Innovation by Indians growing! India marks highest growth in filing for international patents

Good news! India has filed more than two thousand international patent applications, thereby marking the highest growth among the top 15 nations. ‘Innovation’ is a word that has increasingly evoked more sighs than exclamations across India Inc. Perhaps now this pall of gloom is set to change. Building a robust innovation ecosystem may soon become the norm rather than an unusual occurrence. According to the data from the global intellectual property (IP) services of the World Intellectual Property Organisation, 2018 has been rocking for innovators from Asia, and they have filed over 50% of international patents. More importantly, the silver lining is this: India has every reason to strengthen innovation ecosystems across diverse sectors.

While India marked a significant growth of 27%, it is important to note that China is ranked second with a 21% share. A comparison between the two nations also shows that these are the only middle-income countries to be ranked among the top 15 countries.

A closer look at Indian patents show that most of these have been filed by TVS Motor Company ranking first, the Council of Scientific and Industrial Research (CSIR) and the Indian Institute of Technology (IITs) ranking second and Reliance Industries at a close third.

For example, the TVS -ATT is an innovation that enhanced fuel efficiency by 20% when compared to the conventional technology that is currently in use today, even as it offered additional advantages like the lowest carbon dioxide emission in motorcycles and scooters, has a low floorboard and more space to keep luggage.

Another striking innovation was the RTR engine (Racing Throttle Response) by TVS Motors, which won several prestigious awards. What the RTR engine did is that it provided instant acceleration combined with aerodynamic, roto petal disc brakes that are completely from the track and digital speedometers.

Interestingly, the patents list is mostly dominated by Indian pharmaceutical companies such as Dr Reddys, Sun Pharma, Cipla and Lupin, among others. Several factors such as manufacturing excellence, cost competitiveness, trained human capital and robust infrastructure are known to have created Indian pharma’s success story. To accelerate growth, more innovations have to come through as well.

With Asia taking the crown as the majority filer of patent applications internationally, India can look towards building next-gen capabilities that will give ‘Brand India’ a distinct and innovative edge as well as sustain the cost advantage while supporting and nurturing an innovation-oriented ecosystem.
These 5 startups are monitoring India’s health with AI, machine learning, and smart apps

On the flipside, India’s healthcare space is expected to grow at 23 percent CAGR to a $280 billion market by 2020. From medical tourism to telemedicine, India’s healthcare sector has been expanding at a healthy double-digit rate to include newer and better services powered by new-age technologies. The problem, however, is not availability, but access to these services. With the ‘Digital India’ initiative, the government has been bolstering all efforts towards bridging the gap in healthtech, an area where Indian startups already have a momentum.

Let’s take a look at five such startups making healthcare efficient and affordable for us.

**Onward Health**

With cancer patients, early diagnosis or prognosis of the cancer type could prove to be critical. India faces a backlog, between the number of pathologists available and the number of samples collected. This is where Onward Health comes into play. Using predictive analytics and machine learning, this healthtech startup is building a portfolio of diagnostic tools in the form of classifiers and analytical tools. These tools help pathologists diagnose more cases every day by providing deeper, more accurate insights from available samples. In addition, Onward Health is leveraging computer vision techniques and ML algorithms to offer tools in computational pathology and mammography.

**BeatO**

By 2030, WHO predicts that there will be 100 million people living with diabetes in India. A concerning statistic, only aggravated by the lack of tools and platforms monitoring it. Yash Sehgal and Gautam Chopra, Co-founders of Delhi-based BeatO, were well-aware of this issue. Prompted by the distressing conditions, they started BeatO in 2015. Since then, their platform has expanded to serve around 50,000 patients across 1,500 cities. The functioning of the app is simple, it comes with a glucometer, which can be plugged in to a smartphone to take reading. The reading is then saved in the app and can be used for further guidance and intervention in case of an emergency.

**ten3T**

Medical wearable startup ten3T was born out of a chat around how to build a medical grade device to monitor a patient’s health. The chat soon turned into a potential plan, and biomedical engineers Rahul Shingrani and Prasad Bhat, and physician and entrepreneur Sudhir Borgonha started up in 2014. The startup makes medical grade wearable devices, and its breakthrough was Cicer, a palm-sized patch sticker with multiple embedded sensors. The IoT technology helps in the early detection and prevention of medical episodes in hospitals, during transport, and even at home.

