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FIRST ANNIVERSARY!!

To,

Chairperson, C19 Task Force
Partner Institutions and Mission Organizations
Doctors and Paramedic volunteers
IIT Directors and Volunteer Academicians
IIT Alumni volunteers
IIT Students and Aspirants who have enrolled as volunteers
Jury Members, Industry Leaders and Alumni Leaders

Sub: Some thoughts on our First Anniversary.

Dear Sir/Madam,

Today, 15th of August 2020 is the first birth anniversary of the IIT Alumni Council. On behalf of the Founding/Patron Members and the Global Board, I would like to thank each IIT Alumnus who has helped in making the IIT Alumni Council an outstanding success in its first year. I would particularly like to thank Dr K Vijay Raghavan - Chairman of the C19 Task Force, contributing Senate Members of various IITs, other C19 Taskforce members, Leaders of partner institutions, volunteers involved in executing various initiatives, Jury Members, Academicians who worked in finding solutions to every problem, WhatsApp group administrators and Admin Council members who worked day and night connecting alumni and responding to every query received by them.

Today also marks the end of the six month tenure of the C19 Task Force. We would like to thank each and every alumnus, volunteer and contributor to the Covid19 activities in Mumbai particularly in the NSCI Dome, Covid Test Bus,

MegaLab, MegaTx , I2Net and the MegaIncubator. These initiatives will outlive the C19 Task Force and will be taken forward by philanthropist alumni, partner social funds and industry partners - in keeping with the vision and foundation built by the volunteer armies who conceived these.

Annexure One to this document summarises all the announced initiatives of the Council as well as a brief outline of initiatives and missions that are of a more long term nature. These include the MegaFund, the Open Source Data initiatives and missions in areas such as Quantum Technologies, Ultrasound and Next generation sequencing among others.

During our first year (and more so in the last six months), we have been fortunate enough to receive a wide variety of inputs – some complimentary and some not so complimentary. Whilst most of the IITs and other partner institutions like Mumbai University, CSIR, BSE and ICT Mumbai have gone out of the way in supporting us, some of the IIT Directors have put in substantial effort in highlighting what they considered to be areas in which the Alumni Council needed strengthening and changes. Though many of these comments were based on misinformation, we have accorded the highest level of responsiveness to these. We are extremely grateful to those directors who helped & supported us in the fight against Covid and also, to those few who acted as self-appointed auditors giving us highly constructive and well-meaning criticism. This helped accelerate learnings, based on which we have taken two steps – formalise the process of information dissemination through an official digital platform – and put in place a mechanism to evolve a governance framework that is appropriate for an organisation of such scale and impact.

There have been objections filed by several alumni who believe that they were not given a chance to join as Office Bearers despite having the necessary credentials, track record and alumni connect. On investigating some of these complaints, we found a lot of merit in several of them. We would like to tender an unconditional apology for the same. We have, as an immediate measure, thus dissolved the Admin Council which was overseeing these appointments and replaced this by two entities – a full time Global Secretariat based in New Delhi and a Global Senate. The Current Global Board is being morphed into the Global Senate and the size is being increased from the current 21 members to 121 members.

Another criticism we received included challenging use of the IIT logo in a banner on a community portal and extended to being cautious in areas like

healthcare starting with: "How can IIT engineers run a hospital?". These words of caution were warranted as well as thought-provoking. We are glad that the Directors took the extra ordinary effort of issuing a joint press release by all the IITs clarifying that IITs were not officially connected with IIT Alumni Council and its initiatives; thus, absolving them of any liability stemming from our Covid initiatives. We have in parallel requested the Ministry of HRD to issue guidelines on usage of the IIT Logos and are awaiting their instructions on the same.

At the same time, we are immensely proud of our volunteers and members who did an outstanding job on fighting the virus – to the extent of making NSCI Dome the world's best performing Covid hospital on almost all parameters. WHO deemed it fit to mention this in its global briefing and international as well as domestic media covered the world's first contactless hospital run by just one doctor as a technological marvel, worthy of global emulation.

