Explained: What is the quantum tech demo by DRDO and IIT Delhi all about?


Experts have demonstrated Quantum Key Distribution (QKD) link for a distance of over 100 kilometres. Here’s what this means, and how to look at it in the context of developments in the field of quantum technologies, at home and across the world.

QKD is primarily a mechanism to undertake secure communication, which utilises a cryptographic protocol involving various components of quantum mechanics.

In a crucial development for quantum technology in India, a joint team of experts from the Defence Research and Development Organisation (DRDO) and Indian Institute of Technology (IIT) Delhi demonstrated Quantum Key Distribution (QKD) link for a distance of over 100 kilometres.

Here’s what this means and how to look at it in the context of developments in the field of quantum technologies, at home and across the world.

The latest development

The Ministry of Defence (MoD) said Wednesday that a joint team of scientists and engineers from DRDO and IIT Delhi successfully demonstrated Quantum Key Distribution (QKD) link for a distance of over 100 km between Prayagraj and Vindhyachal in Uttar Pradesh. The technological breakthrough was achieved over the commercial-grade optical fibre already available in the field.
“With this success, the country has demonstrated indigenous technology of secure key transfer for bootstrapping military-grade communication security key hierarchy. This technology will enable security agencies to plan a suitable quantum communication network with indigenous technology backbone,” said the MoD. The ministry said that for this demonstration performance parameters were closely monitored and were found to be repetitively within the reported international standards.

QKD is primarily a mechanism to undertake secure communication, which utilises a cryptographic protocol involving various components of quantum mechanics. The technology enables two communicating sides to come up with random secret keys shared by both of them and known exclusively to them, so only they can use it to encrypt and decrypt messages, thus achieving a very highly-secure communication.

Secure communications are vital not just for the defence and strategic agencies across the globe but also for various civilian applications. The distribution of encryption keys is the crucial factor for this. Sharing of keys over the air or wired links requires encryption, which in turn requires encryption keys to be pre-shared. Quantum-based communication offers a robust solution to sharing the keys securely. DRDO has undertaken multiple projects for the development of this technology.

**Developments by DRDO in the past**

Scientists have said that the latest test further proves India’s capabilities over longer distances and amidst different environmental factors.

A similar demonstration was held over a shorter distance in the first week of December 2020, when the technology was tested for communication between two DRDO facilities in Hyderabad—the Defence Research and Development Laboratory (DRDL) and Research Centre Imarat (RCI)—over a distance of 12 km.

Then in the last week of December 2020, DRDO Young Scientist Laboratory for Quantum Technologies (DYSL-QT), a DRDO facility based in Mumbai, developed a Quantum Random Number Generation (QRNG), which has the ability to detect random quantum events and convert those into a stream of binary digits. The QRNG system developed by DYSL-QT passed the global randomness testing standards of NIST and Die-harder Statistical Test Suites at the speed of around 150 kbps after post-processing. The generated random numbers were also evaluated and verified using DRDO’s indigenously developed Randomness Testing Statistical Test Suite of Scientific Analysis Group. With this development, India had entered the club of countries that have the technology to achieve the generation of random numbers based on the Quantum Phenomenon.

**How to look at it in the context of developments at home and abroad?**

Most of the large economies and defence powers across the world have in the recent past formulated dedicated plans for the development of quantum technologies. These countries include the US, Canada, several European countries, China, Japan and South Korea. India has seen significant policy decisions and budget allocation for the sector.
However, senior DRDO scientists and defence officials say that developments in India need to be seen especially in the context of several claims made by China. China has said that it has achieved multiple breakthroughs in the quantum technology domain that included the world’s first quantum satellite, the world’s first optical quantum computing machine prototype and also a 2000 km long quantum communication link between Beijing and Shanghai. China’s 13th and 14th five-year plans give high priority to quantum technology. Experts have said that in the context of China’s progress—or claims thereof—in quantum technology, India’s efforts, though significant, are scattered in nature.