**AADAR**

Healthcare starts with preventive care, which basically includes keeping a check on various health conditions and taking proactive steps to nip diseases in the bud. Mumbai-based AADAR is one such venture operating in the “Ayurveda-inspired” preventive healthcare space. Founded by IIT-B alumnus Aadil Shah, who had earlier started edtech venture Manch, AADAR offers herb-based products to curb lifestyle ailments like protein deficiencies, blood sugar, indigestion, cholesterol, and obesity. AADAR plans to expand into the space of menstrual wellness, skincare products, and health supplements.

**DRiefcase**

Just disrupting the sector of healthcare services is not enough. Especially with technology taking a lead in every front, it was just a matter of time before someone turned their attention to medical records and record-keeping. This brings us to DRiefcase, an idea hatched from the brains of IIM-B alumni Sohit Kapoor and Harsh Parikh. Founded in May 2016, DRiefcase has one simple objective - to digitise personal health records of a person and provide users with a single-point, easy-to-use access to medical data. All this at the tap of the screen.

For more visit the link https://theindia100.com/100-views-of-india/
Japan’s Panasonic Corp. has set up its first electric-vehicle charging station in India, taking a small step in a slowly emerging e-mobility market led by the government.

Panasonic India Pvt. Ltd. said it opened its EV charging pilot facility in New Delhi on Monday. It is located at the head office of its partner, the local power distribution firm BSES Yamuna Power Ltd.

“We envision a growing need for electric vehicles in India,” Atul Arya, head of the Panasonic unit’s energy systems division, said in a statement issued on 18 March 2019. “This is a step towards our vision to create smart charging network where it’s as easy as fueling our vehicles today.”

The charging station is Panasonic’s first in India, he told NNA. The company said it was designed and developed in the country. It is equipped with 10 kilowatts power capable of charging up to three electric vehicles simultaneously, almost three times faster than conventional valve regulated lead acid batteries, Panasonic said.

There were only 220 to 250 operational charging stations in India in 2017, compared to 56,000 gas stations, a report by TFE Consulting GmbH showed.

Most of India’s EV charging stations have been installed by government-owned firms. The private sector has been slow to respond as there is hardly any demand at this point.

The government’s Energy Efficiency Services Ltd. under the Ministry of Power has installed 264 chargers at 33 locations across India, according to the Ministry of Heavy Industries & Public Enterprise.

India has set an ambitious goal to increase the proportion of electric vehicles from around 1 percent currently to 25 percent by 2030.

The government has set aside 100 billion rupees ($1.4 billion) to promote the domestic production and purchase of electric and hybrid vehicles, as well as building charging facilities.

There were over 7,000 electric four-wheelers and 150 heavy EVs such as buses running on Indian roads at the end of March 2018, data from the Society of Manufacturers of Electric Vehicles showed.
Oyo to launch hotel business in Japan

Indian hotel startup Oyo said on Thursday that it had established a joint venture with SoftBank Corp. to launch a hotel business in Japan. Oyo labels itself as one of the world's largest hotel chains with more than 500,000 rooms under management. It oversees a network of budget hotels that allows owners to use Oyo's data-driven management system to boost efficiency.

The startup is the biggest of its kind in India and among the top five in China. The joint venture, OYO Hotels Japan, plans to operate a similar model in Japan, which is dealing with a surge in tourists. Large cities are struggling to cope with rising prices while rural areas face low occupancy rates.

"We will be focused on creating unique hospitality experiences for both domestic and international travelers," said Oyo founder and CEO Ritesh Agarwal.

The new business will mark Oyo's second major foray into Japan. Oyo Life, an apartment rental service operated in partnership with Yahoo! Japan, officially launched in late March 2019.

A SoftBank spokesperson declined to comment on the ownership structure or when the hotel service will start. Management will be under Oyo's Prasun Choudhary. Oyo recently received funding from U.S. home-sharing company Airbnb. SoftBank Group's near $100 billion Vision Fund led a $1 billion funding round for Oyo in 2018, valuing the startup at $5 billion.

