 years of the industrial use of biotech seeds (including GMOs) their cropped area has increased by 100 from 1.7 million hectares in 1996 to 181.5 million hectares in 2014. Today, 28 countries grow GMOs both for domestic market and for export. The United States, Brazil, Argentina, India, Canada and China occupy the leading positions and account for up to 80% of all the crops.

Biotechnology and genetic engineering have become an indispensable tool in addressing many complex humanitarian challenges. They allow for the creation of cures for previously incurable diseases and the development of crops where it was inconceivable before. The consumer properties of the products improve, the food becomes tastier and grows in number. However, why is the scientific world divided into two conflicting camps? Some believe that the future lies in biotechnology; others deem it as unsafe and are sure that the planet is on the brink of biological disaster.

Social panic around GMOs is far-fetched and premature. For over five years in the food quality control I have never met a food product labeled "contains GMOs", both among perishables (milk, meat, fish, vegetables and fruit) and long-life foods (canned food, cereals, pasta, etc.). Besides, the harmful impact of GMOs on human health has yet to be proven, although GMOs are used globally for more than a decade.

Kermen Mikhailova,
quality manager of CJSC Torgovy Dom Perekrestok at TX5 Retail Group

Genetic engineering advocates claim that in the next 20 years the world's population will have doubled and it will be impossible to nourish the entire population by utilizing contemporary agricultural technologies. Moreover, transgenic crops are drought and cold-resistant, require less herbicides and pesticides, and are more cost-effective in production. Large multinational producers of transgenic seeds, such as Monsanto, Bayer CropScience, Syngenta and DuPont sponsor the biotechnology. Arkady Zlochevsky, the president of the Russian Grain Union, said that the WHO has conducted researches in different parts of the world for ten years, and in 2005, it published a report suggesting that the consumption of GMO products poses no bigger risk than conventional alternatives.

Amendments to the law on GMOs, adopted this summer, will not affect most ordinary consumers, since the sale of foods derived from transgenic sources is not disallowed in Russia. The ban is somewhat economic in nature and primarily aimed at constraining the impact of large multinational GM seeds makers on the Russian agricultural market.

Elena Voloshina,
Ph.D. in Technology, associate professor of quality management and commodity at the Moscow Timiryazev Agricultural Academy

The opponents cry out for consuming “clean” products and point at risks of using genetic engineering. “Not enough time has elapsed to speak justifiably of the safety of GM crops. Until then, perhaps, far preferable would be to limit the use of these technologies to non-food crops like cotton and flax,” says Raif Vasilov, the president at Russian Society of Biotechnologists, the head of Bioenergy Science and Technology Department of the Kurchatov Institute National Research Center in a Vedomosti interview.

What threat do GMOs hide? Firstly, a possible harm can be caused to human health and the future generations linked to eating GMOs and processed food thereof. Secondly, there are environmental risks of suppressing biodiversity, excessive pollination of wild ancestors of agricultural crops, proliferation of superweeds, as well as development of new crop diseases. Thirdly, agronomic problems, such as unpredictable properties of crops or low resistance to pests, are likely to show after a few years of massive use of transgenic varieties. Fourthly, there is economic dependence on producers of genetically modified planting materials. Farmers sign contracts that apply restrictions on the use of seeds, and the violation of such contracts prompts legal claims and predatory fines by the same multinational producers. For instance, an agricultural producer cannot save seeds for the next year and use them at own discretion. Apart from this, most GM crops are unfit to reproduce, so even if a farmer resows a part of his harvest next season, the seeds will not sprout, so they will make losses. Neither party has a solid evidence base, hence the scientific debate. Until the ongoing heated controversy among scientists is over, Russian politicians will pursue the lesser evil, and try to protect the population from genetically modified organisms.

The Introduction of GMOs in Russia

GMOs were allowed the entry to Russia in 1996. 17 registered transgenic crops, including sorts of corn, soybean, potato, beetroot and rice, are eligible to import, as well as five species of microorganisms. Despite, these crops rarely reach grocery shelves, as they are commonly used as components in food

production. The most widely recognized additive is Roundup Ready line 40.3.2 soybean. It is added to meat, fish, dairy, bakery products and confectionery. Transgenic beets are used in sugar production; corn and soybean meals are fed to farm animals that give us meat and milk.

It is worth noting that Monsanto has developed and owns 11 of the 17 authorized genetically modified crops, and thus strongly lobbies the law on GM crops cultivation to pass in Russia. The Government planned to authorize the registration of genetically modified seeds in 2013, and hence the cultivation of GM crops, since only the seeds of crops included in the State Register of Protected Selection Achievements are permitted for sale in the Russian Federation. Nevertheless, the entry into force of the Regulation of the Government of the Russian Federation of September 23, 2013, No. 839 "State Registration of Genetically Engineered/Modified Organisms Intended for Release into the Environment and Products Derived from the Use of Such Organisms or Containing Such Organisms" has twice been put off and is now scheduled for July 1, 2017. The statement made in the summer by the President of Russia Vladimir Putin on prohibiting GMO cultivation in Russia and the recent amendments to the Federal Seed Law say that the regulation will unlikely ever be finally adopted.

The 2016 amendments signal that, starting from July 1, Russia bans transgenic plants cultivation, transgenic animals breeding, and the import of genetically modified seeds. In addition, the Government reserves the right to prohibit the import of foods containing GMOs, given that the harm from their consumption is proven. At the moment there is no such proof whatsoever. An unsubstantiated ban would conflict the obligations assumed by Russia, a member of the World Trade Organization since 2012. So still, the importation and sale of foods derived from transgenic sources are still legal in Russia, and it is practically impossible to bar ourselves from them, whatever endeavors we undertake to.

Russian Transgenic Market

The genetic engineering forges ahead. Few people know, but most synthetic medicines are produced using genetically modified bacteria. This is due to the complexity of generating them in the traditional way, and besides, to ethical problems. For example, early insulin was derived from the pancreas tissue of pigs and cattle, and the human blood was used to produce interferon. To solve these problems, a biotechnology was introduced to "teach" bacteria to produce the essential substances. Modern vitamins, enzymes, hormonal medicines, antibiotics and vaccines are produced this way. It is legitimate that the biotechnology moved on to food after they had filled in the pharmaceutical market.

Every day Russian stores offer a tremendous amount of food containing additives obtained using genetically modified microorganisms. They are not all imported, some are produced in Russia. Such additives are many and some of them quite recognizable — citric acid, riboflavin pigment, xanthan gum thickener, aspartame sweetener, preservatives nisin and lysozyme, ascorbic acid, lecithin emulsifier, and notable flavor and aroma enhancer glutamate. Of course, the ratio of these additives to main components in food is relatively lower, therefore, they do not fall under the requirements of the technical regulations of the Customs Union 022/2011 "Food Products Labeling". It states that the GMO content in a product less than 0.9% is technically a non-removable additive and such product does not count as containing GMOs. Simply put, a manufacturer that applies additives is not obliged to specify their origin on the label, even if they are genetically modified. If the same food contains a significant number of transgenic components, the manufacturing companies must put "genetically modified product" on the label or "product derived from genetically modified organisms", nonetheless, in reality, no one is rushing to do that.

GMO-Free

Any supermarket is brimful of produce with non-GMO labels. But are they really so? In 2009, the Department of Trade and Services of Moscow issued an ordinance specifying the requirements for labeling products "GMO-free". The permit to put the label was available only to the products that had passed an inspection in one of the certified laboratories in Moscow. At that time, the permission list had about 3,000 food articles. However, in 2012, head of the Department of Trade and Services of Moscow Mikhail Orlov repealed the ordinance. Afterward, he made remarks about on his decision in a RIA Novosti interview, "A label does not guarantee conformity, because we tested only samples provided by companies. Perhaps this explains three years of no detection of GMOs in products."