We also sought professional and legal advice on the various issues raised (both formally and informally) and acted upon the advice. As an example, the cover page of our website now states: "The use on this website, of the logos of various Indian Institutes of Technology, is solely for the purpose of identifying that the members of the IIT Alumni Council, are also the alumni of such Indian Institutes of Technology. The use of these logos is performed on a strictly non-commercial basis, and the logos are not used for any communication or undertakings or activities of the IIT Alumni Council - which is independent of the IITs."

We are now commencing the task of acting upon the well-meaning and constructive criticism that we received on the governance front. In keeping with our processes, all these inputs have been extensively documented and studied/ analysed. We have found a lot of merit in many of these inputs, especially in six areas:

- Institutional strengthening and capacity building,
- Institutionalising the selection process for city and batch coordinators,
- Formalising framework for governance of long-term initiatives,
- Formalising alignment with existing outward looking alumni bodies & initiatives that work across IITs
- Developing a framework to revitalise the research ecosystem and value chain among academic and research institutions in India
- Incorporating the dual functionality of community building through an open information sharing platform on our portal.

Annexure Two of this document outlines the steps being taken in each of these six areas.

I do hope the above gives you a fair picture of our activities in the past year and where we are going in the coming year. We would once again request you to bear with us as change is the primary constant that any fast-evolving young organisation has to deal with.

On an overall basis, when I look back at the year gone by from HowdyModi that had 5400 IIT Alumni attending to Covid 19 which has over 25,000 alumni engaged and the whole world fearing the biggest pandemic of our lives – we have come some way. But we have miles to go before we rest. And we do look forward to your support to progress in all the initiatives outlined above.

We shall be reaching out to some of you separately with the invitation of membership to the Global Senate and the Chairmonial Council.

I do wish you a happy first anniversary of your association with IIT Alumni Council.

Regards

Ravi Sharma, President, IIT Alumni Council
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August 15th, 2020

ANNEXURE ONE

Summary of Initiatives & Missions

A brief summary of the four ongoing C19 initiatives which have been announced in the public domain are as follows:

NSCI Dome: Creating a Real Time Live Laboratory, the first task at hand was to align a Real Time Live Laboratory with real Covid 19 patients. The medical world had, at that time, an exceedingly limited understanding of the disease. Policy Makers and government departments were even less aware. Technology developers and researchers were battling in the dark with no precedents, no data, no studies and no place to carry out experiments. It was a vicious cycle of ignorance dampening innovation and the lack of innovation killing people. In order to get out of this loop, IIT Alumni Council selected South Mumbai as their geography of work and Dr Mufazzal Lakdawala as the Mission Head. In pursuance of this objective, Dr Mufazzal Lakdawala created the NSCI Dome Hospital which became the world's first technology and data-driven contactless hospital. The Dome went live in end April with just one full-time doctor; and lost just one patient out of the first 1000 Covid positive patients on-boarded in the facility. This made the NSCI Dome the world's best performing Covid Hospital. NSCI Dome has become a showpiece of Indian Innovation and Technology - garnering global praise for both the “contactless” concept and the outstanding results.

Covid Test Bus: Social Distancing is an impossibility in Mumbai Slums of Dharavi and Jijamata. With 8-10 people sharing a room and up to 100 people sharing a set of bathrooms - isolation, testing and treatment take on completely new challenges. A quick and cost-effective screening tool with instant results was required for testing and isolation in these slums to handle the crisis. The Covid Bus was launched on Maharashtra Day (May 1). Digital X-rays were used as an interim tool and complemented by pool testing - both innovations from IIT Alumni Council partner organisations. Using a prudent combination of digital

imaging, AI, molecular biology-based pool testing and telemedicine, the Bus could screen over 500 people each day with a 90%+ diagnostic accuracy.