SoftBank Corp. -- a mobile network operator and part of the SoftBank Group -- has said that bringing businesses from its Vision Fund portfolio to Japan is one of its key strategies to diversify beyond telecommunications.

IIT Bhubaneswar to partner with Japan’s AOTS

Indian Institutes of Technology (IIT) Bhubaneswar is going to partner with the Association for Overseas Technical Co-operation and Sustainable Partnerships (AOTS), an organisation for human resources development to promote technical co-operation.

The AOTS is established under the Japanese Government, Ministry of Economy, Trade, and Industry (METI) and currently functions as their policy implementations organizations in the field of Industry and HR Development in developing countries as well as implements some self-sustainable-social business based projects in co-operation with Japanese companies.

While welcoming the delegates, Prof RV Rajakumar, the director of the institute said, “The partnership will have a strong focus towards professional development of students, the creation of multiple academic and business opportunities, including events to promote education, internships and employment for students.”

“We would want to explore the broader options beyond. The synergies are going to be greatly beneficial for both the nations for their new technological developments which will be of paramount importance. IIT Bhubaneswar would also explore collaboration in areas like Robotics, Augmented and Virtual Reality, Energy Climate Change and other areas,” he added.

Also present at the discussion were Prof RK Panda, the Dean (R & D) and Head of School of Infrastructure, Prof Sujit Roy, Head of School of Minerals, Metallurgical and Materials Engineering, Prof Swarup Kumar Mahapatra (Dean, Continuing Education, Dean Alumni Affairs and International Relations), Dr Sandeep Pattanaik, Head, School of Earth, Ocean & Climate Sciences and Dr Arun Kumar Pradhan, Head, Career Development Cell, IIT Bhubaneswar.

Infosys forms JV with Hitachi, Panasonic and Pasona in Japan

India's second largest IT services firm Infosys said it has completed the formation of its joint venture with Hitachi, Panasonic Corporation and Pasona Inc, strategically enhancing presence in Japan. In December 2018, Infosys had announced its agreement with these partners under which Infosys was to acquire 81% share in Hitachi Procurement Service Co, Hitachi's fully owned subsidiary. Consideration for the 81% stake was 2,762 million yen (approx Rs 174.58 crore). Hitachi, Panasonic and Pasona are the minority shareholders of the entity.

HIPUS Co Ltd - the new venture - has named Shinichiro Nagagata as CEO, Infosys said in a statement.

The JV will be headquartered in Japan, and more than 200 employees will be part of it on establishment.

"The joint venture, formed by complementary, iconic companies coming together, will accelerate business process transformation leveraging digital procurement platforms for the local and global needs of Japanese corporations," the statement said.

It added that Infosys will bring its global expertise in procurement processes, consulting, analytics and digital technologies such as artificial intelligence (AI) and robotic process automation (RPA) to the venture.

Combined with Hitachi and Panasonic's knowledge of their procurement functions and local teams, and Pasona's human capital and BPM networks in Japan, the entity will provide end-to-end, efficient and high value procurement capabilities to corporations.
Samurai sunrise: Japanese bank MUFG is the new go-to financier for who's who of India Inc

Japan’s MUFG Bank (formerly Bank of Tokyo-Mitsubishi UFJ) has great expectations of India. And India Inc clearly has a new financier, and for once, it’s not a Wall Street bank. Neither is it Swiss or a blue-blooded British bankroller. For the first time, a Japanese bank that has been present in India for almost as long as the Tatas, has trumped competition to emerge as the premier debt house — G3 bonds and dollar loan syndication — among all foreign lenders on Mint Street in 2018, as per Bloomberg data.

To put rankings into perspective, MUFG was not even in the reckoning four years ago. Be it a marquee client such as Reliance Industries and Tata Steel or mid-cap champions such as UPL, Bharti and Aurobindo, MUFG is the bank to bank on.

Corporate clients sense this strategic shift as India becomes the second most important market for the bank. Industry estimates put MUFG’s India business size at $13-14 billion, just by banking with larger corporates. This would be only second to a Standard Chartered Bank and far higher than a JP Morgan or Citi, say industry insiders.

