

PRESS RELEASE

IIT Alumni Council signs MoU with Lomonosov Moscow State University and Russoft to access and transfer key technologies from Russia to build world's largest and fastest hybrid quantum computer in India.

- Global leaders, state-owned Russian companies to transfer critical modules in cryogenics, cryptography and modularized cloud management technology
- Quantum Computing makes existing supercomputers obsolete and could be several million times faster than the largest supercomputer in India
- Quantum Computer will be used for simulations in the areas of Healthcare, advanced manufacturing, agriculture, weather forecast, transport & logistics and many others to solve key social challenges faster and at lower cost.
- Could potentially collapse cost of genome testing from over Rs one lac per sample to under Rs 1,000 facilitating genetics based personalized medicines to avoid un-necessary universal vaccination which may have safety issues.

Delhi, August 26th, 2020: IIT Alumni Council announces MoU with key Russian technology IPR owners and Universities as part of the Quantum Mission.

India aspires to be part of the select global club of developed nations with quantum computing capability. Quantum Computing makes existing supercomputers obsolete and could be several million times more powerful than the largest supercomputer in India. This computing capability allows real world events to be emulated in the virtual world just like architects can now see a proposed building on screen in photo-like quality before actually constructing it. The impact of quantum computing on computing is as revolutionary as the impact of CAD drawing on conventional drafting on a wooden board with a scale and pencil. It marks a quantum jump and a paradigm change. If India doesn't catch up now, it will be left out of this key technology just as it got left out in the silicon chip industry.

"IIT Alumni Council believes that technology could and should play a much greater role in solving the Nation's problems and to achieve the mission of Atma Nirbhar Bharat . We have now taken up the mission to build world's largest and fastest hybrid Quantum computer in India . The MOU with Russia is the first step to aggregate and integrate key technologies from leading global players . The next step is to integrate these technologies into a high throughput, high speed Quantum Computer, interfacing that with smartphones and laptops for distributed computing, and using this to support solutions for solving infrastructure challenges of the country in areas such as Healthcare , Agriculture , Transport & Logistics , Pollution , Whether forecast and many more . We are sure that Quantum Computers will also strengthen the relationship between Russia and India . " said Ravi Sharma, President of the IIT Alumni Council

His Excellency, Russian Trade Commissioner Alexander Rybas noted, "First of all I would like to stress that our countries share a long history and enjoy good mutual understanding. It has been a Special and privileged partnership. But times are changing

rapidly and today we look at innovative quantum technology as a new area for reaching new heights jointly with the IIT Alumni Council.”

Added Nikita Mazein, Vice President for Rusatom Overseas (RAOS), a subsidiary of Rosatom State Atomic Corporation (Rosatom), “We indeed believe that Rosatom’s high technology Quantum Computing technologies fit into the IIT Alumni Council requirement very well, as well as both relevant experience and leading positions in the global market, become the clear advantage for the potential ecosystem of Atma Nirbhar Bharat in terms of science, technologies in India with cooperation from Russia.”

Ms Elena .B. Tishchenko, Advisor to the Dean of the Faculty of Economics of the EF Moscow State University, Head of ICT working group on cooperation with India said, “Quantum Computing network and cyber security is one area where both countries can work together. Moscow State University is successfully working with Quantum computers for last few years . We wish our joint project on Quantum computers with IIT Alumni Council will be the role model for future Indo Russian cooperation.”

Dr Valentin Makarov, President of Russoft outlined the need for strengthening of global trends towards regionalization that outlined the importance of intensifying technological exchange between both countries in the field of development and prototyping of frontier technologies. He stated, “The most promising areas for Indo-Russian joint projects with high potential are: ICT, space exploration, climate change, quantum technology and data security.”

About IIT Alumni Council

IIT Alumni Council is the largest global body of alumni, students and faculty across all the twenty-three IITs and partnering Institutes of the India Innovation Network (I2Net). The IIT Alumni Council aspires to catalyse India's technological renaissance. Through its initiatives, IIT Alumni Council intends to act as a network and as a bridge between various providers of knowledge, wealth, information, wisdom, ideas, expertise and entrepreneurship to promote technological solutions to problems facing India under its 100 global city initiative.

The C19 Task Force was set up in February 2020 by the Global Board of the IIT Alumni Council to supplement and compliment the efforts of the central and state governments in the fight against C19. The Task Force commenced activities on March 16, 2020 and had a six month tenure which was completed on August 15th, 2020. Initiatives catalysed by the Task Force successfully include the NSCI Dome, Covid Test Bus, MegaLab, MegaTx and MegaIncubator – all of which are now being taken forward as independent social ventures. Other initiatives of the IIT Alumni Council include the I2Net, NQT Mission and MegaFund.