The technical regulations of the Customs Union 022/2011 regulate the labeling and state that "information about the hallmark of food products, including the absence of food ingredients derived from GMOs (or) with the use of GMOs must be confirmed by the evidence formed by the person who pointed out this statement in the labeling of food products on their own or received them with others". This empowers manufacturers to conduct a test or engage a laboratory to certify the absence of GMOs in the products, nonetheless, re-verification procedure is not prescribed anywhere, then again, nothing keeps an unscrupulous manufacturer from misinforming consumers. Unless a systematic and mandatory control is exercised over genetically modified organisms in Russia, none of the market players can rest assured that the products are free of GMO. The best solution might the development of a national tracking system that could provide customers with accurate and comprehensive information about a product, as opposed to prevailing prohibitions and restrictions of biotechnology development. In such way, a customer could choose between GMO and non-GMO products.

Presently, the main perspective of GM food industry is to let consumers decide, whether to consume GM foods or not. To pursue this, the labeling of GM foods must be closely supervised by public authorities; strict production control is likewise essential to carry out consumer rights for reliable information about the technologies used to produce the food, in accordance with the Federal customer protection laws.

Svetlana Kuptsova,
associate professor, Ph.D. in Technology, associate dean of the faculty of of technology at the Moscow Timiryazev Agricultural Academy

Text: Alina Kulikovskaya

How to Conquer Skies on Earth?

The Irkut MC-21, a new domestically produced passenger liner, is planned to be launched for the first time in early 2017. One of the main improvements is a composite wing invented by AeroComposite. The company used the infusion technology for the first time in the world practice to design long-length structural elements. In the article Strategy Journal correspondents will tell readers about the main advantages of this technology and perspectives of the MC-21 in the world aviation industry.

Airbus and Boeing, leaders of civil aircraft in the regional segment, occupy almost 90% of the market. These liners are very popular in Russia. The country's leadership adopted a number of structural changes related to the modernization of the scientific, technical and production base of enterprises, the development and organization of new civil and military vessels in order to drastically change that state of things in the early 2000s. Nevertheless, it is extremely difficult to reach a fundamentally new level and start producing competitive aircrafts. It is not enough just to produce good planes. We should offer absolutely new products that have not been made earlier. In addition, it is necessary to find new niches and introduce innovations. These are the only opportunities that allow Russian aircraft engineering to be in a global and competitive environment.

© UAC, MARINA LYSTSEVA

Today the market needs to take a whole range of advantages: technological superiority, increased security and cheaper operation. Special requirements are imposed on composite materials. Their share in modern aircrafts is constantly increasing: the aircraft have to meet such standards as durability, survivability and lightweight. Russian experts relied on the method of vacuum infusion, a substantially new way of manufacturing composite structures of aircrafts.

In 2008, AeroComposite joined the project to help in creating the model high-aspect wing for the MC-21. Two plants were built in the Russian cities of Ulyanovsk and Kazan. Their specific differs in the methods of constructing: the Kazan plant produces composite wing mechanization and tail elements by autoclave molding, and the plant in Ulyanovsk makes products by the method of vacuum infusion. AeroComposite has become the first competence center of the United Aircraft Corporation in the field of innovative developments and the creation of structural elements from polymer composite materials for aircrafts. Now we have a production site in Russia that satisfies the world standards.

The new aircraft consists of about 30-40% composite materials

The enterprise has become a competitive large scale player among the top three leading companies involved in producing composite wing aircrafts.

“The MC-21 aircrafts are designed for to the biggest segment of the world air market, as well as medium-haul transport where competition is extremely high. Therefore, innovative solutions were arranged at the initial stage when developing the aircraft: the creation of a composite wing, the use of advanced technologies in the field of aerodynamics, engine building and aircraft avionics,” says Irina Kosheleva, Executive Director at AeroComposite.

© UAC, MARINA LYSTSEVA

In the world practice, composite materials started being used in engineering a long time ago. However, it is one of the main reasons why Airbus and Boeing have been seriously competing between each other for more half a century. In the 1970s, Airbus offered its customers new aircrafts made of various composite materials and electronics in order to gain credibility and significantly improve its positions in the market. The percentage of composites in aircraft was much lower until it turned out that they bring certain advantages.

Russia and former USSR countries also have considerable experience in creating aircrafts from composite materials. Traditional technology with the use of prepreg (impregnated carbon material) has been relevant until recently. Before establishing AeroComposite, only Boeing, Airbus and Bombardier manufactured aircraft wing from composite materials. Despite the fact that AeroComposite is not a new player, but the company is recognized as an innovator that offers its own way of creating monolithic long-length constructions.

"The production of composite constructions with the help of vacuum infusion is fundamentally different from the autoclave method. The material used in the autoclave method is called prepreg. When using this material it is necessary to strictly follow the required

The maximum range
of the MC-21-300 is
6,000 kilometers

temperature regime and special storage conditions due to limited life duration. An autoclave is necessary to produce constructions by this method increases the cost of production. In addition, the manufacturing technology imposes certain limitations on design solutions. The infusion method requires a dry carbon material without liquid molding that goes to the already formed preform. These operations are carried out in a low-temperature thermal infusion center that allows the company significantly reduce production costs. The result is a monolithic element up to 20 meters in length. It is one of the main power components of the wing console, which is distinguished by high aerodynamic quality," Irina Kosheleva adds.

In addition, the aerodynamics of aircraft with a similar wing will reduce fuel consumption by 6-8% and operating costs by 6-7%. It may seem that these indicators are insignificant, but they can be a good competitive advantage for carriers: aircrafts need a huge amount of fuel during the operation period that is why even several percent can significantly reduce fuel costs.

The second significant advantage of the MC-21 in comparison with other analogues is the widest fuselage in the class of single-pass liners. As a result, passengers can move freely along the cabin during flights and after landing. "This is a completely new level of efficiency and comfort, not only for passengers, but for the crew," explains the executive director of AeroComposite.

It is unknown whether aircraft builders start using the method of vacuum infusion. "In my opinion, it sounds unrealistic that it is possible to make changes in the material and technology of the already operated liners. But it is clearly possible to apply this method in the implementation of new aviation projects by foreign companies," Irina Kosheleva says.

"By now, AeroComposite has delivered first sets of the so-called 'black wing', the composite caisson of the wing, the mechanization and tail elements are being tested at the Central Aerohydrodynamics Institute in Zhukovsky. Some test have already been successfully completed. Manufacturing works and test samples to ensure certification of the aircraft are being carried out, Irina Kosheleva comments on the work over the MC-21 project. She adds: "It is necessary to supply test kits, begin to supply serial products, increase production rates, and provide support for aircraft certification."

The head developer of the aircraft (the Irkut Corporation) built the initial portfolio of orders for 175 aircrafts. Among the operators are Aeroflot and VEB-Leasing. The organization is also focused on the Asian market, one of the largest markets in the world. The Chinese C919 can compete with MC-21, but the deliveries will start only at the beginning in 2019.

"COMAC C919 will be equipped with the same LEAP engines produced by CFM International, as A320 and B737. These are the newest engines. The MC-21 is also equipped with a new generation engine. But Chinese use this material both in the fuselage and wings, this is why the MC-21 has lighter wings and its overall characteristics are also higher," Vzglyad cites Oleg Panteleyev, the head of Aviaport, as saying.

The price of the MC-12 starts from $85 million. The exact price depends on specification. Anyway, it is much less than competitors' price. The models MC-21-200 and MC-21-300 have a capacity of 163 and 211 passengers respectively, Tass reports.

It is too early to announce that the MC-21 will become a leader in its segment. The starting point of the Russian aircraft was Sukhoi Superjet 100. The main competitors of Sukhoi Superjet 100 are Embraer and Bombardi. However, the MC-21 was designed to compete with Aviar and Boeing. This is why our expectations are much higher.