With renewed aggression, competitive rates and a $2.8-trillion global balance sheet to lean on, MUFG is no longer the sleepy outfit it used to be in India. It is flexing muscles, hustling for deals, elbowing out competition and grabbing business in the hyper-competitive corporate banking market. It’s taking business, market and revenue share away from traditional powerhouses such as JP Morgan, Citi or even their investment banking peers, Goldman Sachs. Even the European counterparts such as UBS or Deutsche Bank, who have always leveraged their deep-rooted traditional private wealth linkages with clients to win chunky corporate accounts, are being steamrolled by this juggernaut.

From offshore bonds, loans, mergers and acquisitions (M&A) or working capital needs, a new rainmaker with a fat cheque book is changing the old order. In any case, there are around 1,400 Japanese companies doing business in India. Servicing this vast pool itself gives MUFG natural business opportunities and growth. But the mandate is to spread far wider.

Till recently, Japan’s financial exposure to India was largely confined to extending yen-linked loans to infrastructure ventures. This has often been perceived as extended diplomacy, with traditional rival China emerging as an economic giant. Now, with a new set of assertive lenders like MUFG, ties between two of Asia’s oldest democracies are stronger and deeper.

For reading the full story visit the link [http://www.ecoti.in/k3SPab39](http://www.ecoti.in/k3SPab39)
HE Ambassador Mr Sanjay Kumar Verma called on H.E Mr. Takeshi Iwaya, Minister of Defense of Japan and discussed efforts to further enhance defence cooperation between India and Japan.

Ambassador HE Mr Sanjay K Verma attended Cherry Blossom (Sakura) Party at iconic Shinjuku Gyoen, Tokyo hosted by Honorable Prime Minister of Japan HE Mr Shinzo Abe. He met many dignitaries present on this occasion including Chief Cabinet Secretary HE Mr Yoshihide Suga, METI Minister HE Mr Hiroshige Seko, Deputy Chief Cabinet Secretary HE Mr Yasutoshi Nishimura and LDP Secretary General (Acting) HE Mr Koichi Hagiuda.

HE Ambassador Sanjay Kumar Verma meet Mr. Azim Premji, Chairman Wipro Ltd and its other senior executives incl. Japan Head Mr. Naohide Takatani at Embassy of India Tokyo and exchanged views on the potential of cooperation in IT business and on future course of 5G, IoT, AI.

HE Ambassador Mr. Sanjay Kumar Verma interacted with select media representatives Indian Embassy and briefed them on evolving India Japan bilateral relations.
Ambassador of India to Japan HE Mr Sanjay Kumar Verma hosted Hanami Lunch Receptions at Embassy of India Tokyo on 28th March, 1st April, 2nd April and 4th April 2019. The reception on 28th March was attended by a large number of Members of Parliament (Diet), senior officials of various Ministries / Think Tanks & Members of Diplomatic Corps. Among other attendees the event was graced by Japan's Deputy Chief Cabinet Secretary HE Mr Yasutoshi Nishimura, MOFA Japan Vice Minister HE Mr Norikazu Suzuki, Chairman Japan-India Parliamentarians' Friendship League (JIPFL), HE Mr Hiroyuki Hosoda, Komeito Party Chief HE Mr Natsuo Yamaguchi, MP HE Mr Kazuyuki Nakane, MP HE Mr Yoshiaki Wada, MP HE Mr Shinkun Haku.