An international symposium on Quantum Information Technology held in Pune in 2019 saw participation of key defence, civilian and academic and strategic entities of the country. What India’s National Cyber Security Coordinator, Lieutenant General Rajesh Pant had said at this 2019 conference is very significant. “My concern is China leading the race. It established the first Quantum Satellite Network and distributed entangled photons between three terrestrial base stations separated by 1200 km. Quantum is at the heart of China’s 13th five-year plan. Chinese dominated in Quantum Computing patents in the last four years. As if this was not enough, the global investments in quantum computing are also growing,” said Pant.

“The US National Quantum Initiative Act has assured $1.2 Billion, the European Union – 1 billion Euros. What is the situation in India? We find a mix of private and government sector investments. We have companies working on Quantum Key Distribution (QKD) aspect, post-quantum cryptography and Artificial Intelligence platform on quantum. DRDO is also doing very significant work as also the Department of Science Technology, which has launched a quantum enabled science and technology project. But I find many gaps in the Indian scenario. There is an absence of a quantum roadmap. There is no visibility in the quantum efforts and successes. And there is a lack of required skill power. As the National Cyber Security Coordinator this is a cause of concern for me,” he added.

DRDO scientists, who had participated in the conference, say that while India has come a long way in quantum technology since 2019, more can be done to bring all the efforts together.
IIT Delhi partners with HORIBA India to set up research centre at Department of Chemistry


An MoU was signed by V Ramgopal Rao, the then Director, IIT Delhi and Rajeev Gautam, president, HORIBA India on February 14, to set up the research centre. Source: IIT Delhi

Summary

- The collaboration will strengthen the industry-academia partnership for joint research
- The centre will be further expanded with inclusion of dynamic light scattering nano-particle size analyser and environmental science analytical techniques in due course of time

Indian Institute of Technology (IIT) Delhi has collaborated with HORIBA India for setting up a research centre called the HORIBA India-IIT Delhi Technical Centre at the institute’s Department of Chemistry to strengthen the industry-academia partnership for joint research.

The centre currently has a Laser Diffraction Particle Size Analyzer (LA 960), which measures the size of particles in the range of 10nm – 5000um. The centre will be further expanded with the inclusion of a dynamic light scattering nano-particle size analyser and environmental science analytical techniques in due course of time.

Particle size has a profound effect on material properties such as taste, solubility, texture, and appearance and is a valuable indicator of quality and performance.

The LA-960 system can analyse both wet and dry samples and yield accurate number-based particle size distribution, which is a vital information required in various research and quality control applications.
For example, the particle size determines the glossiness of paint, the flavour of cocoa powder, the reflectivity of highway paint, the hydration rate and strength of cement, properties of die filling powder, absorption rates of pharmaceuticals, and the appearances of cosmetics.

“Through this collaboration, IIT Delhi and HORIBA India aim to foster industry-academia scientific research and joint technical collaborations,” Pankaj Srivastava, head, Central Research Facility, IIT Delhi.

Besides Srivastava, Pramit K Chowdhury, Chemistry Department, IIT Delhi, and HORIBA delegates V Suresh Kumar, Namrata Jain and Mani Rajesh Kumar were present during the MoU signing ceremony.

John Kiran Anthony, segment head and applications scientist, HORIBA Scientific India and Namrata Jain, applications scientist, HORIBA Scientific India will be the coordinating officials for the successful operations of this joint technical centre.

HORIBA, Ltd., Japan is a company that provides an extensive array of instruments and systems for applications such as scientific R&D (analytical, biomedical, life sciences, pharma), environmental monitoring, meteorology, in-vitro medical diagnostics, semiconductor manufacturing, automotive R&D, electrical vehicle testing and manufacturing, and process and quality control measurements.

IIT-D startup launches world's smallest wearable air purifier


The Indian Institute of Technology (IIT) Delhi startup Nanoclean Global has launched the world's smallest wearable air purifier which is at par effective to an N95 grade face mask.