In the near future we are expecting to carry out first flights, as well start working with customers and aircraft operators. "We expect that first flights will start in the first quarter of next year. Now we are actively carrying out tests in our workshop. In late 2018, we intend to receive Russian, and then European certificates," RIA Novosti cites Deputy Minister of Industry Andrey Boginsky as saying. These dates are preliminary. It is likely that they will be changed: the terms among aircraft construction, roll-out, first flights and the beginning of operation can reach several months. These are the traditions of the world aviation industry.

Russian specialists
worked out the method of creating
power elements of wing consoles
by vacuum infusion

Text: Aleksey Shipov, Sergey Baiteryakov

Personnel Management in Public Administration

As new requirements are placed on the performance quality of individuals, we witness increased demand for effective personnel management strategies in various areas. In late 2016, Alliance Consulting conducted a study on personnel management practices by government agencies across regions of the Russian Federation to ascertain the real situation in the personnel management strategies in the government agencies and the outcomes they can bring.

Relevance of the Study

The interest in personnel management in state and local government agencies has grown exponentially in recent years. Both the President and the Prime Minister of the Russian Federation routinely draw attention to the significance of correct and up-to-date personnel management. Among the objectives are increasing performance, development of management literacy and professional adaptability of state and local officials to new challenges.

Speaking about the advancement of personnel management technologies, in our view, often involves erroneous unambiguous conclusions that the public sector's lagging behind the private business is pervasive. Though government agencies may take pride in individual personnel practices, the system in general still presents a considerable scope for adjustments. There are two psychological limitations to fulfil this scope: the inherent conservatism of the system and, oddly enough, the accumulated frustration over the results of implementation.

The latter has resulted from inadequate methodological elaboration of personnel management tools prior to their introduction into the working practice of government agencies — there are a few competent personnel methodologists in Russia.

Study Methodology

The first phase of the study includes interviews with HR executives from 21 regions of Russia.

To structure the analysis a 0 to 5 scale is introduced to assess the key personnel management segments: recruitment and employment, adaptation and mentoring, training and development, performance assessment, talent and succession management.

For instance, the selection and recruitment segment is rated 1 when a recruitment officer conducts interviews with potential candidates and recommends them based on his own assumptions about the qualities required for civil service.

The main strategic objective of the personnel management is building an effective and workable team. Implementation of the best practices that exist in business and civil service can help.

Vladimir Kompaneyshikov,
Vice Governor of Omsk Oblast

A head of a unit where there is a vacancy, who formulates requirements for a candidate, is rated 2. These requirements are formalized enough for an executive to assess the conformity. A recruitment officer evaluates how effectively he qualifies requirements, and coordinates this approach with a customer, or the customer may request a specific tool (e.g., testing).

Assessment scale of personnel management maturity

Points	Explanation of the point	Description
0	Not used	The toolkit does not apply with the personnel management
1	Used at the specialist level	The toolkit application is entirely regulated by the specialist using it
2	Used at the customer level	Formal scope of application is determined, the toolkit is used at a customer's request, who monitors the quality of results and probably specifies the methodology
3	Systematically de-scribed	The toolkit is formalized, application standards are defined, the management control system is developed
4	Integrated with other tools	The integrated system with interconnected tools is developed
5	Aligned with strategy	Implementation and application of this tool are consistent with strategic objectives and personnel policies

Maturity assessment summary by personnel management segments

Personnel Management System	Selection and Recruitment	Adaptation and Mentoring	Training and Development	Performance Assessment	Talent and Succession Management
Maturity Assessment	1.5 – 2.5	0.5 – 2.5	2 – 3.5	1.5 – 2.5	3 – 3.5

3 points go to those with a model for candidate's personality requirements, a scale to assess the conformity to requirements, and assessment methodologies. A recruitment officer meets regulatory requirements. There are regularly measured indicators describing the efficiency of a process (e.g., the percentage of employees who have successfully passed their probationary period).

4 points are given when recruitment assessment results are further used for other personnel management systems. They lay basis for employee adaptation, training and development programs.

5 points are given for recruitment policies that define not only topical requirements, but also demand to meet the needs of tomorrow based on strategic objectives. A performance measurement system that tracks progress toward goals set in the strategy is configured and available. Decision making prioritizes strategic objectives and takes into account the scope of worker's responsibilities in future.

Selection and Recruitment

The study shows that the segment's maturity lies between 1.5 and 2.5.

In general, all the segments focus on the existing formal regulatory requirements: work experience in civil service, age and education. Low maturity makes informal requirements substantial too, but as they are not formalized and are subjective, a director or commission should make a decision. High maturity in the given range shows that a region has designed its own selection and recruitment procedures and has involved external providers. High-tech assessment procedures are used in recruitment as private initiatives of recruitment officers, and are used for key assignments (department directors and above).

A manager's task is to reveal talents of his subordinate. The manager must find a niche where the person would express himself in the best way.

Zhanna Ustimenko,
Deputy Minister of Economic Development of Stavropol Krai

Management subjectively measures the efficiency of procedures without using an indicator system, which makes the assessment of the most mature systems at 3 or more points impossible.

One of the key problems of the observed segment is planning staffing needs. In the best-case scenario, there may be requests from managers to meet future demand.

All experts and study participants note a large number of difficulties associated with recruitment competition procedures, which reduces the flexibility in selection.

Our objective is to train management specialists for the new economy. To pursue this, it is necessary to prepare specialists in the field of investment and financial planning, as well as encourage young people by promoting state and local public service among young professionals.

Aleksey Nikitenko,
Deputy Governor of Kaluga Oblast, Head of the Office of the Governor of Kaluga Oblast

Adaptation and Mentoring

The study shows that the segment's maturity lies between 0.5 and 2.5.

Experts seldom perceive adaptation to a new workplace as a useful and necessary procedure and its practice depends on the availability of time and resources, which are almost never enough. An employee's supervisor exercises this procedure.

It is difficult to evaluate impartially the effectiveness of the procedure due to the lack of consolidated assessment, but the subjective assessment implies that everyone is happy. In general, public authorities have no clear understanding of how exactly adaptation and mentoring procedures must be applied in civil service.

High maturity is characterized by own techniques aimed to help new young leaders enter a position more quickly, better conduct business meetings, work with people and do business correspondence.

However, these techniques are not formalized and are implemented only due to the attention paid to them. Also, there are practiced seminars themed by voting conducted by offices and administrations for internal policy.

Training and Development

The study shows that the segment's maturity lies between 2 and 3.5.

In regard to this segment, experts have maximum convergence in views: learning is important, professional training is well-structured within the personnel management system.

A worse case is observed in learning management skills and personality development. The system provides a greater degree of training, and a lesser degree of development. It is noted that the personnel departments lack resources, time and people, to centrally manage the learning process.

Learning plans are built on demand of the directors of government agencies. Quality control of training is exercised through feedback questionnaires and surveying of training participants. Training budgets are most susceptible to the negative effects of adverse financial conditions.

The respondents note that it is not always possible to cover learning needs due to limited funding. The Government of the Russian Federation assigns training hours. Underfunding makes covering 100% of the applications difficult. Some experts consider the development of alternative forms of training.

High maturity not only reveals the systematic approach to teaching and connection of the personnel management system with other areas, but also develops best practices. For example, the implemented "electronic personal professional development plan for employees" includes professional education, self-education and social activism. Learning success is visualized and constantly reviewed.

Once the training and development segment exceeds the maturity level 3 and there is a need to integrate with other areas of the personnel management system, higher limitations begin to show up, such as those related to the motivation of employees.

Some respondents argue that a part of lower and mid-level officers are disloyal and lack motivation for development.

Performance Assessment

The study shows that the segment's maturity lies between 1.5 and 2.5.

Regardless of the maturity, performance assessment displeases experts greatly. When reviewing the observed segment that is limited by the absence of complaints and timeliness of orders, and a complex of employed methods similar to large business practices, experts note the formality and impracticality of the implemented toolkit, its dismissal by the management and the inability to link the performance assessment results to the motivation of employees.

Experts believe that the system works, not as expected though, due to high resistance of users, and the lack of interest. Often the conclusion is that people in government agencies are difficult to motivate.