The reception on 1st April was attended by a Senior Officials of various Ministries and their Organisations, Research Institutions and Universities, etc. Among other attendees the event was graced by Administrative Vice Minister of Ministry of Defence Japan, Commandant Japan Coast Guard, Senior Vice President JICA. The reception on 3rd April was attended by leaders & senior executives from Japanese Businesses & Corporate World including Chairman Keidanren Mr Nakanishi Hiroaki which play an important role in B2B dimension of Special Strategic Global Partnership. The reception on 4th April was attended by friends from press & media, art & culture, sports & education which play an important role in P2P (People To People) dimension off Special Strategic Global Partnership.
The Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, GoI has recently awarded Geographical Indication (GI) to five varieties of Indian coffee. They are:

- **Coorg Arabica coffee** is grown specifically in the region of Kodagu district in Karnataka.
- **Wayanad Robusta coffee** is grown specifically in the region of Wayanad district which is situated on the eastern portion of Kerala.
- **Chikmagalur Arabica coffee** is grown specifically in the region of Chikmagalur district and it is situated in the Deccan plateau, belongs to the Malnad region of Karnataka.
- **Araku Valley Arabica coffee** can be described as coffee from the hilly tracks of Visakhapatnam district of Andhra Pradesh and Odisha region at an elevation of 900-1100 Mt MSL. The coffee produce of Araku, by the tribals, follows an organic approach in which they emphasise management practices involving substantial use of organic manures, green manuring and organic pest management practices.
- **Bababudangiris Arabica coffee** is grown specifically in the birthplace of coffee in India and the region is situated in the central portion of Chikmagalur district. Selectively hand-picked and processed by natural fermentation, the cup exhibits full body, acidity, mild flavour and striking aroma with a note of chocolate. This coffee is also called high grown coffee which slowly ripens in the mild climate and thereby the bean acquires a special taste and aroma.

The Monsooned Malabar Robusta Coffee, a unique specialty coffee from India, was given GI certification earlier. In India, coffee is cultivated in about 4.54 lakh hectares by 3.66 lakh coffee farmers of which 98% are small farmers. Coffee cultivation is mainly done in the Southern States of India: Karnataka – 54%; Kerala – 19%; Tamil Nadu – 8%. Coffee is also grown in non-traditional areas like Andhra Pradesh and Odisha (17.2%) and North East States (1.8%).

India is the only country in the world where the entire coffee cultivation is grown under shade, hand-picked and sun dried. India produces some of the best coffee in the world, grown by tribal farmers in the Western and Eastern Ghats, which are the two major bio-diversity hotspots in the world. Indian coffee is highly valued in the world market and sold as premium coffee in Europe.

The recognition and protection that comes with GI certification will allow the coffee producers of India to invest in maintaining the specific qualities of the coffee grown in that particular region. It will also enhance the visibility of Indian coffee in the world and allow growers to get maximum price for their premium coffee.
Trade Fairs & Exhibitions in India in 2019

To know plz visit https://www.indembassy-tokyo.gov.in/trade_fairs.html

Book of interest - “India Shift-Why are the top companies in the world based in Bangalore? "
(Takeyari Yukio / Author)
India’s growth projected to pick up to 7.3% in 2019 & 7.5% in 2020: IMF

According to MF World Economic Outlook (WEO)- Growth Slowdown, Precarious Recovery, April 2019, with weakness expected to persist into the first half of 2019, the WEO projects a decline in growth in 2019 for 70% of the global economy. Global growth, which peaked at close to 4% in 2017, softened to 3.6% in 2018, and is projected to decline further to 3.3% in 2019. Although a 3.3% global expansion is still reasonable, the outlook for many countries is very challenging, with considerable uncertainties in the short term, especially as advanced economy growth rates converge toward their modest long-term potential. For the emerging market and developing economy group, growth is expected to tick down to 4.4% in 2019 (from 4.5% in 2018), before improving to 4.8% in 2020.

Indian Regional Navigation Satellite System (IRNSS) : NavIC

IRNSS is an independent regional navigation satellite system being developed by India. It is designed to provide accurate position information service to users in India as well as the region extending up to 1500 km from its boundary, which is its primary service area. An Extended Service Area lies between primary service area and area enclosed by the rectangle from Latitude 30 deg South to 50 deg North, Longitude 30 deg East to 130 deg East. Some applications of IRNSS are: Terrestrial, Aerial and Marine Navigation; Disaster Management; Vehicle tracking and fleet management; Integration with mobile phones; Precise Timing; Mapping and Geodetic data capture; Terrestrial navigation aid for hikers and travelers; Visual and voice navigation for drivers

Antrix Corporation Limited (Antrix)

