



# WORKING GROUP ON MODERNIZATION & INNOVATIONS



## CHAIRMAN:

MICHAEL AKIM,  
VITUS BERING MANAGEMENT LTD.

## OVERALL SITUATION IN THE INNOVATIVE SPHERE

According to the estimates of Russian Venture Company, the key barriers and limitations in the development of the innovative sector of the Russian economy are:

- › Insufficient level of development of competencies in innovative activity among representatives of science.
- › An inconsistently sufficient degree of fine tuning in both technological and marketing projects (declared by their founders as innovative).
- › Low demand for innovation in the country.
- › Insufficient tax incentives for innovative business, the presence of numerous barriers.
- › Defects in the current system of intellectual property protection.

The manufacturing industry is facing unprecedented challenges: the need to create hyper-personalized experiences and individualized products, to deliver at a lower cost and higher efficiency, or to implement new business models and sources of growth that build trust among consumers. To keep up, companies need to embrace the Fourth Industrial Revolution. Fourth Industrial Revolution technologies allow companies to position manufacturing as a source of competitive advantage while contributing to the fulfillment of the Sustainable Development Goals.

## TECHNICAL REGULATION

The implementation of innovative products/services should be supported by the development of technical regulations that are often lacking or are based on outdated approaches (for example, most technologies for smart grids, smart cities, energy storage devices for electricity supply and demand management). Moreover, it is advisable to create new federal/industrial standards (and update the existing ones) based on international standards rather than local norms, which is an essential condition of the competitiveness of Russian goods on international markets.

In an acutely competitive high-tech environment, special focus should be placed on stimulating the localization of R&D and the development of advanced science-intensive technologies to increase added value.

## RECOMMENDATIONS

- › Expand international cooperation to support training and to accumulate innovative capabilities within companies.
- › Pay more attention to the demand for the creation of knowledge to promote technologies for developing an innovation policy in a market economy.
- › Promote international cooperation not only in science but also in the development of new technologies at pre-competitive stages, which is an important factor determining the prospects of Russia's innovation sphere.



## INNOVATIONS IN ENERGY EFFICIENCY AND DECARBONIZATION

State support and incentives are essential for the implementation of modern digital solutions and “green” energy-efficient technologies and the fulfillment of national goals to increase productivity and reduce the energy intensity of Russia’s GDP. Activity in this area could boost the market for energy-efficient solutions; i.e. for companies, it could be an additional market for insulation materials, variable-frequency drives, and efficient motors, as well as the implementation of automated control systems in energy-extensive manufacturing facilities. The previous state program for energy efficiency has been practically on hold since ~2014. The creation of a new national energy efficiency program, taking the best practices of both Russian and foreign companies into account, would contribute to the wider implementation of energy-efficient solutions, and, consequently, increase productivity and reduce the carbon footprint of Russian enterprises.

### EXPORT

The export (of manufactured goods) is one of the main national priorities of the Russian economy. However, there is lack of understanding about international supply chains, and limited knowledge of export markets and quality issues. Stimulating the localization of high-technology production and technology competencies in Russia remains one of the priority objectives in the development of an innovative economy. The export of innovative products is closely related to the import (of components) of such products, that is, import substitution measures may interfere with high-tech exports.

## LOCALIZATION, PRODUCTIVITY, AND QUALITY IMPROVEMENT CHALLENGES

Over the last several years, localization has been driven by two factors: rouble devaluation, and the introduction of new rules, regulations, and procedures to promote import substitution and more local production in Russia.

The substantial drop in Russia’s growth potential from approx. 4–5% in November 2016 to 1.5–3.0% in November 2018 as estimated by the World Bank is a reason for concern and an indication that there seems to be a need for reconsidering policies, including production localization, to increase competition and improve productivity and quality to grow the Russian economy.

## RECOMMENDATIONS

- › Review rules, regulations, procedures, and implementation instructions, focusing on only those sectors considered strategic for the localization regulations.
- › For other sectors, review the rules, regulations, and principles assuring an equal playing field for all market participants with production in Russia and increasing competi-

tion in order to improve productivity and quality to grow the Russian economy.

## UPDATED MECHANISM FOR REGULATING SPECIAL INVESTMENT CONTRACTS (SPIC 2.0)

SPIC 2.0 is a significant step in improving the investment climate, especially with regard to tax benefits and obligations. Tax benefits are provided both at the federal and regional levels, and obligations are limited by the amount of state support measures provided.

SPIC 2.0 is concluded through competitive selection for the development and implementation of technologies included in the list of modern advanced technologies approved by the Government of the Russian Federation.

One of the key objectives of SPIC 2.0 is to involve small and medium-sized businesses in the process, and for this purpose, the requirement for a minimum investment amount of 750 million roubles was eliminated. However, the new approach requires comprehensive documents and procedures that may become restrictive for foreign SMEs, especially for companies without experience in the Russian market. Foreign experts are not allowed to participate in the technological review, which can significantly worsen the results of such review, its reliability, and completeness, especially with regard to the long-term competitiveness of the proposed technologies.

Long-term projects require exceptional strategic knowledge in marketing to ensure the global competitiveness of the products and the demand for these technologies.

## COVID-19 AND INNOVATIONS

Since March 2020, the COVID-19 pandemic has dominated world news. Before the COVID-19 pandemic, e-commerce was rapidly growing both globally and in Russia. The pandemic has been a catalyst for even more growth. Russia’s e-commerce experienced 10 times more growth than the real economy in 2019. This fact, besides the labor shortage, urges logistics enterprises to revise existing business approaches and promote innovations to increase the flexibility and productivity of their operations, including through automation and robotization.

There are two issues in the field of e-commerce:

- › The system of payment for goods purchased via the Internet can be improved. For example, the Chinese model of payment through an escrow account provides for debiting funds from a client’s account only after the client receives the goods.
- › 73% of cross-border goods are shipped by Russian post, which takes more time than customers expect. To shorten the delivery time, the China model of partnering with

B & M retailers can also be used; this would reduce the need for expensive logistics infrastructure investments. Russian e-commerce companies like Ozon and Wildberries are already using this model.

## STAFFING FOR AN INNOVATIVE ECONOMY

Constant changes in the technology associated with the development and implementation of digital solutions affect the business strategies of companies and their need for staff. As a result, new requirements arise for digital literacy, the development of professional (including engineering) competencies and behavioural culture. At the same time, a lack of qualified personnel is felt at all levels of leadership and execution of duties. Staffing for innovative development is possible only if there is a developmental environment that promotes the expansion of professional contacts for the exchange of knowledge, the possibility of inviting external experts, the formation of teams of varying experience, as well as training and retraining of their own employees.

The government and companies have to prepare the current and upcoming workforce for the future of work, where new industry practices linked to Big Data and artificial intelligence, augmented reality, additive manufacturing, cobotics, and advanced simulation tools will keep people at the core of innovation.

Leading companies can empower their workforce by:

- › ensuring the workforce of the future is 'career-ready' after school/university/vocational training;
- › making lifelong learning and upskilling of the current workforce a public policy and corporate priority;

- › turning knowledge & know-how of the retiring workforce into valuable assets for corporate memory;
- › sustaining the attractiveness of critical science and engineering professions in the eyes of new generations;
- › facilitating the digital transformation of educational systems to achieve these goals.

## RECOMMENDATIONS

- › Work on a real and relevant innovation task.
- › Exchange ideas and practices, learn from colleagues and external experts.
- › Organize the work of distributed teams.
- › Constantly update the experience gained, and scale up successful practices of universities.
- › Strengthen cooperation between educational institutions and businesses, and stimulate the development of medium-term training and retraining courses.



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