Talent and Succession Management

Talent and succession management is the most common, well formed and working practice. The reason is close attention to this segment at all government levels.

The study shows that the segment's maturity lies between 3 and 3.5.

The biggest problem is the lack of integrity and common databases. Different succession pools are created for many purposes: governor's pool, municipal pool, and pool at level "two or three ranks below the minister, heads of offices and departments". The integration is supposedly a task for the near future.

The respondents claim that all aspects of talent and succession management are well developed: selection,

We have plenty from whom to choose, there are people with the necessary education and training level, along with the desire to work. The main priority is to preserve what has already been done in the personnel management, as well as to develop the people in positions and ensure their professional growth.

Sergey Kursov,
Director for Personnel Policy and State Awards of the Office of the Governor of Samara Oblast

competition for inclusion into a succession pool, progress tracking, and final selection of candidates.

In our opinion, the effective management of a succession pool is clearly limited to the maturity of other segments of the personnel management system. However, it should be noted that the succession pool really works as reservists cover around 25% of positions.

Drivers of Management Performance

The study identifies several key factors contributing to the increasing maturity of the personnel management system in government agencies.

The first key factor is personal attention of the top political decision-maker in a region to personnel management.

The second success factor is a personnel manager's systemic thinking. In the regions where deputy governors and heads of offices demonstrate comprehensive understanding of the situation and are well aware of the realities and constraints, modern personnel management practices are more widespread.

The third factor is a command of modern technologies and experience of their application. Profound understanding of personnel management is a very important aspect. Effective approach is intrinsic to the managers who have moved to government agencies from business and brought specific techniques along. The respondents note that the use of business methods is feasible, however, definitely needs to adapt to public administration.

The fourth factor is the availability of resources, both financial and human, which also is a driver for the development of modern personnel management methods. However, in fact, many regions have managed to make significant improvements even in under-resourced settings.

Recommendations

To systematize and improve the personnel management tools in government agencies, the study provides several recommendations.

Firstly, it is important to perform the decomposition of personnel management tools in all areas of the system with account of the existing legal capacities, and to define logical relationships between them.

When a specialist plays by the book and fulfills job duties, it is a good thing. However, if he takes the initiative, outperforms his duties, it is also valued and underlies his development.

Aleksandr Ryabokon,
Director for Civil Service and Personnel Management of the Office of the Governor of Ulyanovsk Oblast

We try to do everything to make the competency-based assessment of employees conform to the recommendations of the Ministry of Labor and Social Security as of the summer 2016. To do this, you must understand what these competencies are, how to use them and to whom they are applicable. Not all competencies are all-embracing, and this needs some action to be taken.

Valery Mitusov,
Director for State and Civil Service, Personnel Policy and State Awards of the Office of the Governor and the Government of Irkutsk Oblast

It is necessary to analyze the best personnel management practices of the state and local management system, as well as generate a description of the reference condition and maturity of the personnel management system in accordance with the proposed decomposition mechanism. It is important to develop a model and assess the maturity level of the existing personnel management system.

Finally, find out what is missing to reach the next level of maturity, create a road map for the development of the system, taking into account resource planning and logical relationships between the tools, and infuse it with techniques to multiply success and share experience with coworkers.

To avoid disillusionment and to introduce a real working HR management toolkit when implementing the road map, it is important to take into account the specificity of the authorities, as well as regional features. For this, we recommend not to hesitate to turn to external experts for support, as they can provide necessary methodological knowledge and experience.

Oases for Innovations

The state has determined the course for development of innovative technologies and creation of a favorable investment environment as one of the main courses for the recovery of the Russian economy. The key indicator of the region's innovation is an effective cluster policy. It has been approved 11 leading world-class clusters in Russia; 10 of them are located on the territory of AIRR.

World Clustering

The notion of 'clusters' is relatively new for economy. It was mentioned for the first time at the end of the 19th century in the works of Alfred Marshall, the founder of the neoclassical direction in the economy. However, only in the late 1980s the cluster policy was paid attention as an instrument of economic growth. In 1990, the cluster phenomenon was introduced into economic science by American researcher Michael Porter.

Active clustering began in Europe and the US about two decades ago. According to world economists, today more than 50% of developed countries have chosen clusters as the main incentive for modernizing their economies. According to researches, about half of US enterprises is concentrated in agglomerations; the share of GDP is more than 60%. There are 380 cluster associations in the USA today. It worth noting that it is a record for the country. More than 2,000 clusters are successfully operating in the European Union, providing employment for 40% of the population. Thanks to an active cluster policy, Finnish industrial enterprises produce 10% of the world's exports of wood products and 25% of the pulp and paper industry. According to Fundamental Research, clusters provide employment for 43% of the population and 30% of all national exports in Italy. The first world's resource center in the field of cosmetics and perfumery Cosmetic Valley started its work in France. Every tenth cosmetic product in the world is produced there. Clustering is actively developing now as a locomotive of competitiveness in Southeast Asia and China. According to Fundamental Research, there are 60 special zones in China that bring more than $200 billion. Japan, Germany, Denmark, Norway, Sweden, Great Britain, Singapore are also among the leading countries in this sector.

Cluster agglomerations are the main developers of all modern technologies. The largest of them is Silicon Valley that made available for the world such world-famous brands as Intel, AMD, Oracle, Apple, Cisco, Yahoo!, and eBay. Almost all developed countries try to duplicate the success of Silicon Valley. Silicon Plateau in Bangalore may serve as a good example. Today clustering has spread over all continents and regions and plays an increasing role in the global economic aspect.

The cluster policy has been forming in Russia since 2005. The Samara Oblast was one of the first regions that applied the cluster approach in social and economic spheres

Contribution of Regions

The cluster policy has been forming in Russia since 2005. The Samara Oblast was one of the first regions that took the cluster approach in social and economic spheres. It was singled out 8 cluster associations in the region of the federation, including automobile, aerospace and oil production spheres.

The clusters are developing more actively in the sectors of chemistry and petrochemistry, information technology, tourism, nanotechnology, pharmaceuticals and medicine. The largest agglomerations of the country are the cluster of pharmaceuticals, biotechnology and biomedicine in the Kaluga Oblast, the Zelenograd cluster in Moscow, the shipbuilding innovation cluster in the Arkhangelsk Oblast, and the Petrochemical Territorial Cluster in Bashkortostan.

Regional economies play a key role in the development of Russian exports. The largest exporter of the country is the Republic of Tatarstan. According to the Agency for Strategic Initiatives, Tatarstan tops the national rating of investment climate for 2016. Moreover, the republic is among the three leaders of the rating of innovative development of regions. According to AIRR forecasts, this year the republic's gross regional product will reach 2 trillion rubles, industrial production will amount to 1,930.7 billion rubles, and the volume of investments in fixed assets will exceed 650 billion rubles.

The Republic of Tatarstan, one of the leaders among Russian regions and the largest economy of the country with diversified industry, also is pursuing an active cluster policy.

One of the key clusters of the country is active in the region now. The petrochemical cluster provides employment for more than 45,000 people and receives $1.5 billion of added value annually. The Kamsky innovative territorial-production cluster is the main point of economic growth of the republic. In addition, the Kama cluster is the main source of tax revenues. The federal budget receives about 400 billion rubles annually. The budget of Tatarstan receives around 60 billion rubles a year.

The Kama agglomeration is the largest center for creating added value in the industry with its own production, personnel and innovative potential. About 45% of all synthetic rubbers in Russia, every fourth Russian truck, every second truck tire are produced by the enterprise located on its territory.

The high investment attractiveness of the Cluster is confirmed by the fact that such world's leading companies as Daimler, Ford, Rockwool, Schneider Electric, Mitsubishi Mitsui Fuso Truck and Bus have representative offices there.