The Council has rallied the considerable resources of the global IIT alumni ecosystem to catalyse technological and financial interventions for the social sector. These are being supported by the MegaFund and I2Net platforms – for funding and technological interventions – in areas like social entrepreneurship, application oriented multi-disciplinary research, social stock exchange listing for impact ventures etc. For more information on IIT Alumni Council, please visit: www.iitalumnicouncil.org





A distinguished Alumnus of IIT Roorkee, former Corporate leader and now full time Philanthropist - Ravi Sharma plays an active role in global revitalisation and unification of IIT alumni across countries, across IITs and across age groups. He is the President and Chief Volunteer of the IIT Alumni Council and also leads the Institute Outreach & Branding initiatives. The main deliverables of the Council are facilitating alumni networking, fortifying Brand IIT and Brand India, catalysing alumni participation in nation building and accelerating technological developments in key areas of our economy including start-ups, manufacturing and digital transformation. The Council has six operating missions - Alumni Networking (PanIIT Alumni), Mentorship (PanIIT Institute), Social Venture funding (PanIIT Fund), CSR Platform (PanIIT Foundation), a Thinktank (PanIIT Forum) a Biomolecule Mega Incubator (PanIIT Incubator). The IIT Alumni Council is now actively engaged in solving the corona crisis and has formed the C19 Task Force which has the participation of over 20,000 alumni and includes Mumbai University and ICT Mumbai as institutional partners. C19 Task Force initiatives include MegaLab Mumbai, MegaTx NCR, MegaFund, IQ and I2Net.



A.L. Rybas is the Russian Trade Commissioner based in New Delhi. He is the author of inventions in the field of weapons and military equipment and more than 100 scientific works, including on the problems of strategic analysis of the world arms market, security in international relations, the effectiveness of weapons export systems, forecasting the development of weapons and basic military technologies, industrial safety. Member of the Academy of Military Sciences. In 1982 he graduated with honours and a gold medal from the Tula Higher Artillery Engineering School with the qualification "military mechanical engineer", specializing in "artillery weapons". Thesis topic: "Optimization of the chemical composition of barrel steel by the method of planning an experiment." In 1986, he graduated with honours from the Military Artillery Academy (now the Mikhailovskaya Military Artillery Academy) in Leningrad with the qualification "design engineer" with a degree in operational-tactical engineering. Since 1986, he studied at the postgraduate course of the Military Artillery Academy, after which in 1989 he defended his thesis for the degree of candidate of technical sciences on the topic: "Assessment of the dynamic quality of rocket artillery launchers." In 1992 he was awarded the academic title of senior scientific worker in the specialty "control and testing of aircraft". Graduated in 1997 Russian Academy of Public Administration under the President of the Russian Federation with the qualification "specialist in public administration and national security" with a degree in state and municipal administration. In 1999 he defended his thesis for the degree of Doctor of Economics on the topic: "Strategic analysis of the world arms market in the interests of ensuring Russia's national security." The results of the work have been implemented in the activities of the State Company Rosvooruzhenie (now OJSC Rosoboronexport). In 2012, he graduated from the Diplomatic Academy of the Russian Ministry of Foreign Affairs with the qualification "specialist in the field of international relations".



Dr.Valentin Makarov is the President of Russoft – the premier industry trade body in Russia which is the equivalent of NASSCOM in India.

He graduated from the Saint Petersburg State University of Aerospace Instrumentation in 1978. Completed a course of Manchester Business School (MBS) on the privatization of industrial enterprises in 1993 and a course of advanced training at the Diplomatic Academy on international cooperation in 1997. During the decade from 1978 to 1988 was working as a defence enterprise engineer at the St. Petersburg Polytechnic University. From 1988 to 1992 - secretary of the USSR Mission to UNESCO. From 1992 to 1995 – deputy director of the office of the 'Interprivatization' Fund. From 1995 to 1996 - executive director of the Association of Special Economic Zones of Saint-Petersburg. From 1996 to 2000 - Vice-Chairman of the Foreign Relations Committee of Saint-Petersburg. From 1999 – President of 'Fort-Ross' - Saint-Petersburg Consortium of software developers, which was transformed into Non-Commercial Partnership 'RUSSOFT' after merging with NSDA Association in 2004. Valentin Makarov is also a member of the Board of APKIT, a member of the Expert Council at the Ministry of Digital Development, Communications and Mass Media, a member of the IT-Associations at the Ministry of Industry and Trade. The leader of the SafeNet working group at the National Technology Initiative.



Tishchenko Elena Borisovna is a PhD and an eminent academician. She serves as the Deputy Head of the Department for Scientific Work and as Advisor to the Dean of the Faculty of Economics, Moscow State University Lomonosov on the digital economy. She is the co-moderator of the first version of the departmental project "Digital Industry"; She is also the Head of the Indo Russian ICT working group for project level cooperation between India and Russia under the G2G protocol signed between the two countries.