



Roundtable on

FOSTERING INDO-US INNOVATION COOPERATION FOR MUTUAL PROSPERITY



WEDNESDAY, OCTOBER 30, 2019
US-INDIA STRATEGIC PARTNERSHIP FORUM (USISPF), 2550 M STREET,
NW, WASHINGTON DC-20037 USA | 16:00 – 18:00 HRS

KEY RECOMMENDATIONS/TAKEAWAYS

General

1. India needs to create an ecosystem which supports entrepreneurship and innovation, and forge partnerships between academia, business and government.
2. *Structuring a balanced regulatory framework for innovation across sectors to enable higher productivity*
3. Knowledge sphere is the foundation for bilateral relations between India and the US, hence collaborative endeavours in innovation should be promoted vigorously. Innovation is the vital bond between US and India in crucial ways.
4. *Retaining its position as the world's third largest startup hub, India is strategically poised to drive the next wave in technological advancement. Recent policy interventions have ensured that progress is made in this direction. However, there is still work to be done in terms of sending a strong signal that investors/foreign investments are welcome, and to ensure that tax subsidies be made more lucrative and in favour of startups, electricity and relatively skilled workforce be made available.*
5. India needs to build awareness on IPR and Innovation issues in the industry, particularly startups.
6. *Developing an alliance with the US on digital and cyberspace issues to foster innovation, development, and defensive mechanisms, which includes a road map for Artificial Intelligence.*
7. Channelising dual use technologies acquired through defence collaboration to civilian sector
8. *Offset enabled innovation—like various other countries India needs to develop models for incentivising aerospace and defence high tech R&D through flexible use of offset funds by investing in academic institutions and startups.*
9. India needs to increase expenditure on research and development from the existing level of 0.7% of the GDP to at least 2.0% of the GDP, while the same in China is 2.1% and in USA it is 2.8%. Further, to invest more in applied research rather than basic research.
10. *The patenting process in India needs to be expedited from the existing period of 64 months to at least 30 months as against 24 months in the USA.*
11. Licensing of all types must bear in mind that it does not hamper innovation.

Sectoral

Energy

12. Technology innovation in gas hydrates, geothermal energy, battery storage, carbon capture and utilisation, energy efficiency offers great potential given the increasing energy needs in India.
13. American companies investing in innovative technologies in the refining sector are encouraged to establish units in India in view of the tremendous growth potential.
14. Partnership with the National Renewable Energy Laboratory, Colorado in hydrogen fuel cells, electricity modelling, printing of solar panels etc are indicative of huge potential for future collaboration.

Plastics

15. India is a leader in the plastic industry and to further expand the same it is establishing 18 plastic parks. These hubs are aimed at fostering a climate of innovation in bio-based polymers and India is inviting investments in these parks.

Housing

16. In the area of urban development and housing, India needs innovative technology to do large scale construction in record time with lower costs and efficient use of resources to foster environmentally sustainable practices. The Ministry of Housing and Urban Affairs is organising an international competition titled Global Housing Technology Challenge India in 2019-20 wherein alternative technologies will be mainstreamed through a global challenge process.

Consumer Unity and Trust Society (CUTS International), together with the United States-India Strategic Partnership Forum (USISPF), organized a roundtable “Fostering Indo-US Innovation Cooperation for Mutual Prosperity” on Wednesday, October 30, 2019 in Washington DC.

The roundtable brought together representatives from the government, industry, academia and civil society to discuss the role of innovation in accelerating growth and development in defence & aerospace, data & technology and energy as well as the pain points towards their uptake from policy and regulatory perspectives. The roundtable also discussed ways to reduce knowledge gaps, and consolidate learnings from the best practices.

Chief Guest's speech

Harsh Vardhan Shringla, India's Ambassador to the United States of America graced the occasion as Chief Guest and delivered the inaugural address. At the outset, Ambassador Shringla noted that this was an opportune time for a discussion on cooperation in innovation between India and the United States and thanked CUTS and USISPF for organising it.

Ambassador said that cooperation in innovation presents the perfect opportunity in the India-US bilateral relationship to pursue win-win outcomes. He referred to the fact that India—a young country brimming with talent and future entrepreneurs—is the ideal destination for US expertise and capital. US is also the repository of cutting-edge technology that is highly relevant to what India requires for its economic growth and development. The Ambassador quoted Prime Minister Modi to state that India sees the United States as its partner of choice for the socio-economic transformation of India.