It was introduced 10 new productions in the cluster only in 2015. Plants for the production of carbon fiber were launched in the special economic zone of Alabuga. According to FDI intelligence, Alabuga received international recognition as the best special economic zone in Europe. The Alabuga Volokno plant started its work in 2015. The technology of carbon fibers is the company's intellectual property that was developed by Russian engineers.

KAMAZ implemented projects on manufacturing electric cars and production of cars that meet the ecological standard Euro-4. Ford Sollers Holding Ltd. is one of the key 'residents' of the cluster that invested $1 billion in Tatarstan's plants. The total revenue of the company was estimated at 100 billion rubles in 2011-2015.

The only European project on building the TANECO innovative complex of oil refineries and petrochemical plants will be launched in the Kama cluster in 2017. Production will provide an unprecedented depth of oil refining amounted to 97.9% (for comparison: the depth of oil refining in Russia does not exceed 80%, 92-93% in the USA, 85-90% in Europe). Nizhnekamskneftekhim, an agglomeration participant, started building a new complex to produce ethylene. Another large-scale innovation project on the basis of the cluster is carried out by TAIF NK. Its main goal is to create the first complex in the country in order to start deep processing of heavy oil residues with a processing depth of more than 98.6%.

The high-tech Ammonium complex for the production of methanol and ammonia started its work in 2016 on the basis of the Kama cluster. This is the only project in the nitric industry in Russia. There are only two similar plants in the world.

In addition to industry, the Eidos-Robototechnika company and IT technologies are actively developing in the agglomeration. The company released a new product that has no analogues in the world – the Robotic Complex of the Third Generation for Metal Processing.

In addition, a lot of attention is paid to developing the infrastructure to promote business development. Kama Industrial Park 'Master', is successfully working now. In addition to Krasny Polyany in Naberezhnye Chelny industrial parks, more than 250 SMEs operate on the territory. The total income is amounted to 30 billion rubles.

Despite an obvious success, the cluster has a number of problems today. Everybody knows that any infrastructure project requires many 'hours in service'. However, there is still neither a large technological university nor insufficiently developed infrastructure in the agglomeration. The main goal of the InnoKam center is to solve these problems. The concept of InnoKam includes 79 priority infrastructure projects, including the development of transport, housing, logistics infrastructure, modernization of backbone industries, development of science and higher education, as well as improvement of conditions for entrepreneurship.

It is expected that industrial production will see an increase by more than 50% in the cluster by 2020. The growth of tax revenues will exceed 60%.

The Kama cluster is the main source of tax revenues.

The federal budget receives **about 400 billion rubles annually.**

The budget of Tatarstan receives **around 60 billion rubles**

In addition, it is planned to create 30,000 high-tech platforms, and significantly reduce emissions of harmful substances. It is also planned to increase average salary by 25% and extend in life expectancy, reaching 74 years of age.

The Kama cluster has a powerful innovative potential that determines the territory as a growth point not only for the Republic of Tatarstan, but for the whole country.

In addition to Tatarstan, the Tomsk Oblast is another subject of the Association of Innovative Regions of Russia that actively participates in the development and promotion of innovations.

In 2015, the government approved the concept of establishing an innovative territorial center of INO Tomsk in the Tomsk Oblast.

INO Tomsk is the only project in Russia where the ideology of the technopolis is being implemented not on special territories, but within the boundaries of the city with a 400-year history. The main task is to arrange the effective cooperation of science and business, and create comfortable living conditions," the Vice Governor of the Tomsk Oblast, Andrey Antonov says.

The project is being implemented in five areas: "Advanced Production", "Science and Education", "Technological Innovations, New Business", "Smart and Comfortable City", "Business Environment". It is expected that all projects will be estimated at 250 billion rubles by 2020; 65% are already confirmed investments of business.

"We use tools of the cluster policy in the nuclear industry, petrochemistry, timber processing, pharmaceuticals, electronics, renewable natural resources. The most important role is assigned to alliances of companies and universities. Finally, we intend to improve the urban environment, the investment climate and create a market of social services within the framework of the INO Tomsk project," the governor of the Tomsk region, Sergey Zhvachkin says.

New productions have already been launched in the region. Thus, Micran opened a radio electronic equipment plant that employs 1,000 people, Sibkabel launched a unique production of rubber compounds, SIBUR invested 2.5 billion rubles in the first food-processing of plastic wrap beyond the Urals and 8 billion rubles in modernization of Tomskneftekhim. Two out of ten enterprises were launched in Asinovsky timber industry park, which is considered to be the largest park in Russia.

A year later, results of the INO Tomsk project were recognized as successful. In the summer 2016, Prime Minister Dmitry Medvedev approved 79 initiatives of road map projects. Among them were projects with export potential, localization of robotic industries, development of a cluster of hard-to-extract oil, creation of a fifth generation wireless data network, and the preparation of infrastructure that controls movement of unmanned vehicles.

According to the governor of the region Sergey Zhvachkin, INO Tomsk has turned into a magnet that attracts public and private investment: "Thanks to the project, we have already attracted 0.5 billion rubles for the road maintenance and 3 billion for the reconstruction of the airport. These measures are necessary for the development of the timber cluster. Oil, gas and energy companies allocate billions of rubles to buy Tomsk industrial products.

Overall, there are 12 out of 27 innovative territorial clusters of the federal level in the regions of AIRR from the list approved by the prime minister. "The share of our regions is 1/4 in the gross regional product of the country, 30% of all innovative products, 27% of all innovative organizations, 1/4 of all costs for technological innovation, 15% of research and development costs," Association Director, Ivan Fedotov says.

Today our country has stepped into the transition period towards an innovative type of our economy. It is extremely important for us to develop a cluster policy in the regions. Moreover, innovative clusters are the main incentive for providing employment, increasing taxes, GDP, and investments. It is obvious that in the coming years agglomeration will become one of the ways of improving the Russian economy. Now almost every region is trying to create a cluster on its territory. Nevertheless, there are a number of problems today: inadequate infrastructure development, closeness of some Russian companies, and remoteness of territories. The key role is given to the state, as the authorities are responsible for implementing the cluster policy in the country, as well as financial, information and export support of clusters. If we want to turn our resource-based economy into service economy, we should develop innovations in the country that are on the rise in the regions.

There are
12 out of 27
innovative territorial clusters
of the federal level in the ARIR regions

Lifestyle

© SHUTTERSTOCK.COM

In addition to strong business acumen and the ability to organize work in a company, a modern business leader should also efficiently spend free time that is never too much. Members of Authenticlub told a Startegy Journal correspondent about their hobbies.

Victor Tolmachev,
Chairman of the Supervisory Board
at ACIG Group of Companies

Helicopters

Helicopters are the safest and most demanding aircrafts in service. Accidents of private helicopters may occur after 2,000 flight hours when pilots start driving recklessly. Even two people can easily move helicopters due to light weight. A helicopter can be moved like a toy from one place to another on site with a rope.

Heliport is the best flight school in Russia, the best of the world schools are New Zealand and Canada. The number of private planes in America and Europe is much higher in comparison with the number of helicopters (approximately one helicopter per 1,000 aircrafts). There are many airfields and well-developed infrastructure for aircrafts in America. However, the number of helicopter is much higher in Russia. Certainly, it is much cheaper for owners to provide helicopter maintenance. The Heliport team travelled to the North Pole, New Zealand, and even made a journey around the world. Due to expensiveness, I would not recommend getting involved in this hobby spontaneously. The most interesting thing for a pilot is to develop his skills and overcome difficulties. It is like a physical kind of sports. Pilots should gradually increase the working load, starting from a two-day flight. A helicopter trip is not a flight from one place to another; it is the process of learning about the world. The most beautiful sights are in the central part of Russia. For example, the Volga River. There are large landing areas in Zavidovo and Konakovo. It will take you half an hour you get there.