The launch ceremony at IIT Delhi observed a gathering from doctors and government officials. Rajesh Kumar Pathak, Secretary Technology Development Board, Government of India was the chief guest and Dr MC Mishra, Ex-Director AIIMS, Delhi was guest of honour.
Naso95 is an N95 grade nasal filter. It sticks to the user’s nasal orifice and prevents bacteria, viral infection and pollen and air pollution. It is at par effective with an N95 grade face mask. A person using Naso95 is more protected than a generic facemask or a loosely fitted face mask. The product has been tested and certified by national and international labs for its safety and efficiency.

The product comes in different sizes and can also be used by kids as they are more prone to airborne infections and air pollution. And that too without discomfort.

**IIT-Delhi partners with firm to make ‘smart protective clothing’ for security forces**


“Under the MoU, IIT Delhi and TCL will work in the area of research and development of garments and equipment for the security personnel deployed in the high-altitude areas like Siachen Glacier, clothing for protection from ballistic weapons and development of sensor fitted garments,” IIT-D said in a statement.

The Indian Institute of Technology (IIT) Delhi Monday signed a memorandum of understanding (MoU) with Troop Comforts Limited (TCL), a Government of India enterprise, to develop Smart Protective Clothing for the Indian security forces.

TCL is under the Ministry of Defence and is headquartered in Kanpur and produces items for defence and paramilitary forces. The group has four factories — Ordnance Equipment Factory in Kanpur, Uttar Pradesh; Ordnance Clothing Factory in Shahjahanpur, UP; Ordnance Clothing Factory in Avadi, Tamil Nadu and Ordnance Equipment Factory in Hazratpur, UP.

“Under the MoU, IIT Delhi and TCL will work in the area of research and development of garments and equipment for the security personnel deployed in the high-altitude areas like Siachen Glacier, clothing for protection from ballistic weapons and development of sensor fitted garments,” IIT-D said in a statement.

“All the four TCL factories depending upon their requirements will assign projects to IIT Delhi for research and innovation. The scope of the collaboration will cover all the new fields including application of smart textiles to defence applications, integration of artificial intelligence in Troop Comfort Items and development of futuristic infantry soldier as a system (Integration of Telecommunication & Health Monitoring Device),” it said.

To work on the collaborative projects, both will constitute a Joint Working Group (JWG).

“Under the self-reliant India mission, this MoU with IIT Delhi will prove to be a milestone in the direction of making the country’s security forces empowered and modern,” said S K Sinha, Chairman and Managing Director (CMD), TCL.

Sunil Kumar Khare, Dean R&D at IIT Delhi, said, “IIT Delhi’s Textile and Fibre Engineering Department is well-known for innovations in the area of smart textiles. It’s a privilege for us to support our security forces through this MoU with TCL.”
The TCL Group, which is undergoing a transformation as per recent policies of the government, is aiming to be a complete integral solution provider for the forces’ requirements. The government-run firm is aiming to switch over from conventional items to technology-driven items catering to security forces as well as the civil market, the institute said.

**IIT hopes to create drug molecules to treat Alzheimer’s**


Researchers at Indian Institute of Technology (IIT) Delhi have designed and demonstrated a new strategy for developing potential drug molecules that can be used for treating various diseases like encephalitis and protein aggregation diseases such as Alzheimer’s. Presently, computer-aided rational drug discovery is utilised to find target molecules for a particular protein target and it takes a considerable amount of time, according to IIT.

“Drugs are mostly organic molecules that interact with molecules present in the human body. The molecules in the body are bigger in size and are typically called macromolecules. The researchers have come up with a chemical strategy based on the macromolecular mimicry. Molecules have shapes just like objects. Designing and synthesising molecules with diverse shapes is an art in itself. Mimicking the macromolecular interface by uniquely shaped small molecules is an approach adopted by the research group,” the institute said.

Professor V Haridas of IIT Delhi’s chemistry department collaborated with virologist professor Guruprasad Medigeshi of Translational Health Science and Technology Institute and biochemist professor Bishwajit Kundu of Kusuma School of Biological Sciences, IIT Delhi, for the research work.