Antrix Corporation Limited (Antrix), incorporated on 28 September 1992 (under the Companies Act, 1956), is a wholly owned Government of India Company under the administrative control of Department of Space (DOS) and based in Bengaluru, Karnataka. Antrix is the commercial arm of Indian Space Research Organisation (ISRO). Antrix promotes and commercially markets the products and services emanating from the Indian Space Programme. The current business activities of Antrix include:

- Provisioning of communication satellite transponders to various users,
- Providing launch services for customer satellites,
- Marketing of data from Indian and foreign remote sensing satellites,
- Building and marketing of satellites as well as satellite sub-systems,
- Establishing ground infrastructure for space applications, and
- Mission support services for satellites.

Over 300 people would be industry-ready and trained in 5G technology with a Central government funded '5G test bed' becoming fully operational by 2021. The first version of the 'test bed' would be ready by 2019-end and the final version by 2021. India is aiming to rollout 5G services simultaneously with other countries, unlike its previous networks 3G and 4G which were deployed much later. As part of the effort, the Centre launched a three-year project 'Building an End-to-End 5G Test Bed' to advance innovation and research in 5G. With a budget of Rs 224 crore, the programme has been awarded to IIT Madras, IIT Hyderabad, IIT Delhi, IIT Kanpur, Centre of Excellence in Wireless Technology (CEWiT), Society for Applied Microwave Electronics Engineering and Research (SAMEER) and Indian Institute of Science (IISc), Bangalore. The test bed, located partly in all these institutions, envisages close collaboration between the universities and startups (around 12 startups working on 5G) and create an ecosystem that closely resembles a real-world 5G deployment. The final version of the test bed would be fully compliant, which means "anyone's handset should work with anyone's base station (institutions). The project entails setting up of an 'open 5G Test Bed' for Indian companies, academia and is likely to enhance the national capability in telecom technology and manufacturing and create Intellectual Property (IP).
In a first, the Election Commission of India (ECI) has deployed Accessibility Observers (AO) for the ongoing Lok Sabha elections with aim to ensure there is maximum participation by People with Disabilities (PWDs) in the voting process. These observers are working along with the general election officers and police to ensure that disabled voters reach polling booths in large numbers besides looking into how well facilities are provided to people with disabilities, including drinking water and disabled-friendly washrooms at polling booths.

Earlier, to uphold the spirit of free and fair elections, Election Commission of India declared ‘Accessible Elections’ as the theme for this 2018 National Voters’ Day, i.e. 25th January 2018. The theme seamlessly integrates with the underlying philosophy of universal adult suffrage and the concept of ‘No Voter to be Left Behind.’

During the 2014 Lok Sabha Elections, the ECI had initiated several measures that made the registration process voter-friendly. This included Braille signage on the ballot unit of EVM, construction of ramps, provision for PwDs to enter polling stations without waiting in the queue, and facility to take wheelchairs inside polling stations.

In July 2018, The Election Commission announced the following measures for the facilitation of PwDs.

- Printing of EPIC (Electors Photo Identity Card) with Braille for Persons with Visual Impairment or Blind
- Accessible Communication Awareness Materials
- Mobile Application to motivate and educate ((ECT’s four apps on the Play Store - Suvidha, CVigil, PwD and Voter Helpline — are election-specific). Through the app, differently-abled people can request for new registration, change in particulars like address and mark themselves as PwD (Persons with Disability) voter with the help of this application. Individuals can also demand wheelchairs at the polling station by entering EPIC (Electors Photo Identity Card) number. It is then the job of the election official to ensure that the wheelchair facility is provided.
- Training on Accessibility to Poll officials
- Auxiliary Polling Stations
- Accessible Photo Voter Slips
- Sign Language window in all the audio visual training and advertisement content material for the convenience of deaf persons
- Free Transport Facility for PwDs and their Assistants.
- Election Commission launched a voter education and electoral participation portal, with a section dedicated to the Persons with Disabilities (PwDs)

According to the 2011 census, India has around 70 million people with disabilities.