My first long flight was to Rostov with an intermediate refueling stop in Voronezh. On our way to Rostov, the helicopter was mostly controlled by an autopilot. Frankly speaking, it is boring. On the way back, I personally controlled the helicopter during all five and a half hours. As a rule, the crew consists of two people. We are in the habit of inviting a photographer to join our crew. Altogether, there are not more than 3 people in the helicopter. The matter is that the carrying capacity of a small private helicopter is around 135 kilograms.

The Angel rescue team helps EMERCOM to search for children and mushroomers who got lost in the forest. Over the past season, one team member found 101 people who lost their ways. They use different ways of searching: by a signal of mobile phones, and visually. If a person is found and it is possible to land, in this case we touch town and give first aid. If it is impossible to land, we throw down water, medicines and all the necessary provisions so that the person could wait for help on the scene. It worth remembering that helicopters is not only enjoyment, but also real help to people.

Aleksandr Utkin,
CEO at Cotton Way

Parachuting & Water Skiing

The most extreme thing for me was survival courses. Parachuting is safe if you follow the required safety rules. In my opinion, parachuting may be considered as extreme kind of sport due to the aggressive aerial environment. People relax when they learn some primary rules: how to behave themselves under water, in the air, on a car, on a boat, and new opportunities suddenly start opening. The death percentage is 0.01% per ten million skydives. The majority occur due to non-compliance with safety regulations. The reserve parachute opens automatically at an altitude of 250 meters with the help of the Cypres device. My maximum height was seven kilometers. A low turn is an extremely difficult element. You need to be at an altitude of 600 meters above the ground at least. When becoming more experienced you can land closer to the landing area. The skydiving lasts about a minute, but it depends on the weight and size of the dome. You can choose one of the disciplines: friflay, swoop, dome acrobatics, jumping from fixed objects and group acrobatics. People enjoy free falling most of all.

For three years, I have achieved excellent results. Overall, jumped around 2,500 times. It is necessary to devote the entire your life to improve results and become the world champion. We had our own aircraft L-410. Our team achieved successful results because it consisted of champions. In the second year after our team was formed, we won silver medals at prestigious competitions. After that, we created an air club in Kemerovo. There were MI-8 and L-410 in the club's fleet. We jumped in the 4-way discipline. One of the four members of our quadruple was a woman. It is unusual for this kind of sport. Certainly, her weight was lower than ours. When skydiving all the four members should be in the same horizontality. In addition, it is necessary to control the entire body, dive up and down (breath in and out), as if you are under water. At the very beginning, our team was training in Europe. We were skydiving in the vertical wind tunnel. Parachuting should attract more investments. As a rule, money comes from sponsors. Paratroopers earn money on duo jumps. Sometimes famous sportsmen-paratroopers are offered advertising contracts.

Then I was interested in water skiing. This kind of sport is more interesting for me than parachuting. There are many differences in water skiing: completely different physical loads, other concentrations. It is quite a dangerous sport. Despite numerous injuries I got in seven years, I don't want to leave water skiing behind.

Vadim Zelensky,
Founder of Zelenski Group of Companies

Triathlon

I am sure that the more you participate in competitions the better your results will be. This season I started participating in the two half iron distance races: IRONSTAR 70.3 in Sochi and IRONMAN in Budapest 70.3. There are five types of distances in the triathlon: IRON MAN 226 (full distance), IRONMAN 70.3, standard (Olympic) distance, sprint and super sprint distances. The IRONMAN race consists of a 3.8 km swimming distance, a 180 km bike ride and a 42.2 km marathon race. Each next is twice shorter than the previous one. The shorter the distance, the more participants will attend it, and, therefore, the more speedy this race will be.

IRONMAN has its own stars and legends. For example, James Lawrence, aka the Iron Cowboy. He participated and crossed the finishing lines of 50 full IRONMAN distance races in 50 states during 50 days. Belgian runner Stefan Engels was included into The Guinness Book of World Records after participating in 365 marathons during a year. My friends have recently participated in HALF-IRONMAN in Mallorca. The altitude difference was about 1,400 meters and a continuous rise of 12 kilometers in the mountain stage in Mallorca. A lot of athletes like training in Mallorca due to excellent quality of roads, mountainous relief and a good network of hangars with thousands bicycles inside. It seems to me that there are more cyclists in Palma de Mallorca and Alcudia than pedestrians. IRONMAN 70.3 was organized there last year, the temperature reached +36°C. It was pouring rain this year, the temperature was below +16°C. We were in wetsuits when swimming, but despite that, it was very cold. Due to the storm, many jellyfish were near the shore and stung almost every participant. Athletes crossed the finish line with severe burns. Participants fell during the cycle stage due to a slick road.

I also participated in the group race in Mallorca. It was a difficult race, we were on our way to the finish athlete by athlete. One of the competitors approached too close to me and accidentally hit the wheel of another bike. I collided with that bicycle by inertia. It led to the domino effect. I was injured and cut my eyebrow. The hardest thing in the race is a bicycle stage. This is why strong cyclists win more often. IRON STAR 70.3 came to an end in Sochi after 6 hours 08 minutes. Budapest improved its results by 52 minutes during IRONMAN 70.3. I ran the Moscow marathon during 3 hours 41 minutes and improved last year's results by 47 minutes. I have been running for more than two years and training for a triathlon since last year. Now I am training with Mikhail Gromov, the organizer of 3Grom. I achieved significant results.

Human Resources

Elena Sokolova, Director of Human Resource at AMS Communication Group, shares her views on the role of human resources in the company's development, on the complexities and values of being an HR professional.

Nowadays, everyone is familiar with the notion of human resources. It has numerous definitions. In the broad sense, it is the skills of workers that can be used to enhance a company's efficiency, increase income or meet social goals. As I see it, the assessment of human resource capacity consists of two parts.

The first is what we have. We greatly value competent assessment of professional skills, personal learning achievements, experience, qualifications and other related aptitudes of an individual employee. Using construction vocabulary, this is so-called groundwork, the cornerstone to build a house of professional success on.

The second is what we lack, which we may need later on. HR manager and HR director must keep up with the company's plans and soberly assess its abilities and ambitions. Staying knowledgeable is a key necessity in the tactical sense. We not only deem vital the company's nearest plans, but also contribute to them. For instance, it would be ridiculous to rely on the last year's graphs and recruit 100 desalination engineers when the nearest undertaking is road building in the Sahara desert.

For the most part, successful staffing of the company's projects (especially through realignment) represents one of the crucial qualities of a truly professional recruitment officer. This requires information and influence.

It does not make any difference how painstakingly we frame, plan or coordinate our breakthrough strategy, as recruitment of employees to put the strategy it into effect is just a tip of the problem.

The other task is to integrate them. To viably adjust individual employees and entire departments to the corporate environment is an exceptionally complex and sensitive challenge. An employee is not only a professional, but also a personality. Internal integration issues have always been essential particularly in the financial environment: banks, investment corporations. Coincidentally, financiers were the first who gave up Taylor's theory of "worker as an appendage to a machine" and tried to take into account various nuances of interpersonal relationships. This is true also for high-tech companies where the main asset is staff competence, which gives striking results, including synergistic, within well-structured internal communication. In other words, all are busy and no one is wasted away on a confrontation.

On the contrary, a company where staff is not viewed as a critical asset often focuses all workforce solely to

struggle over the place closest to the decision-making point. Little time is left for work.

Building internal communications between employees of different and sometimes rival departments is challenging, but there are multiple tools to shape a comfortable and productive internal environment. Going the right way, however, will make an instant noticeable effect both on the speed of joint decision making and profound elaboration of various feasibility studies.

Dismissals should be given a special thought. Turnover in large companies is typically minimal. It is not just about compensation and prospects. The matter rather concerns competence of HR departments, their ability to retain a desired employee and redirect a lagging employee. It is worth recalling the Harvard Business Review article "People Before Strategy: A New Role for the CHRO" by Ram Charan, Dominic Barton, and Dennis Carey, which explains the value of chief human resources officers. The authors introduce a new mechanism of corporate decision making, the G3 core group: CEO, CFO, and CHRO.