MegaLab Mumbai: Using equipment from the Tuberculosis Mission, India started RTPCR tests for Covid 19. Neither machines nor test kits were available. Proprietary systems increased cost as well as downtime since the machines could not run with alternate kits. To overcome these challenges, MegaLab Mumbai was conceived of as the world's largest RTPCR lab with adequate capacity to test the entire population of Mumbai monthly using pool testing. The Lab is initially to be housed in a temporary location - finally shifting to a 10 acre plot that would house an iconic building, a memorial and a celebration for the healthcare workers who saved lives.

MegaTx: India does not have a large biologics or plasma products industry - the former because of the high cost of products and the latter because of laws which prohibit commercial trade in blood and blood derived products. Live experiments showed that convalescent plasma therapy was helping save the lives of critical patients. At the same time, there was a need to shift from convalescent plasma to intravenous immunoglobulins which are safer and easier to administer. However, in the long term, there was a need to shift from antibodies that were harvested from recovered patients through blood donations - to nature identical anti-bodies manufactured using biotechnology in a cell line. The MegaTx initiative starts off with harvesting 50,000 litres of blood per month for harvesting of anti-bodies and then shifting to monoclonal anti-bodies expressed in a mammalian cell line.

A brief summary of the four ongoing IIT Alumni Council initiatives which have been tweaked to address C19 challenges in the short term are as follows:

MegaFund: What started as a thought for a Rs 100 crore social initiative in 2016 by a select group of alumni has now evolved into the largest social entrepreneurship and social venture funding platform with a target corpus of Rs 21,000 crores. The platform approach facilitates a 7x multiplier effect by entering into co-investment agreements with the largest domestic private equity funds and a pass-through Fund of Funds framework to use the existing 300+ SEBI registered AIF Funds as disbursal and outreach arms. The MegaLab, MegaTx and MegaIncubator initiatives demonstrate the opportunity for social Start-ups with both scale, depth and accelerated take-off.

MegaIncubator: The Government supported Atal Innovation Mission and related programs have laid a solid foundation for the incubation ecosystem. However, occupancy and incubatee funding are both areas that need improvement. The approach thus is to create a "phygital" incubator that aligns with around 25% of the 10 million square feet of incubation space and supplements this with domain specific expertise. Two examples of domain specific incubators are the Biomolecule incubator (EBMI), the Quantum Technologies incubator (QTMI), the Advanced Genomics incubator (AGNI) and the Ultrasound Technologies incubator (ULTA), EBMI (Engineered Biomolecule Mega Incubator): India does not have a large molecular diagnostics or biologics manufacturing. Both these industries as well as several others including genomics and water treatment rely on engineered biomolecules. To accelerate progress in the area of engineered biomolecules, the IIT Alumni Council has promoted the Mega Incubator initiative which targets aggregation of 2.5 million square feet of incubator and manufacturing space, a 100,000 square feet pilot and developmental manufacturing facility and a large residential campus for training in the NCR area. The Mega Incubator will also include a BSL3 laboratory being built in the Kalina Campus of Mumbai University at the Institute of Nano Bio Sciences. The Mega Incubator will involve an investment of Rs 500 crores in the first phase and is likely to attract manufacturing investments of Rs 10,000 crores thus developing the NCR Area into a major global hub for manufacturing of biomolecules including biotherapeutics, Biosimilars and other biologics.

QTMI (Quantum Technologies MegaIncubator): India was the first country in the world to announce a sanction of USD 1 Billion+ in the union budget 2020 for a Quantum Technology initiative. Quantum technologies have the potential to disrupt several industries by providing highly secure, ultrahigh bandwidth and extremely low latency network connectivity. When coupled with oxygen attenuated RF local loops for cord cutting – this holds out the potential for an ecosystem with almost unlimited bandwidth starting with an indigenous 6g mobile system that can demonstrate 1 Gbps to the handset eventually going up to 10 Gbps. Similarly Quantum Computers offer the potential for a 100x improvement in price performance over legacy HPC computers. By provisioning the computing capacity in the cloud, it is possible to both share it as well as collocate it with data hosting. Further by standardising protocols such as Docker, it is possible to not just queue jobs for processing but also enables distributed computing wherein for example a billion smartphones could donate their computing resources for late night processing. This hybrid Quantum approach is being used to build the world's fastest computer in India by harnessing the power of data centres, smartphones and quantum computing.