“The tools of organic chemistry and biophysics were utilised to design molecules that target protein interface. We used this strategy to design drug molecules, which could be useful for treatment of Japanese Encephalitis Virus (JEV), the main cause for viral encephalitis in Southeast Asian countries and protein aggregation diseases such as Alzheimer’s. We have also patented the JEV inhibitor drug molecule,” the professor said.

**Haryana writes to IIT-Delhi for Paradiso audit**

The town and country planning department (DTCP) has written to the director of IIT-Delhi for technical consultancy and a structural audit of residential towers at Chintels Paradiso, where a cave-in on February 10 led to the death of two residents. In a letter, district town planner (enforcement) RS Batth has sought the advice of IIT experts on whether the towers are safe to live in or not and whether any defects, if found, are repairable. Batth has also sought recommendation on the methodology to be adopted for repairs.

The scope of the job that the government department would like the premier engineering institute to undertake goes beyond Paradiso to suggesting a framework for parameters to be checked in buildings to avert any Paradiso-like incident in future.

Talking to TOI, Batth said, "Today, I met residents of Tower D for their resettlement in other available flats within the project. There are 40 families, of which 19 are flat owners and rest tenants. They were allotted alternative flats and the developer was directed to carry out repair work wherever needed."

The flats allotted are all in Paradiso, in other towers. During his four-hour meeting with the residents, Batth said their belongings would be shifted to the allotted flats, and beds and other bulky objects that cannot be moved at this point would be provided by the developer.

Emails exchanged between the owner of flat D-603 on the sixth floor, where the cave-in began, and the management of Chintels, meanwhile, throw light on events before the collapse of the living room floor of the flat and the same areas of apartments all the way to the second floor.

The owner, who lives in Bangalore, had been complaining to the developer about huge seepage in the kitchen walls and poor quality of flooring in the lobby area, the emails show. There are holes in the floor tiles and need immediate repair, the flat owner said in one of his mails. The flat owner also wrote that he had spent around Rs 2 crore for the house, but it had turned out to be a big loss for him as he was unable to rent it out due to the construction quality. He also pleaded with the developer to complete the repair work once and for all, mentioning he had been asking for these problems to be fixed for two years.

The reply from the developer's staff stated that a wedding was on at a flat in one of the lower floors, due to which repairs had been delayed. The repair work had finally begun and was on when the floor gave way on February 10.
In a statement on Monday, Chintels said, "We are going to cooperate with the authorities and let them take the lead. The structural audit will be done and if any corrective action needs to be conducted, we will do so. If the government or authorities recommend any particular agency or company to do this, we can let them do it under watch of authorities and we can bear the cost. Once all the reports are done, then repair work and rebuilding the broken slabs can be carried out. We request the authorities for assistance in this matter so that we can get our residents back to their homes in a safe and secure environment."

**IIT Delhi’s New Director Professor Rangan Banerjee Takes Charge**


Prof Banerjee was previously serving as the Forbes Marshall Chair Professor at the department of Energy Science and Engineering, IIT Bombay.

Professor Banerjee succeeded Professor V Ramgopal Rao who served as the institute director for six years

![Professor Banerjee](image.png)

The new Director of the Indian Institute of Technology (IIT) Delhi Professor Rangan Banerjee assumed office today, February 15. He succeeded Professor V Ramgopal Rao who served as the institute director for six years.

Prof Banerjee was previously serving as the Forbes Marshall Chair Professor at the department of Energy Science and Engineering, IIT Bombay.

He has been involved in setting up a Megawatt Scale Solar Thermal Power Testing, Simulation Research Facility sponsored by the Ministry of New and Renewable Energy and is the faculty advisor of Team Shunya - India’s first student team in the Solar Decathlon 2014 Europe finals that involves designing and constructing a fully functional Solar house.

“IIT Delhi is one of the leading higher education institutions in the country known for the quality of its research and academics. I am delighted to have the opportunity to lead the IIT Delhi team in its journey of excellence and societal impact,” Prof Banerjee said after assuming charge on February 15th, 2022.

Prof Rao yesterday shared on social media that he will be handing over charge to Prof Banerjee tomorrow.