Well, the third layer of the problem is the need to grow staff. It is far more than mere brand loyalty and commitment to "the world's friendliest community of perfume sellers".

Among other things, it is financially profitable. The most far-sighted companies begin recruitment among middle school students and perform preemptive fine-tuning of their business processes. It is a two-way process. Such practice is prevalent in the West, as well as here. It is a higher skill that can be afforded only by companies with at least 10-year planning horizon. These programs have long been a key element of reputation management.

Today, as always, the most important party are the people. In the age of omnipresent digitizing and enormous informational pressure, it is especially valuable first to discover the sometimes deeply hidden potential (intelligence, adaptability, vitality), and afterwards utilize it correctly. Since, as we know, there are no talentless people. Unlocking the potential of each employee is another critical task for a professional recruitment officer.

Text: Anna Kosheleva

Future Leaders Wanted

One of the key topics discussed worldwide today is the new technological revolution. In a VUCA world, foresight of the main trends and the volatility management is crucial. In any case, who exactly are the leaders of the future who adapt to changes quickly and put companies and society at large on a sustainable development path?

Swiss Economist Klaus Martin Schwab, WEF founder and president, points out three reasons why today's changes are not a simple continuation of the third technological revolution, and the beginning of the fourth. It is the accelerating changes, their magnitude and systemic implications. It is driven by convergence and synergy of several large-scale technologies, specifically nano- and bio-technologies, IT, 3D printing, artificial intelligence, new materials and robotics.

The humanity will soon have to comprehend new-age careers, which would entail the need to acquire new knowledge. The 46th World Economic Forum in Davos in 2016 highlighted that some of the skills and competencies that are presently not in demand will have greater value later on, such as critical thinking, creativity, emotional intelligence, talent to educate and convince others. The problem of demand for different competences remains controversial today, however, one thing is certain — all of these

© SHUTTERSTOCK.COM

transformation processes will entail a change in the portrait of a leader of companies and society at large at all levels. In particular, managers will find themselves in a situation where it will be necessary to set individual management aside for collaboration, both inside and outside of the organization. At times, this will require refusing the behavioral models that drove many of today's executives to the top of their career ladders. “Shifting trends indicate that the next generation of leaders will need to be adept conceptual and strategic thinkers, have deep integrity and intellectual openness, and find new ways to create loyalty among employees”, says Georg Vielmetter, director of Hay Group's European leadership team.

Speaking of the portrait of a leader of the future, experts from major Russian and Western companies argue that one of the main characteristics will be the digital mindset. “From my perspective, the digital mindset will comes out on top. The amount of information in the world is growing exponentially, and though people must know everything, they must able to quickly analyze a lot of data and understand

One of the most important competencies will be purpose-driven leadership. In 2025, the millennials (Generation Y) will make up the most workforce that will value the significance of its activities and authentic leadership as critical factors to realize the capacity. Staying competitive in this new environment is possible only through the ability to adapt quickly to the environment, in other words, maintaining the adaptability and speed of a startup.

Yana Makoveeva,
Head of Staff Development Department,
Unilever Rus

the essence, differentiating primary and secondary. It also includes media literacy as the ability to navigate across multiple information sources successfully, the ability to design processes, control the workload, and build virtual communication. With regard to the characteristics of mindset, future demand will focus on multi-thinking, i.e. quick analysis, quick decision making and forecasting. IMD studies have a recurring expression “constant prototyping mindset”, which seems to me emphatically suitable. Rosatom Academy focuses on the development of these competencies,” says Yulia Uzhakina, CEO, ANO Rosatom Corporate Academy. Nikita Cherkasenko, Director of Assessment, Training and Development at PJSC Rostelecom, remarks, “I think competencies related to communication and change management will come forth. The second important segment is adaptability in both own activities, and the ability to support trial-and-error testing of others. The ability to run Sprints through Hypothesis Testing and MVP will be a success driver. I think experience as accumulated theoretical knowledge will be less and less relevant. It is the ability to quickly learn and enter a new subject branch independently that will be a key feature of the portrait of a leader of the future.

Many companies find obvious the fact that for employees to have necessary skills today is not as important as how quickly and effectively they adapt to new circumstances, how quickly they analyze new information and are able to make decisions in a situation of uncertainty, and are willing to continuously evolve and learn. This set of qualifications and skills is named as “capacity” and employers assess it along with the performance and competencies of employees.

In late 2016, experts of the HR Consulting Department at Consulting Alliance conducted a benchmark study on the existing market practices of staff capacity assessment. It aims at analyzing capacity models and assessment tools used in Western and Russian companies today. In this way, multiple companies, as a rule, have an alternative understanding of "capacity" and give variable number of characteristics, 3 to 10 in most cases. The prevailing ones are adaptability, openness to the new and ability to quickly learn and adjust to changes. Such common criterion as systems thinking is added with a dynamic aspect — the ability to quickly discover and analyze necessary information involving a variety of sources, to predict the evolution of a situation and to resolve quickly. Communication skills, which includes virtual communication, are still thought to be important. Results-orientated management and the ability to assume responsibility for decisions stay unchanged. Among key characteristics of future leaders, some companies consider the commitment of employees to the company's values in order to maintain continuity of the mission and corporate culture.

The question is still open though: "What methods have the best predictive value for identifying high-capacity employees?" As the Alliance Consulting study shows, preferences for staff capacity assessment tools change likewise. The so-called early capacity assessment is a common trend. "We try to discover individuals with high capacity at the stage of joining the industry, before they become line personnel. We follow the same pattern when looking for potential employees among students. For example, when picking the winners of a young professionals tournament, the participants undergo the same procedure of capacity assessment and as the staff. In general, career guidance begins earlier, in atom-classes in schools of the cities where Rosatom is present, where talented students, interested in natural science disciplines, can have an opportunity for in-depth study of physics and the nuclear industry," says Yulia Uzhakina, CEO at ANO Rosatom Corporate Academy. Unilever experiences a similar situation. Yana Makoveeva (Unilever Rus) says the company endeavors to discover capacity in every employee at a very early stage of his career path. "We possess a number of tools to assess capacity. We believe that every employee has capacity for any sort of achievements. This can be capacity for senior leadership positions or more

Rosatom has a clear understanding of who a potential employee is. The capacity includes a sense of purpose, systems thinking, openness to the new and communicative competence. The sense of purpose is a standout among the most important conditions for the manifestation of capacity, because the lack of leadership qualities, even if all the other components are available, the capacity will fail to show.

Yulia Uzhakina,
CEO at ANO Rosatom Corporate Academy

complex horizontal roles. Employee's self-awareness of the achieved goals and the efforts taken for capacity growth is extremely important for us," reasons Yana Makoveeva.

Until recently, capacity assessment was defined by traditional solutions such as assessment centers and interviews on competencies involving external experts, complemented by out-of-the-box assessment tools of leading consulting organizations. Today many companies assess the predictive validity of such approach as quite low. A hefty number of them adopt capacity assessment procedures implying obligatory participation of the direct supervisor, calibration sessions or staff committees in order to to tackle the subjectivity of that approach. This trend has been observed in both Western and Russian companies. Among main advantages of such assessment system, experts highlight involvement of managers in the selection process and further development of high-capacity employees, building a more flexible and transparent management culture, more accurate assessment of employee's capabilities through regular monitoring of his activities in the context of work. Some major constraints are deviations in matching the required level of leadership skills development necessary for the management staff, subjective assessment of managers and in some cases their formal attitude to the assessment procedure.

According to Yulia Uzhakina, leadership capacity can be cultivated, yet it must be said that capacity is not static. "At different times, people can find themselves mobilizing all resources or, on the contrary, accumulating energy. That implies that, in some cases, capacity may "freeze" if circumstances do not call for its manifestation. It is important to understand that capacity develops only through methods that involve some stress, a sort of "stretching" when a person experiences disturbing tasks. Capacity development unfolds after mobilizing all resources — physical, mental, intellectual, emotional and communicative.

