Memorandum of the Second Altai Forum on Science and Education in Russia: Challenges and solutions

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The development model of humankind has dramatically changed in the 21st century. The level of science development now determines how successful the country economy would be, both in the short and long term. Some underdeveloped countries have turned into powerful economic powerhouses due to intensive development of science and of new technologies; one could name Japan, Singapore and South Korea, with modern China taking the same route.

The value of science is not only in that it discovers the laws of nature and new facts, but in that it develops the methods to plan the human actions in general and achieve the goals with the minimal expenditure of time and resources. All this increases the overall efficiency of economy in any country.

The leaders of Russia have been regularly repeating that science is extremely important for our country for decades. Unfortunately, this nice rhetoric does not match the reality. As representatives of scientific community in Russia and the scientific diaspora of Russia we observed this extremely dangerous tendency to continue for decades as well. We are extremely worried that further continuation of such policy will lead to complete degradation of science in Russia very soon. As an example of such degradation one might consider Russia ceasing to be a dominant player in space launch market. Other examples include Russia lagging behind in biotechnology, medicine, and the most advanced areas of information technology, including artificial intelligence, and that is despite the rhetoric on the importance of the digitalisation of the economy.

The major advances and breakthroughs in science and technology are still possible in Russia, not only in major research centres (Moscow / St. Petersburg / Novosibirsk), but also in less well-known locations. Major programmes aimed to enhance the prestige of high education in Russia and facilitation of collaboration of Russian universities with leading scientists and institutions in other countries such as "5-100" and "mega grants" created a large number of advanced laboratories throughout the country. Still, the system as a whole did not change much. Very controversial managerial decisions are still widespread, and no one takes any responsibility for the ensuing failures. Insufficient research funding, excessive bureaucracy, increasing centralization of science and education management- this is what is constantly being voiced by scientists and teachers, but, alas, so far the situation has been changing only for the worse. A brilliant example of such actions are the latest legislative initiatives, like the draft law on educational activities and governmental decisions, like the merger of the major Russian science funding agencies – Russian Science Foundation and Russian Foundation of Basic Research.

Although centralization of science and the mergers of research institutions into federal research centres has some positive aspects, it also deprived regional research institutes not only of legal independence, but also, as a result, limited their opportunities for obtaining regional and industry support. Excessive centralization facilitated limitation of academic freedoms, rigging the elections of the institution leaders, sometimes replaced by simple appointment of persons lacking professional merits but instead convenient for their bosses. Important grassroots initiatives are typically ignored by managers. The newly introduced "foreign agent" legislation created a situation when any Russian national who ever worked abroad, might be declared as such, and face significant limitation of political rights as well as imposition of certain financial obligations just on the basis of “participation in political activity”. Since

2020, Russian researchers who have ever had a permanent residence permit or citizenship of other countries, are now treated as potentially disloyal subjects for life.

Very significant is the growth of bureaucratic control over all aspects of life in the country, as well as the hypertrophy of the role of the special services; which leads to the well-known hunt for spies among scientists (one may remember the notable “optical glass for spy satellites” case and submersible robots’ case, among others). As a result, international collaboration or the sale of high-tech products abroad might become a source of unacceptable risk. This leads to the situation when working abroad becomes increasingly attractive method to realize scientific and business ideas, and returning to Russia from abroad is disincentivized for many Russia nationals. The peculiarities of the retirement and pension legislation paradoxically leads to the situation when elderly researchers cling to their jobs to avoid poverty even if their research output is negligible, whereas their productive colleagues are actually fined for continuing working as their pensions are not indexed as long as they are in employment.

A properly conducted education is critically important for science and research. Not only it provides a stream of qualified staff for research and development companies and academical institutions, but it also teaches the laypeople to apply rigorous scientific methods to optimize their work, thus increasing efficiency of it. Unfortunately, in the last years it has been considered tolerable for the teaching staff (up to the heads of educational institutions) to be implicated in plagiarism and data falsification – a situation absolutely unacceptable in countries with highly developed science. It should be noted that for the academics of such countries, the appointment of such a person as the head of the institution entirely discredits not only the institution itself, but also its employees and graduate - an action against the interests of both government and ordinary taxpayers’ interests.

In the current conditions of the existence of science and education in Russia, it is extremely important to create and operate independent scientific and, in a broader sense, expert communities (education, science and advanced technologies), including representatives of the diaspora. The scientists living abroad not only do complement the expert community of Russia, but are financially and legally independent from state bodies in Russia, which is extremely important for making unbiased decisions. Examples of such communities are Dissernet, July 1 Club, ANRI Scientific Ethics Council, Corps of Experts, Titanium digital platform and Russian-speaking scientists association RASA-USA. Expanding interaction between expert communities and creating a broad platform for their active influence on the management of science and education in Russia could be to be vital to preserve and further develop the Russian science and education.

The participants of the meeting described their projects and proposals, as well as criticized the problems in organization education, science and high technologies in Russia. Details of the reports and discussions at the RUSTEC2020 conference and the Altai Forum 2 meeting can be found here:

https://nanoandgiga.com/rustec2020/program

We intend to continue our search for ways out of the crisis for the Russian science, as well as to discuss general problems of organizing education and science in our country. For that purpose, we will keep organizing annual conferences of Russian-speaking scientists ("Altai Forum of Russian-speaking Academics”). Scientists, teachers, representatives of public and private commercial and non-commercial organizations who might be interested in supporting this endeavor and whose activities are not prohibited by the Russian Federation are warmly invited to participate in our work.