

**H.E. Isabella Detwiler**

Deputy Counselor for Economic Affairs, Environment, Science and  
Technology, the U.S. Embassy, New Delhi

**CUTS-USIBC Roundtable on “Fostering Indo-U.S. Innovation Cooperation  
for Mutual Prosperity”**

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**Introduction**

Thank you Pradeep and Ambika, for that excellent setting of the scene. I am delighted to be participating at this important roundtable hosted by CUTS and USIBC. I’m privileged to be sitting among such a distinguished group of experts and practitioners of innovation. As a diplomat of almost 30 years, I’m hardly a practicing innovator in the traditional sense, and I’m realistic about my own abilities – but I have worked in a number of countries with varying innovation landscapes as innovation has become an increasingly important part of the economic and diplomatic portfolio.

As I’m sure you are aware, innovation in one sector can inspire innovations in other sectors -- leading to a virtuous circle of new products and services and the creation of new jobs. This innovation cycle begins with partnership and collaboration. This cycle has been an abiding strength of the U.S. economy and continues to drive it forward. Before I go into innovation in the United States, I would like to take a moment to highlight a few aspects of the budding U.S.-India relationship.

## **U.S.-India Partnership**

Our bilateral relationship has come a long way since the 1990s and has evolved into a strong and dynamic partnership, one fit for the 21<sup>st</sup> century. President Trump and Prime Minister Modi have met numerous times over the past few years. They have developed a close personal relationship, as demonstrated by the successful “Howdy Modi” event in Houston. The U.S.-India partnership now involves almost every endeavor of human activity from economics, geopolitics, and energy to scientific research, space, and beyond. The U.S. is India’s largest export market, and U.S. companies are the largest source of foreign direct investment into India. Indian students and researchers enrich and are enriched in our universities.

## **The Culture of Innovation in the U.S.**

While the United States is not alone in being a leader in innovation, few countries have placed such a premium on innovation and technological advancement. (And after all, I’m here to represent the United States, so I’ll focus on my home country, and some of the elements that may be common and helpful to other countries).

There are many elements that helped the U.S. become a model of innovation. Our First Amendment is at the top of the list. The free speech that this amendment protects, enables a robust exchange of opinions and fresh thinking, and with them, new business ideas -- challenging the status quo is a bedrock of American dynamism.

In the United States, success born of risk-taking and innovation is handsomely rewarded, and failure is viewed properly as a tool for learning. Consider Thomas Edison, who said of repeated setbacks in his quest to invent a practical light bulb, "I have not failed.

I've just found 10,000 ways that won't work." We know instinctually that failures often provide more lessons than successes.

The United States is a nation of immigrants who have come together from all corners of the globe. Immigrating to the United States to create a better life is a mindset that encourages our best and brightest, regardless of their backgrounds or birthrights, to rise to the top. The diverse histories and experiences immigrants bring with them to our shores contribute new perspectives and great ideas.

Our education system values exploration and outside-the-box thinking. We teach students to challenge the status quo. We embed innovation into the earliest stages of our education system. U.S. students are encouraged to ask not only "Why?" but "Why not?" Last year, approximately 200,000 Indian students chose to study in the United States.

Freedom to dream, to act, and to think has brought about cures for diseases, aid to the disabled and the elderly, and the widespread availability of necessities that once were luxuries. Innovation is also tied to entrepreneurialism, for which the United States provides a conducive environment. One can come up with a brilliant idea yet fail to bring it to market or scale up if the cost of doing business is onerous or government regulations are overly stringent.

American public policies have traditionally favored entrepreneurship, small businesses, and startups. Taxes on capital gains and higher incomes are relatively low compared with other countries, and regulations have generally been light. I want to recognize that there are other countries that do not share our tax policies and which do

excel in innovation -- but we think our model has done quite well for us, and the many innovators and entrepreneurs who have decided to make the United States their home.

Henry Ford created the assembly line that made the automobile affordable to most Americans. Dr. Jonas Salk created a vaccine for polio, the plague of the early 20th century. Bill Gates created the operating system for computers that made them usable and accessible to more people of the world. As you know, two of the most innovative American companies today, Microsoft and Google, are led by Indian immigrants. And immigrants always have and continue to propel innovation in the United States. All of these innovators were able to succeed not just because they came up with a better mousetrap, but also because the mousetrap they were selling was, shall we say, located in a risk-taking and entrepreneurial-friendly house.

There are other important elements that time will not allow me to explore fully: strong intellectual property rights, free flow of data and information, and a policy of free access to government data. For example, the decision to make GPS data publicly available, very controversial at the time, has led to the growth of entire industries.

We recognize the fact that every nation is different based on their histories, cultures, and civilizations. However, we believe our experience building an innovative economy in the United States could be useful for other nations seeking to create similar—or different--innovative and creative environments. As mentioned previously, innovation today is also fueled by partnership and collaboration, especially as we live in a globalized world where ideas, labor, and value chains crisscross international boundaries.

We recognize that India has its own vibrant innovation history and the government has a rich variety of programs and incentives for innovation. But my task here is simply to talk about where the United States and Indian innovative journeys intersect.

While I do not mean to downplay the paramount part played by private investment, I'll speak to programs in my area of responsibility – principally those supported by the U.S. government. So I'll turn to some of the programs that we are undertaking with Indian partners.