Ambassador added that in order to realize the vision of a \$ 5 trillion economy, innovation, joint-development and taking advantage of the vast possibilities of commercialization of new technologies in the Indian market need to be tapped into fully. He stated that while there exist a fair amount of exchanges at high-levels, it would be critical to see these exchanges expand and grow across levels and sectors. US investments in India and the skilled talent pool in India for carrying out research and development coupled with the market potential would serve as significant drivers of innovation for mutual benefit and prosperity.

Ambassador stated that the Government of India under Prime Minister Modi has constantly been upgrading its systems and regulations to create a business environment conducive to investments. In terms of focus sectors, Ambassador cited the potential for innovation and investment in sectors such as energy, housing and plastics that would have a large scale impact in India.

In conclusion, the Ambassador extended his best wishes to CUTS for its new venture in Washington DC to promote bilateral economic ties between India and the United States.

A copy of Ambassador's remarks is available here: <http://cuts-wdc.org/pdf/remarks-by-the-indian-ambassador-h-e-harsh-varshaan-shringla.pdf>

Welcome speeches

Both the organisers, USISPF and CUTS welcomed the Ambassador, other speakers and the audience. Dr. Mukesh Aghi, President and CEO, USISPF kicked off the meeting recalling India's progress on the Global Innovation Index that it was ranked number 81 in 2014 and in 2019 it's ranking went down to 52. He also pointed out that when you benchmark this with China which is at 14, there is lots to be done to develop India as an Innovation Centre.

With India spending only 0.7% of its GDP in R&D, he opined that a lot of effort is needed to increase such spending for India when countries like China, US and Japan are spending at 2.1, 2.8 and 3.2 percent respectively.

He lamented that it takes about 64 months for approval of patents in India as compared to 15 months in Japan, 22 months in China and European Union and 24 months in the US. He suggested that India bring more energy and efficiency in the process.

He also pointed out that the researchers behind the patents coming out from India through US companies are mostly Indians. Therefore, he emphasized in creating environment and increasing R&D spending to create an ecosystem in India that supports innovation and entrepreneurship. He was of the view that we need to look at ways to bring that culture of ecosystem in Indian universities, companies, and government itself.

Dr. Aghi was followed by Mr. Pradeep S. Mehta, Secretary General, CUTS International, who started by saying that innovation need not always be related to Intellectual Property Rights (IPR). He was of the view that that innovation and entrepreneurship remain critical for India for job creation. "US interest in India lies in the market that we have; and in the potential and the talent pool that India has been providing to the USA for a long time", he added.

He highlighted that defence and aerospace; energy and data; and technology as the sectors of focus of the Roundtable. "These are major strategic areas where bilateral cooperation through innovation could be further accelerated", he said. He reminded that the US private sector firms like Lockheed Martin has increased both defence exports and shown interest in defence manufacturing with an offer to produce the F-21 in India.

He pointed out the critical knowledge gaps that needed to be addressed to keep up the momentum. These include but are not limited to: i) transfer, adoption and implementation of innovation in industry and academia; ii) channelising dual use technologies required

through defence collaboration to civilian sectors; and iii) structuring a balanced regulatory framework for innovation across sectors to ensure higher productivity along with adequate absorption of labour force.

Panel discussion

After the opening session, a panel discussion took place moderated by Mr. Richard M. Rossow, Board Member, CUTS Washington DC Center, and Senior Adviser & Wadhvani Chair in US-India Policy Studies, Center for Strategic and International Studies, USA. Nearly 40 participants from various organisations and Indian Embassy participated in a lively event. Mr. Rossow posed several interesting questions to the panel comprising of:

- 1) Dr. Vivek Lall, Vice President, Strategy & Business Development, Lockheed Martin, USA
- 2) Ms. Becky Fraser, Director, Government Affairs, Qualcomm, USA
- 3) Dr. Sanjaya Baru, Board Member, CUTS Washington DC Center and Distinguished Fellow, Institute for Defence Studies and Analyses, India
- 4) Dr. Robert D. Atkinson, President, Information Technology and Innovation Foundation, USA, and
- 5) Dr. Amit Kapoor, Honorary Chairman, Institute for Competitiveness, India

Dr. Lall spoke about the IPRs that defence companies like them possess. “What will be shared will be decided by the US government”, he said. “So, it is good to have US-India defence cooperation taking a positive course.” He added that having a dedicated budget structure can help ensure technology development for which they are partnering with various actors including in India. He further said that India is moving forward in aerospace and air defence.