BotLab Dynamics, an IIT Delhi incubated startup best known for their drone show at the Republic Day Beating Retreat ceremony, paid tribute to the outgoing director in his last evening at the campus.
“After 6 years as Director, IIT Delhi, I am handing over charge tomorrow to Prof. Rangan Banerjee. Today, @BotLabDynamics (#startup @iitdelhi which performed at the #Republic Day Beating Retreat ceremony) put up a surprise show on IIT Delhi playground. Touched by their gesture,” Prof Rao tweeted Monday evening.

IIT Delhi students bid a warm adieu to Director Ramgopal Rao, surprise him with a light show

Professor Ramgopal Rao has officially stepped down as the Director of IIT Delhi after 6 years in the office. Botlab Dynamics, an IIT Delhi incubated start-up, thanked him with a surprise light show. Details
IIT Delhi students bid a warm adieu to Director Ramgopal Rao | Photo Credit: Twitter

KEY HIGHLIGHTS

- IIT Delhi Students bid warm adieu to Professor Ramgopal Rao as he ends his tenure as Director
- Professor Ramgopal Rao has been Director of IIT Delhi for 6 years
- Professor Ranjan Banerjee will be taking office as Director of IIT Delhi

Professor V Ramgopal Rao has stepped down as Director of IIT Delhi after 6 years in the office. He was appointed Director of Indian Institute of Technology, Delhi in 2016. As a gesture to thank him for his service as a director and professor, students bid him a warm goodbye.

Botlab Dynamics, an IIT Delhi incubated start-up, who came into the limelight for their Republic Day light show with drones, surprised the ex-director with a light show at the IIT Delhi playground.

“After 6 years as Director, IIT Delhi, I am handing over charge tomorrow to Prof. Rangan Banerjee. Today, Botlab Dynamics put up a surprise show on IIT Delhi playground. Touched by their gesture,” Professor Rao Tweeted.
He also took to Facebook to pen down his goodbye. "I knew that they (Botlab Dynamics) were performing but I didn't realise that they were doing it on the occasion of my handing over charge. It was very touching indeed to see myself in the sky," he said.

"I have always supported startups and understood their pain, maybe due to my own struggles and was able to identify with their problems". Professor Ramgopal Rao played a major role in the development of start-ups in IIT and IIT Delhi.

"If India needs to free itself from poverty, inefficiency and inequality, it is startups which will have to show the way," he added.
Professor Rao was appointed as director in 2016, prior to which he was in the Electrical Engineering Department of IIT Bombay. As per the IIT websites, Dr. Rao has also served as a P K Kelkar Chair Professor for Nanotechnology and as the Chief Investigator for the Centre of Excellence in Nanoelectronics project at IIT Bombay, Dept of Electrical Engineering.

Replacing Professor Rao as Director of IIT Delhi is Professor Ranjan Banerjee, who is also from IIT Bombay. Professor Banerjee will be taking office as Director of IIT Delhi. He was appointed by the central government on January 11, 2022. Professor Banerjee has served as the Forbes Marshall Chair Professor in the Department of Energy Science and Engineering at IIT Bombay.

**IIT Delhi’s 6th SciTech Spins Lecture For School Students Tomorrow**


The next session of SciTech, Indian Institute of Technology (IIT) Delhi’s lecture series for school students will be held tomorrow, February 12.

The next session of SciTech, Indian Institute of Technology (IIT) Delhi’s lecture series for school students will be held tomorrow, February 12. This time, students will find answers to questions like ‘How does mobile phone camera work? How are we able to form mental pictures about everything from viruses to internal organs of humans?’ in the lecture titled ‘From Light Waves to Images: Advancing Science with Pictures’.
Professor Kedar Khare from Optics and Photonics Centre at IIT Delhi will deliver the lecture.

“For most humans, any object or phenomenon is best understood if we can take a picture of it. Developments in device fabrication capabilities and availability of cheap computational power have played an important role in evolving how we image objects all the way from sub-nano to astronomical length scales in order to extract meaningful information about nature,” IIT Delhi said.