For more details visit the link - http://ecisveep.nic.in/files/file/534-breaking-the-barriers-making-elections-accessible/

More details about documents required, the verification process, how to cast your vote, etc (information brochures and posters on Overseas Voters) can be found at http://ecisveep.nic.in/voters/overseas-voters.
JMSDF’s escort vessel, “Asagiri” conducted the joint maritime exercise with INS Kadmatt in the Andaman Sea on 31st March. And included communication exercise and tactical cooperation exercise, attempting to improve the tactical skill of JMSDF and to deepen the mutual understanding with Indian Navy.

Museum of Material Medica, Institute of Natural medicine, University of Toyama

The museum keeps and displays crude drug samples mainly used for Kampo medicine and Chinese medicine, as well as Indian crude drugs used in the Ayurvedic system of medicine, and Unani medicine used in Greek-Arabic countries. Crude drug samples (29,500 samples indexed), herbal specimens (34,000 samples indexed), pharmaceutical preparations of Kampo formulations (200 samples), drugs-on-deposit production in Toyama, herbological books, and so on. This is the biggest museum of crude drugs in the world, concerning the number of items it keeps and the wide range it has covered over the world. Most of the items including crude drugs have significant educational, scientific and historical value.

School Outreach

As part of School outreach, Ambassador of India to Japan Mr Sanjay Kumar Verma with his wife Mrs Gunjan Verma visited the Global Indian International School (GIIS) Tokyo campuses. He interacted with students & motivated them to continue learning with aim to attain a higher level of wisdom. He donated a set of 51 books on theme "Bharat Ek Parichay - Sharing Knowledge with the World" for the School library.
The Union Cabinet has approved ongoing GSLV continuation programme Phase-4 consisting of five GSLV flights during the period 2021-2024. The GSLV Programme - Phase 4 will enable the launch of 2 tonne class of satellites for Geo-imaging, Navigation, Data Relay Communication and Space Sciences.

**Financial implications:** The total fund requirement is Rs. 2729.13 Crores and includes the cost of five GSLV vehicles, essential facility augmentation, Programme Management, and Launch Campaign along with the additional funds required for meeting the scope of the ongoing GSLV Continuation Programme.

**Benefits:** The GSLV Continuation Programme - Phase 4 will meet the launch requirement of satellites for providing critical Satellite Navigation Services, Data Relay Communication for supporting the Indian Human spaceflight programme and the next interplanetary mission to Mars. This will also ensure the continuity of production in Indian industry.

**Implementation Strategy and targets:** The GSLV Continuation Programme - Phase 4 will meet the demand for the launch of satellites at a frequency up to two launches per year, with maximal participation by the Indian industry. All the operational flights would be completed during the period 2021-24.

**Major impact:** The operationalization of GSLV has made the country self-reliant in the launching capability of 2 tonne class of satellites for communication & meteorological satellites. The GSLV Continuation Programme will sustain & strengthen the capability and self-reliance in the launching of similar satellites for national requirements including next generation navigation satellites, data relay communication satellites and interplanetary missions.

**Background:** GSLV has enabled independent access to space for 2 tonne class of satellites to Geosynchronous Transfer Orbit (GTO). One of the very significant outcomes of the GSLV Continuation Programme is the mastering of the highly complex cryogenic propulsion technology, which is an essential technological capability to launch communication satellites to GTO. This has also paved the way for the development of a high thrust Cryogenic engine & stage for the next generation launch vehicle i.e. GSLV Mk-III. With the recent successful launch of GSLV-F11 on 19th Dec2018, GSLV has successfully orbited 10 national satellites. GSLV with the indigenous Cryogenic Upper Stage has established itself as a reliable launch vehicle for communication, navigation and meteorological satellites and also to undertake future interplanetary missions.

GSLV Continuation Programme was initially sanctioned in 2003, and two phases have been completed and the third phase is in progress and expected to be completed by Q4 of 2020-21.

---

**Successful Trial of 'Nirbhay' Sub-Sonic Cruise Missile**

Defence Research & Development Organisation (DRDO) today successfully test fired indigenously designed & developed Long Range Sub-Sonic Cruise Missile “Nirbhay” from the Integrated Test Range (ITR), Chandipur Odisha. It is the sixth development flight trial with objective to prove the repeatability of boost phase, cruise phase using way point navigation at very low altitudes. The missile took off vertically turning horizontally into desired direction, booster separated, wing deployed, engine started, cruised all the intended waypoints. The missile demonstrated its sea-skimming capability to cruise at very low altitudes.