Dr. Lall said that Lockheed Martin recognised the innovation potential in India and established the India Innovation Growth Programme in 2007 in partnership with the Department of Science & Technology, which is one of the largest public partnership programme in India. There are examples of how Lockheed Martin has collaborated with several implementation partners, Federation of Indian Chambers of Commerce and Industry (FICCI), Indo-US Science and Technology Forum (IUSSTF), Center for Innovation Incubation and Entrepreneurship (CIIE) at IIM Ahmedabad and Indian Institute of Technology Bombay. According to him, there have been more than 350 commercial agreements coming out of partnerships with Indian companies and is credited to having generated over USD \$900mn in cumulative revenue, according to an independent report by E&Y. They have been engaging with universities through dedicated University Challenges

to foster the spirit of entrepreneurship and change the university landscape which is mainly hindered by lack of capital and mentorships and also brought sectoral focus with a specific focus on innovation in Aerospace & Defense (A&D) sector. In an attempt to further support innovation in A&D, we have provided market place access to these startups through dedicated supplier summits. Over the last two years, we have organized two A&D startup conferences where we have connected 25 of our Tier-1 suppliers with A&D Startups in India.

He was of the view that in the last 20 years, India's defence has come a really long way. He mentioned that they brought in TATA Trust as a partner to the programme to address innovation for social benefits while they focused on industrial aerospace research. Furthermore, their joint venture with TATA Sons is producing components for global supply chains. Now they have all the building blocks in India that they can use to go on to produce entire products. In a way, we have led the 'Make in India' campaign for the past decade. It is a capital-intensive long-term investment which should be seen in terms of global supply chain and ecosystem.

He further added that the biggest cost and greatest missed opportunity is the mishandling of India's use and application of defence offsets. This is one industry that has grown between the US and India. It is a \$17bn engagement that the two countries now have. He said that at present, 30% of that value has to be dedicated by companies like Lockheed Martin to defence offsets. But unlike other countries, India is still not looking at creative ways to utilise the offsets funding and keeping it restricted to the defence sector. Many countries use it outside the defence sector to inspire innovation to fund education in universities that focus on R&D and collaboration in R&D.

According to Dr. Lall, India is making wheels and wings for aircrafts, and bullets and not expanding it to potential collaboration for defence offsets to touch the universities and young minds by setting up research in universities funded by companies like Lockheed Martin and Boeing. He was of the view that these companies are happy to do it because they have an obligation to do so. "Liberalise the defence offset operation", he said.

Ms. Becky Fraser of Qualcomm said that they are very committed to partnering with players across the mobile ecosystem in India. They are excited to look at the horizon of 5G technology together with their partner Indian carriers such as Reliance Jio mobile. According to Ms. Fraser, Qualcomm is also partnering with many small firms to make mobile technology accessible and affordable to all.

She finds the recent announcement of the Indian Space Research Organization (ISRO) introducing Indian regional Navigation satellite system, NavIC as the opportunity to leapfrog in the technology sector. This original navigation system really has the potential to have improvements in geolocation capabilities of mobile, automotive, internet of things and all of that requires 5G. They find NavIC as a critical step towards India's pursuit of harnessing space technology for national development; and also in helping ordinary data users.

Ms. Fraser was also happy to share that in 2016 Qualcomm launched Design in India challenge which have had 1100 applicants since 2017, and 85 among them created patents and incubated about 26 companies.

She also informed that they have been partnering with the SMEs and entrepreneurs but also cultivating policy environment which is conducive for commercialization of Qualcomm's innovations. They feel that the pendulum is swinging in a positive direction in India currently. There is a renewed interest in having conversations about the environment. "I take trade secrets as an example. I think there is new energy behind how does India protect trade secrets and have singular Trade Secrets Law. So, I think that much of it comes from the inherent tensions that exist around commercializing intellectual property."

Dr. Sanjaya Baru said that India centred the relationship around knowledge to foster relationship with the US. "Unless we are able to push the knowledge sphere as the foundation for the bilateral relation, I cannot imagine a change in the bilateral relationship", he added.

He recalled the collaboration on India agriculture in the Green Revolution in the 1960s which was fostered by and funded by the US, which lead to food surpluses. This happened in spite of an unfriendly relationship at that time.