“In parallel, ‘how to image something better?’ has itself become an important research question. Building of advanced imaging systems requires convergence of ideas from Physics, Engineering, Mathematics and Computer Algorithms; and their applications span diverse areas with very high technical, economic and societal impact. During the talk, I will present introductory discussion on imaging research along with some work done in my laboratory on novel imaging concepts and devices,” Prof Khare said.

Students can watch the lecture live on IIT Delhi’s YouTube channel.

The SciTech Spins lecture series is an academic outreach initiative of IIT Delhi for school students, especially for classes 9 to 12.

Students nominated by schools who attend the lecture will get e-certificates.

“These students will also be invited to ‘Open House’, an annual intellectual fest organised by IIT Delhi, which provides an ideal platform to school students to connect with some of the leading researchers in the field of science and technology,” IIT Delhi said.

Schools can reach out to Associate Dean, Academic Outreach and New Initiatives, IIT Delhi at adoni@iitd.ac.in; acadoutreach@iitd.ac.in to nominate their students for the SciTech Spins lecture series.

**IIT Delhi Launches Interactive IIT-PAL Website To Help High School Students Prepare For Competitive Exams**


The newly launched IIT-PAL website—iitpal.iitd.ac.in, will act as a single platform where students across India can access video lectures that are telecast on the Education Ministry’s Swayam Prabha Channels.

The Indian Institute of Technology (IIT), Delhi has launched an interactive website of IIT-Professor Assisted Learning (IIT-PAL) to help high school students prepare for competitive exams including, JEE, NEET, IAT and others. The newly launched IIT-PAL website—iitpal.iitd.ac.in, will act as a single platform where students across India can access video lectures that are telecast on the Education Ministry’s Swayam Prabha Channels. It will also enable students to interact live with IIT professors.

IIT-PAL, an initiative of the Ministry of Education to provide free video lectures to Class 11 and Class 12 students, was started with an aim to make their understanding of the science subjects better and to help self-studying students do well in competitive exams.
“This website will be helpful to students especially from regions where they may not have access to specialist teachers in science subjects and coaching opportunities”, Professor Joby Joseph, IIT Delhi and National Coordinator, IIT-PAL said.

The website lists the video lectures as per the NCERT syllabus of Mathematics, Physics, Chemistry and Biology in Classes 11 and 12, so that the interested students can progressively learn each of the subject topics given in the syllabus, the university said in a press release.

"Most importantly, the website has the following useful features, which are managed by a team of professors from various IITs in the country. Registered students can submit their topic wise doubts/questions/problems in English or Hindi. A team of professors/experts at IIT-PAL will coordinate to find answers to these questions. Answers to selected questions will be posted on the website, which can be viewed by all registered students,” it said.

The release further said that the registered students may also request for a live interaction on specific topics in English or Hindi. Once there are enough requests on specific topics, a schedule of these live interaction sessions will be announced on the website. According to the schedule, students can interact live with the teacher through an online video platform, it added.

“We acknowledge the constant support that we have received from the Ministry of Education right from the conceptualization of IIT-PAL”, Prof Joseph added.

The IIT PAL video lectures that are telecast on Swayam Prabha Channels can be accessed on Doordarshan DTH Channel 22 and are also available at swayamprabha.gov.in.

IIT Delhi Built Solar Panels That Track Sun's Movement To Generate More Electricity

Highlights

- The new solar panels feature mechanical and non-mechanical tracking elements and support reflection concentration.
- They've been designed to be functional across all Indian seasons, throughout the year, whilst offering high energy density.
- The mechanical tracking solar PV tower is actually portable and can be mounted on a truck and can be carried anywhere where power generation is needed.
- The panels actually shift their position based on the sun’s placement -- they start in the east, move all the way to the west and reset to east for the next day.

IIT Delhi researchers have developed novel high-efficiency solar panels that are also shadow-less as well as an auto-rotating solar PV tower for the generation of photovoltaic power anywhere with ample sunlight.
The new solar panels feature mechanical and non-mechanical tracking elements and support reflection concentration. They've been designed to be functional across all Indian seasons, throughout the year, whilst offering high energy density.