The entire flight was fully tracked by a chain of Electro Optical Tracking Systems, Radars and Ground Telemetry Systems deployed all along the sea coast. All the mission objectives were met.
Cultural Outreach

Familiarization visit by members of Urawa English Speaking Society

Urawa, Tokyo hosted a familiarization visit by members of Urawa English Speaking Society. The visitors enjoyed a yoga session with Dr Reeta Sharma, Teacher of Indian Culture at Vivekananda Cultural Centre in which they learned about the basic concepts of yoga and experienced asanas, pranayam and dhyan. Prof. Siddharth Singh, Director, VCC gave a lecture on India and contribution of Mahatma Gandhi. The visitors enthusiastically interacted with Embassy officials and showed a keen interest in India.

Baisakhi Celebrations in Tokyo

H.E. Shri Sanjay Kumar Verma, Ambassador of India to Japan, gave remarks at Baisakhi festival celebration organized by Punjabis in Japan association and Sikh community of Japan held at Edogawa City Hall Edogawa-Ku, Tokyo on 13th April, 2019. The programme included cultural events featuring Bhangra, Giddha and other dance forms.

Ambedkar Jayanti Celebrations in Tokyo

H.E. Shri Sanjay Kumar Verma, Ambassador of India to Japan, gave remarks at an event marking Ambedkar Jayanti held in the VCC, Embassy of India on 12th April, in collaboration with Dr. Ambedkar International Mission (AIM) and Dr. Babasaheb Ambedkar International Association for Education (BAIAE). The programme included talks by representatives of each co-organizer and a cultural programme featuring songs and poems on Bharat Ratna & Father of Indian Constitution Dr Bhim Rao Ambedkar. Prof. Siddharth Singh, Director, Vivekananda Cultural Centre, gave concluding remarks and felicitated the representatives from the Ambedkar organizations.

Spiti Valley in Himachal Pradesh: The mountain desert of Spiti is a nature lover’s dream—untouched and pristine. Arid mountains, snow-clad peaks, steep gorges surround the sprawling valley and through it runs the glistening Spiti River.
The Kusum Sarovar in Uttar Pradesh is a sandstone relic on the holy Govardhan Hill, between Govardhan and Radha Kund.

Sheshnag Lake, a prominent pilgrimage destination in Kashmir Valley. Is home to various species of fishes including the brown trout.

Celebration of ICCR Foundation Day at Embassy of India, Tokyo

ICCR Foundation Day was celebrated at Vivekananda Cultural Centre, Embassy of India, Tokyo on April 9, 2019. The Indian Council for Cultural Relations (ICCR), is an autonomous organisation of the Government of India, involved in India’s external cultural relations through activities including the operation of India Cultural Centres, scholarships, fellowships, sponsorship of artists and international awards for India-related studies. Prof. Siddharth Singh, Dir (VCC) gave the opening remarks. The programme featured experience sharing by prominent ICCR alumni and performances of Odissi, Kathak and north Indian classical music by renowned local artists. Smt. Gunjan Verma, spouse of Ambassador felicitated the speakers and artists in the concluding ceremony. ICCR alumni, artists and visitors enjoyed a social gathering featuring vegetarian snacks as part of celebrations for Gandhi 150.

Visa on arrival is available for Japanese citizens. Please visit Embassy of India’s website for details.

Advisory on e-Visa

Foreigners having e-Visa travelling to India on a passport different from the passport mentioned on Electronic Travel Authorization (ETA) issued to them, must also carry the passport on which ETA was issued to avoid denial of their entry into India.
India Perspectives is the flagship magazine of the Ministry of External Affairs, India. It is printed in 16 languages including Japanese. It is available in 170 countries, disseminating interesting information about India’s rich culture and tradition.

For a copy of the magazine, mail us at: poip@mea.gov.in

India Perspectives Online Magazine: www.indiaperspectives.in