### **IUSSTF and Innovation Programs**

The Indo-U.S. Science and Technology Forum was created in 2000 as one of several mechanisms to foster science and technology cooperation between our countries. The Forum has allowed our science and technology partnership to mature and flourish across our public and private sectors. Its objectives corresponded well with the 2017 Global Entrepreneurship Summit in Hyderabad. At that event, Prime Minister Modi and White House Senior Advisor Ivanka Trump joined thousands of entrepreneurs in celebrating the innovative zeal of young people from India and the United States, as well as other countries—especially young women.

Capitalizing on its initial work, the Forum has expanded its mandate to manage additional funding sources in order to advance collaborative innovation between Indian and U.S. scientists, engineers, entrepreneurs and students.

For example, we promote *joint* development and commercialization of innovative technology for social impact through the U.S.-India Science and Technology Endowment Fund. In one project, Stanford University engineers partnered with Rajasthan's Jaipur Foot

Organization to create a prosthetic knee that costs less than \$100. This knee has helped over 700 people in 28 countries achieve mobility.

The PACEsetter Fund is helping India meet its growing energy needs and improve access to electricity in remote parts of the country by financing renewable energy innovations in India.

### **Nexus**

The U.S. government created Nexus, a startup incubator, to support Indian start-ups and help strengthen the Indian entrepreneurial ecosystem—as a vibrant Indian startup sector will benefit American businesses and the U.S. economy.

### **USAID – India’s Millennium Alliance**

The Millennium Alliance, an innovation incubator and investment organization, has leveraged an initial \$7 million from the USG in 2012 to \$25 million in 2018, supporting more than 150 promising innovators in India. The Millennium Alliance is opening up opportunities to leverage finance and technology in new ways, using the best of these innovations to boost equitable and sustainable development, reaching the poorest communities and encouraging more active participation from women.

USAID and the Government of India collaborate with a variety of private partners to leverage resources to scale-up solutions for national and global impact. The partners include American companies, Indian corporations, family foundations, educational institutions, impact investors, venture capitalists, think tanks, chambers of commerce, and diaspora groups. Almost four million Indian-Americans live in the U.S. and their

commitment to both the United States and their country of ancestry suggests that diaspora engagement will undoubtedly extend and endure.

### **Energy Innovation**

In the energy sector, our nations pool together our expertise to study areas of mutual interest. For example, the United States Geological Survey and India's Directorate General of Hydrocarbons jointly study gas hydrates. The U.S. Departments of Energy and State, along with our USAID colleagues, work with Indian partners to identify how nations can best integrate renewable energy into our national grids.

Such energy cooperation extends into other fields, and in particular, it also extends to the private sector. General Electric's Welch Technology Center in Bangalore, ExxonMobil's Technology Center, also in Bangalore, and Dupont's Innovation Center in Gurgaon, are examples of U.S. firms that conduct innovative research here in India.

The two countries are working together on clean energy technology development through the U.S.-India Joint Clean Energy Research and Development Centers. As a key implementing organization of the \$100 million partnership between the U.S. Department of Energy and India's Department of Science and Technology, the Forum enables our countries to collaborate and enhance our collective knowledge of solar energy, new biofuels, energy efficient buildings, smart grids, and energy storage.

### **Health**

In March 2015, India released its first indigenous vaccine, a vaccine against rotavirus called ROTAVAC. The ROTAVAC vaccine story began more than three decades ago in India, when researchers discovered an unusual strain of rotavirus that infected

newborns without making them sick. Joint U.S.-India Research teams working under the bilateral Indo-U.S. Vaccine Action Program conducted critical early-stage research to develop the vaccine candidate.

Science envoys from the United States are also partnering with Indian counterparts to tackle poor air quality and to make further progress on commercial space programs.

### **Defense Technology Collaboration**

Defense is another important area where the U.S. and India cooperate in co-developing and co-producing technologies. Research laboratories from our military services and India's Defense Research and Development Organization routinely share information on future technologies that directly impact the effectiveness and security of our countries' militaries. Our latest collaborations have focused on minimizing blast and blunt trauma for soldiers in the field, to capitalizing on the latest developments in the area of photonics.

The Defense Technology and Trade Initiative, or DTTI, initiated in 2012, is another area of cooperation where our defense establishment and industry are matching security requirements with material solutions. In late October this year, individuals from both governments interfaced with industry colleagues to discuss cooperative efforts in reinforcing the global supply chain for defense articles. U.S. representatives also met with a handful of Indian start-up companies to better understand some of the amazing work being done here.



## **Conclusion**

There is much more that the United States and India can do together – whether it be in the fields of supercomputers, artificial intelligence, energy, or defense cooperation. We can and must inspire our nation’s youth to ask “why?” and “why not?” Our scientists and engineers can serve as role models and mentors for women and others from disadvantaged communities. These are realistic and achievable goals for a partnership between two vibrant and diverse democracies.

Governments can play a vital role in creating the ecosystem for innovation and entrepreneurship by establishing simple, transparent rules and processes to allow innovators to quickly bring their products to market. The potential for mutual benefit through our cooperation is huge. I believe it was Victor Hugo who said that “Nothing is more powerful than an idea whose time has come.” No problem is insurmountable if our nations are closely working together in tackling it.

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