He added that India does not have any restrictions on growth of enterprises/firms. There are large companies assembling technologies which encourage new entrepreneurship and firms. This is what government is encouraging for the private sector as well and the idea is that this allows new entrepreneurs coming to manufacturing. He added that India not having new enterprises in manufacturing unlike in other sectors like IT and retail is a huge challenge. Due to this the share of manufacturing in national income has remained stuck at 14% for 25 years. He was of the view that there is no cultural bias against entrepreneurship because actually startups are doing good.

Dr. Baru complained about slow pace of US-India relation which he views is due to change in administration in both India and the US. However, he felt that the new Indian foreign minister, Dr S. Jaishankar has a good sense of urgency in getting this relationship back on track.

Dr. Robert Atkinson was of the view that there is a potential of tectonic shift between new players, new winners. Firms in China are already moving out in lots to countries like Vietnam, India, Taiwan and Malaysia. But they do not move out to the extent they could because of the network effects considering you want to be close to suppliers and others.

He was of the view that India has this sort of opportunity to say “we're going to be the next hub of the next wave.” India is in the best position because this is all about putting lots of small things together and not merely opening up a small factory. He suggests India to send a signal that if you come to India and want to build this new technology system, you are going to be in the right place for you to do that because of tax regulations, electricity availability, and relatively skilled workforce.

He also suggests India to favour large firms like in China where manufacturing firms are far bigger than what the Indian firms are. Scale is needed to succeed. He suggests that the startups need to scale up.

“I think there is huge opportunities in 10 years when four major technology hubs in the world will be US, China, Europe and India. I would actually put Europe down. And I think US-India partnership is the future”, he said.

He also views low productivity as its major challenge but not innovation. He suggests that the government’s job creation focus should move to creation of wealth and increasing productivity. The jobs will then follow.

The last speaker, Dr. Amit Kapoor spoke about the fact that we should not look at India as a single unit. Rather India is a disaggregated entity. From this point of view, his office launched the India Innovation Index highlighting the innovation status of states in India. They have isolated what kind of disparities exist between the states in terms of economy. There are states like Bihar and Jharkhand, and the likes of Maharashtra and Karnataka which are doing extremely well. Using different parameters, the report shows why this is actually happening. Dr. Kapoor was of the view that disparity actually starts from educational set-up and is bearing fruit right now.

He further added that innovation is not only about big ideas and technology. He explained: “I beg to differ with that idea for simple reason. There's nothing called high-tech or low-tech firms and industries. In fact, from my point of view, Infosys—which is the blue-eyed boy in the block—is the most low-tech company in the IT world. They don't even create a software. You can on the other hand have an agriculture firm which can be quite innovative. So, our understanding is important.”

He was of the view that there are going to be five or six states which will drive innovation in India. The leading states will be Gujarat, Karnataka, Maharashtra, Tamil Nadu, Telangana and Andhra Pradesh. These are the states that are going to be coming up with innovative enterprises mainly because of emphasis in their education infrastructure.

When asked if India is ready to be innovation-driven economy, he nodded positively. He adds that the states need to identify the sectors that can drive their innovation. He informed that there is absolute obsession within the states, and all states want to do everything under the sun. He mentioned that in a study done for the Prime Minister's Office they have identified top four sectors for each state to focus on.

He further mentioned that big Indian companies can be put in two brackets in terms of innovation. One would be the new rich companies and the positive impact they are having in innovation. Their contribution to the economy is tremendous. Others have business model that is outdated. He also pointed towards that face that while it is a favourite pastime to bash the government, the private sector is also not innovative in India. He urged the private companies to come forward in innovation. He said that “The question for him is why companies like Google and Skype did not happen in country like India despite the fact that we have about 1.3 billion people?” The practice of business licencing in the past had also hampered innovation according to Dr. Kapoor.

Mr. Rossow, the moderator, in his concluding remarks said that innovation itself is the vital bond between the US and India in crucial ways. He opined that putting important things like nuclear cooperation and defence technology on the table really begin to unlock the most important things that have taken place since. Innovation and partnership in technology offered incredible promises in the bilateral relationship. There are lots of areas and complementarities in Indo-US relationship that merit attention, and finding ways to all sorts of problems is going to be crucial. While India is climbing up the innovation ladder, it is also a place for job creation and for growth. According to Mr. Rossow, Indo-US relationship is going to be one of the defining partnerships of the 21st century.