Rosatom Academy has witnessed more than once that leadership capacity develops where a project is seemingly unsustainable, resources and expertise are missing, there's nothing to lean on," adds Yulia Uzhakina. Yana Makoveeva, Unilever Rus representative takes a similar stance: "We can and should develop capacity. This asks for clarification of the goals a capacity-developing individual pursues and the set of necessary competencies he possesses. The next most effective way is conscious career-building moves, support by a line manager and mentor."

All experts are unanimous in this regard. Capacity development can and must be encouraged, however the classical teaching methods are not appropriate for this. It is vital for an employee to get out of the comfort zone, face new challenges, increase authority and responsibility for decisions made. This encourages active, independent search for new knowledge and new ways to deal with problems, urges to mobilize all energies to achieve the goals and thus gives a powerful driving force to further development of an individual employee and a company as a whole. The business community hunts "leaders of the future", and yet recognizes the need to build such a corporate culture that would promote leadership development. This time the concern is not individual tools or assessment and learning systems, but the transformation of management culture in general.

The first point is that there are no ready-made and versatile capacity models. Providing the substance for the concept of "capacity", which is also valid for the model of competencies, must apply for each individual company, given its strategic goals, objectives and specificity.

The second is that capacity is evident in activities, so the direct supervisor of an employee is one of the main assessors. This case requires a system to verify results as additional independent assessment tools: assessment centers, peer insights in the form of regular staff committees. The last is the need to use engaging methods of leadership development: to include the potential leaders in project teams, assign tasks "to grow into", provide support by mentors. For companies as a whole to implement adaptive management, simplify decision-making processes, delegate authority and increase the level of responsibility of executives in field offices.

For me, leadership capacity is something that, on one hand, develops in childhood, and, on the other hand, is necessary but not sufficient for a leader. The development of positional thinking and the ability to hold the position of "development manager" is vital to us as it brings together three focuses: entrepreneurial, technological and organizational. We develop such positioning in corporate programs.

Nikita Cherkasenko,
Director of Assessment, Training and Development at PJSC Rostelecom

How to Train Young Professionals

Our country needs a high-quality personnel base in order to breathe new life into the Russian economy. The matter of upbringing a new technological elite in the country was relevant even in the Soviet times. Therefore, all the circles for young technicians at the pioneer houses were within walking distance for almost all children. Today, special attention is paid to the system of additional education again. In general, a new circle or laboratory appears once a month in the country.

Advanced Technologies

In early November, the Quantorium industrial park was opened for young inventors in Ugra. This is the third center in the region where all the necessary conditions have been created in order to teach children, thus training future engineering personnel for the branches of the National Technological Initiative. It is planned to open another several platforms in 2017. The Khanty-Mansi Autonomous Okrug is one of the subjects in Russia where the pilot project is being implemented in the context of "the new model of the supplementary education system" proposed by the Association of Strategic Initiatives. The idea to create a multi-level system of educational activities in out-of-school hours appeared as a result of public-private partnership and was supported by the Ministry of Education and Science of the Russian Federation. Today, new technoparks regularly appear in the Khanty-Mansi Autonomous Okrug, the Republic of Tatarstan, the Altai Krai, Moscow and other regions of Russia.

"We will create children's techno parks – modern analogues of ex-pioneer houses. Their main goal is to develop children's talents," says Marina Rakova, leader of the initiative "New model of the system of additional education of children." "It will be created conditions for the implementation innovative programs and rapid training of children, so that every child could try walking in the shoes of an aircraft designer, oil engineer, or a biotechnologist."

Children will receive unlimited access to neurotechnologies, cosmonautics, programming, geoinformatics, mechatronics and many other areas. They will have an opportunity to use high-tech equipment and implement complex tasks. It would be perfect if the Quantorium industrial parks become the platform for performing orders of industrial corporations. According to Marina Rakova, the centers will start working in the near future in accordance with the following mechanism: companies will set tasks that should be performed by a technopark team – not always by a professional from this industry – by the client company's specialists, students and children together with a tutor-engineer.

Above all, Quantorium is a good platform to test and model the replication system on both municipal and commercial platforms.

According to experts, it is necessary to develop productive, inventive and critical thinking in modern children, so that they could realize the principle of "new people for a new economy." According to initiators' plan, the state and business will invest in new people. The federal subsidy is allocated for the subjects of the Russian Federation in order to open children's technoparks on a co-financing basis. At the same time, at least 20% of capital expenditures (CAPEX) should come from extra-budgetary sources of funding during the year.

Innovations for Youth

The center of youth innovative creativity (CMIT) is another kind of platforms with comfortable environment to bring up a new elite. "The main idea of CMITs is to provide access to high-tech equipment and support the technical creativity of children and young people. They learn to think systematically, work efficiently in a team, take responsibility for their project – from an idea to a real prototype," says the head of the SuperLab Center, Antonina Yegorova. According to her, such centers have no an educational license, as a rule. Moreover, it is unnecessary to meet educational standards. Both CMITs and the entire system of additional education in Russia can "play by their own rules."

Students, professional practitioners, and experienced teachers teach children robotics, 3D printing and others. The main thing is to provide children with access to high technologies through the orientation to engineering activities.

"There have been many examples when young professionals continued to improve and implement their projects at the university (after graduation of schools). After that, they brought them to professional business incubators and commercialized the idea," the head of SuperLab points out.

According to the expert, the demand for innovative education is necessary to bring up a new generation of technological elite. "Many people choose the road of least resistance – they buy a standard set of tools for children: LEGO, electronic engineering construction kits for kids, etc. We hope that our team will be joined by interested adults who not only have knowledge at engineering and can work with equipment, but also arose children's interest. We also spread some methodological materials on pedagogy, Antonina Yegorova adds. In addition, it is necessary to remove the barrier of interaction between the school and the areas of additional education. Now the system is that schools cannot help the centers of youth innovative creativity to attract children. It would be nice if CMIT teachers could work at schools and invite his students."

According to Ministry of Education and Science of the Russian Federation's concept for the development of additional education for children, **at least 75% of children aged 5 to 18 years** will participate in additional general education programs by 2020

Source Code

Mitchell Resnick, Professor of the Massachusetts Institute of Technology and the creator of Scratch (the programming language for children), believes that modeling is the most effective way to learn about the world. Scratch is a very popular program worldwide.

It was translated into more than 40 languages. Young and enthusiastic teachers in Russia has recently shown keen interest in Scratch. The most valuable thing is that this tool makes programming simple and user-friendly. Thanks to Scratch, children can learn programming at technical circles and schools.

"Thanks to Scratch, children can clearly understand when learning basics of programming that they need to use special commands in order to their heroes take the necessary actions. After that, children are gradually getting used to the axes of the X and Y coordinates. The X axis is associated with a train and on the Y axis with an elevator. Older children learn about sine and cosine, as well as find out how these trigonometric functions can help them to shoot from a cannon so that the cannonball could fly in accordance with the predicted arc trajectory, a satellite could revolve around the Earth and explode asteroids," says Sergey Kozlov, a Scratch teacher.

As a rule, after getting used to a large array of information on the screen, children form a desire to systematize and accurately arrange the written code in order to work faster. Accordingly, children will have a necessity to think and seek solutions. According to Sergey Kozlov, it is important show children that any idea can be realized. It is possible to solve even the most difficult problem if we divide it into several small parts. If children follow these recommendations, they will be able gradually move from the user and consumer model of thinking to the creative and inventive model.

Old New Circles

Traditional houses of pioneers have managed to adapt to new conditions. The Moscow Palace of Pioneers near Vorobyovy Gory celebrated the 80 anniversary this year. It is a good example how the Soviet institution has managed to adapt to modern requirements. The concept of creating a new educational space has been implementing since 2014, the merger period of several institutions of additional education. The Moscow Palace of pioneers employs 1,314 study groups and collectives in the 10 educational areas, including robotics.