Quantum cryptography is now proven and commercially deployed. Quantum technology initiative will in the short-term address applications in drug discovery.

AGNI (Advanced Genomics Neo Incubator): The gene mapping space is led by market leader Illumina (and its Chinese clones like BGI/ MGI) and concept challengers like PacBio and Oxford Nanopore. An Indian challenger Koteleo too has emerged who is trying to merge the electrical reading approach of Nanopore players with optical detection using AI and stereo microscopy based on space imaging technologies.

ULTA (Ultrasound Leveraging Technology Accelerator): Ultrasound technologies compliment optical stereo microscopy and electrical signal-based detection as these can penetrate below the surface. This approach provides a means to look deep into a human organ or to model the organ in real time in 3D for viewing either as a holographic image or as a real 3D image using a headset like Oculus. The emerging field of cobotics and brain reading using EEG type sensors also fit in a broad framework that leverages the penetrating ability of ultrasound without the side effects of X-rays and CT Scans – makes ultrasound a unique technology for widespread use. Ultrasound sensors like Butterfly IQ and Indian challengers like Ionique have shown that ultrasound technology can be made cost effective, highly portable and extremely accurate.

I2Net: The India Innovation Network aspires to bring together leading innovation-fostering institutions from academia, scientific research and industry to help address research challenges in the context of self-sufficiency in old economy sectors and global leadership in the new economy sectors. The initiative involves creating a highly secure ultrahigh bandwidth connectivity network that helps these institutions to collaborate actively in addition to accessing scarce but desirable resources such as supercomputers and quantum computers. By using protocols such as Docker, it is possible to use these resources in low activity periods for queuing jobs with a standardised input/output interface. I2Net aspires to partner with the highest rated academic institutions, research institutes and industry research divisions. Mumbai University and ICT Mumbai are the founding partners of I2Net. The basic I2Net configuration involves 1024 drops of 40 Gbps each to interconnect key colleges, scientific institutions, incubators and research arms of Corporates.

Start-up Listing: Start-up success is integral to three key economic objectives – Self-sufficiency in old economy sectors, global leadership in new economy

domains and livelihood generation across strata. As a “no jobs” scenario gets clearer in the horizon, higher education and employment/livelihood generation paradigms need a systemic reset. The key hurdle for incubates in the various incubators is the absence of a framework that lets them access capital. In pursuance of this, IIT Alumni Council is working with established leaders such as BSE to optimise the process the start-up listing, enhancing the investor depth and facilitating newer formats of enterprise such as social enterprises to list on these public exchanges.

Open Source Data Portal: The Covid pandemic was a clear illustration of “patients and disease everywhere – but not a shred of Covid data for research”. Whilst the IIT Alumni Council took the highly untrodden path of setting up a live hospital and research centre with real patients, the rest of the scientific community continues to struggle without access to even basic data or experimentation. The nodal bodies such as ICMR and NIV have been up to their necks in fighting daily emergencies. As a result, there is no data available to the scientific community to accelerate the development of testing and treatment paradigms. By creating the NSCI dome which took in real patients, the IIT Alumni Council initiatives achieved three key objectives:

- created an entirely private ecosystem that complemented and supplemented the government health infrastructure (this included building a hospital with an ICU in a sports stadium) for real time research,

- reduced the time lag from need to data access to almost zero

- provided a live platform for new technologies in areas like testing and treatment. This open source approach has led to significant breakthroughs in days rather than months or years.

Project Platinae for example is the world’s largest convalescent plasma therapy program just as Project Kodoy aspires to create the world’s largest RTPCR with 25,000 tests per month, Project Ionique is building the worlds cheapest ultrasound sensor, and Project Koteleo which aspires to create the world’s fastest next generation sequencing platform. Project IQ is building the world’s largest hybrid Quantum Computer.

There is an attempt to extend this approach to other diseases such as Tuberculosis and HIV Aids – and a MoU with CSIR IGIB to open source all infectious and lifestyle disease data to authorised researchers is the first step

in that direction. The HGP initiative (human genome project) aspires to map the genome of 10 million Indians in 100 months starting with a pilot project for 100,000 full genomes to be carried out using Illumina short read and Koteleo long read technologies.

ANNEXURE TWO

Summary of Institutional Strengthening Measures

Institutional Strengthening and Capacity Building

We have mandated a group of three well known global advisory firms in the areas of HR processes, financial systems & strategy and branding /IPR to evolve a formal framework and submit a formal report in this area. We hope to get the first draft report in 100 days and to implement it fully in the next financial year starting April 1, 2021.

To coordinate and oversee the work done by these agencies, the Council has appointed three of our Global Board Members to oversee these areas. These include a Senior Advisor of McKinsey & Co, a former Global Managing Director of Hewitt Associates and an Advertising Industry veteran.

Selection Process for City & Batch Coordinators

We were faced with the humongous task of appointing 100+ city chapter coordinators and 700+ batch coordinators. Within ten days of launching the C19 Task Force, our membership went up from 5,000 to over 15,000 and then to over 25,000. There were hundreds of What's App groups, thousands of emails and probably millions of messages zipping on all these platforms. We had been planning a soft launch in August 2020 on our first anniversary and full launch on April 1, 2021. Covid19 was a disruption that we had neither hoped for nor planned for. Given that millions of people around the world were home locked

and scared, several found solace in a known reliable source of information. The fact that we were not Google searchers but well informed professionals running an actual Covid facility on the ground gave the movement an unplanned for momentum. Given this reality, the Global Board took a decision to nominate Protem members to all possible slots. This included close to 300 WhatsApp group admins, over 100 city chapter heads, over 200 batch coordinators and several tens of task force heads who were addressing a very wide gamut of issued from X-rays to AI to medication to therapies to prophylactics. Given that this Protem organisation was put together in less than 100 hours as were each of the initiatives, it served its purpose well. Because there was no room for formal process, it was done in an ad hoc and urgent manner given the feared anticipated death toll of over a million in Mumbai. As well as the fear that Dharavi Slums in Mumbai would become the number one hotspot not just in India but globally. In this situation, choices were few and speed of response was critical. Vision is always 20/20 in hindsight. Looking forward is a little more difficult. Our volunteers and leadership did what seemed like the best option at that point in time. Thus, many deserving alumni got overlooked as they did not apply on the portal. We realized this mistake and have therefore corrected this immediately by terminating the term of all appointees in the batch and city councils on December 31, 2020 by when a duly appointed set of office bearers would take over. The Admin Council which oversaw these appointments is being dissolved with immediate effect. The new appointments will be overseen by the Secretariat under the supervision of the Global Senate.

Governance Framework for Long Term Objectives

As mentioned above, the Governance framework is being evolved by an advisory firm specially mandated for the same. This new framework will take effect latest from April 1, 2021. In the interim, the Global Board has decided to adopt a suitably modified version of the Senate Manual that is used by most of the IITs for their own governance. Broadly the same framework will be used. This will come into effect from October 2nd, 2020. The Senate Manual is derived from the IIT Act passed by Parliament and has borne the test of time over several decades. The Council of the Indian Institutes of Technology which is the premier academic body of the IITs has also chosen to continue with this manual.

A task force has been formed to finalise this Senate Manual and to submit it no later than September 15th, 2020. From October 2nd, the Global Board is being morphed into the Senate and will have 121 members instead of the existing 21.

Formalising Alignment with other IIT Alumni Bodies and other Nation Builders

Nation Building cannot be the prerogative of a few. Nor can it have an entrance exam or eligibility criteria. Anyone with an interest to contribute to the nation should be welcome to. Nation building should not require the consent of a college or of the government. It necessarily must be inclusive. It also needs to go beyond a small community of 500,000 that the IIT Alumni globally represent. In pursuance of this the IIT Alumni Council has reached out to credible research institutions such as CSIR in India and comparable bodies in other countries including USA, Canada, UK, Australia, Germany, Russia, Japan etc. These initiatives are expected to bear results in the immediate future.

However, we also wanted to be clear on what we will not do and who we will not align with. The first is IIT Specific inward-looking bodies such as the Alumni Associations of the individual IITs. These are localised bodies which have a high emotional connect with the IITs. They do a wide variety of well-meaning initiatives which range from helping poor students to organising alumni get togethers. This is NOT our role. Nor is it part of our main objects. These alumni bodies are really a part of the parent IIT and continue to be integral part of the college and should remain so. In addition to the IIT Alumni Council, there are several bodies both in India as well as globally that work across IITs. Notable among these are PanIIT Forum Mumbai which dates to 1992 (and which first used the brand “PanIIT”) and PanIIT USA which was formed in 2002. Both these entities started off as Associations of People and in time became more formal entities structure as non-profits in many countries of the world. Some of them like PanIIT USA also created arms in other countries including India. There are close to fifty such entities in at least twelve countries. Many of our IIT Alumni Council members are also members of such
entities. We believe it is a healthy practice for alumni to associate with multiple entities. However, it is also prudent to revitalise these various entities by removing overlaps, eliminating redundancies and leveraging synergies.

Over the last one year, we have reached out to at least twenty such organisations and are in the process of entering into reciprocal arrangements with these. We have done the same with eminent universities like Mumbai University which have millions of alumni and close to 1000 colleges. We have also reached out to niche centres of excellence like ICT Mumbai which has more Padma Sri awardees than all the 23 IITs put together. Similarly, our C19 Task Force has benefitted tremendously from the wisdom of scientists in places ranging from CSIR to hospitals like KEM and AIIMS.

We hope to continue pursuit of such alliances using a reciprocal system. For example, the Global Board has proposed a Chairmonial Council which would include the heads of several eminent educational and research establishments.

Revitalising Research for Self Sufficiency

The IIT Alumni Council has taken up three initiatives with a gusto. These are the Atam Nirbhar Bharat initiative which aspires to make the country self-sufficient in old economy sectors. The second is the Start-up India initiative which aspires to make India a global leader in new economy sectors. The third is the Digital India initiative which aspires to digitally empower our economy as well as safeguard our data for efficient use as well as from misuse. In pursuit of these, the IIT Alumni Council has signed several MoUs with a wide range of established and credible entities. These include MoUs with CSIR, BSE, TEMA, PanIIT etc. All these MoUs are making expected progress and efforts are on to accelerate impact. IIT Alumni Council will also be entering into a host of global MoUs in areas such as best practice and expertise sharing.

Building dual functionality platform on our portal

What started out a small initiative to host international events such as Global Leader Luncheons has evolved into the world's largest alumni body. The hundred people luncheon in Houston morphed to the 54,000 attendee HowdyModi with both the US President and Indian Prime Minister in attendance (broadcast live to 65 countries and covered on leading media channels). Similarly, a short interaction for Covid19 in February 2020 catalysed by an IIT Alumnus employed by Gates Foundation has led to initiatives with a USD 5 Billion+ outlay – all completely alumni funded without any public money whatsoever that involves more than 20,000 IIT Alumni and over 50,000 other volunteers. None of these were planned for. And to that extent IIT Alumni Council was unprepared at both the organisational as well as systems/processes level. We understand the need to correct these. Whilst the focus shifted from building an organisation to killing the virus – we stand guilty as charged on several counts as regards transparency and public communications. We are now working 24/7 to correct this. At the centrepiece of this effort is a private alumni digital platform which will be open sourced to all partner institutions as well. Efforts are ongoing to lease an entire data centre with multiple support points. Those wanting to help test the platform for providing constructive criticism/feedback are invited to visit iitdirectory.org

(likely to go live on September 30, 2020) and the current beta load testing at community.iitalumnicouncil.org. We shall endeavour to make our portal an efficient platform not only for up-to date information but also a tool for connectivity among Alumni.