The mechanical tracking solar PV tower is actually portable and can be mounted on a truck and can be carried anywhere where power generation is needed. The panels actually shift their position based on the sun’s placement -- they start in the east, move all the way to the west and reset to east for the next day.

The non-mechanical solar panel unit on the other hand is more space saving. They feature high-reflectivity mirrors that are vertically mounted in a particular way (based on location/city) positioning to get the most amount of solar power possible. Its technology actually allows it to generate more power even during non-peak hours.

Mechanical and non-mechanical tracking solar PV towers offer 5kW and 3kW capacity respectively. They are also useful for electric vehicle charging stations, as well as powerhouses, schools, hospitals, telecom towers etc. They can also be used for agricultural applications such as solar water pumping, charging batteries for tractors etc.

Prof. Dalip Singh Mehta, Physics Department, IIT Delhi said, “After intensive research, we got success in arriving at the lightweight and cost-effective novel design on mounting Solar PV towers along with high reflectivity mirrors to follow the Sun movement. Both non-mechanical and mechanical solar towers are able to generate 20-25 percent and 25-30 percent more power respectively while utilizing only 50-60% rooftop space compare to conventional solutions,”
IIT Delhi’s Certificate Programme in Digital Marketing will help you drive effective digital strategies


If you work in marketing, then you would know that the way to attract, engage, and retain consumers has shifted dramatically in today’s dynamic times. This is happening because the 21st century consumer is a digital native consumer and they play by very different rules. It’s no surprise that in 2021, as per Forbes, the ad market was driven by digital media, specifically social, search, and video. And as per Analytics Insight, 2020, India will have 1 billion internet users by 2025. All this supports what many of us already know: digital marketing is the most relevant, creative, and cost-effective form of marketing today. More and more businesses are investing heavily in digital marketing and hiring digital marketing experts to spread awareness of their brands, increase sales of their products and services, and create meaningful, ongoing conversations with prospects.

The growth doesn’t show any signs of stopping. As per Exchange4Media 2021, digital media will grow at a CAGR of 22.47% to reach 23,673 crores by 2022. And as per Management Consultant RedSeer, India’s digital ad market will touch 35$ billion by 2030.

So how can you succeed in this area?

All these innovations make digital marketing a very exciting role in today’s marketplace. But success hinges on acquiring new-age strategies and in-demand skills that make you industry-ready. If you’re wondering where to start, IIT Delhi’s Digital Marketing Programme is the answer. This 6-month online programme in digital marketing will help you take the next step in your career.

Taught via online sessions, you will get an end-to-end understanding of the digital marketing landscape. You will also learn how to use analytics to improve the customer journey, manage engaging campaigns, and maximise ROI. In addition to digital marketing proficiency, the programme will also help you grasp management and marketing essentials, thereby enabling you to put your learnings in context and fast track your career aspirations.

Content is one half of the equation. The other half is the learning experience.

When you enrol in the programme, you will be learning from one of India’s top-ranked institutes.
The pedagogy is rich and contemporary, combining live online sessions and recorded videos interspersed with real-world case studies. You will also gain industry-oriented insights from eminent IIT Delhi faculty, and participate in peer-to-peer learning, which will help you expand your professional network.

It works best for those whose work involves acquiring and retaining customers.

If you’re interested in learning in-demand digital marketing strategies to acquire and retain more consumers, you have a higher chance of becoming an agile and future-ready digital marketer by joining this programme. The Certificate Programme in Digital Marketing is especially recommended for:

Final-year and fresh graduates seeking to be market-ready by acquiring in-demand digital marketing skills for lucrative career opportunities
Early professionals who are working or aspire to work in digital marketing roles
Marketing / Sales / Product / Brand Managers interested in transitioning to digital marketing roles by upskilling in data-driven, high-impact digital marketing strategies
Professionals who want to enrich their strategic mindset with new-age concepts and skills in digital marketing
Consultants, business owners, and entrepreneurs looking to apply digital marketing best practices for business expansion and growth

What will you take away from this programme?

Being a smart, informed, agile digital marketer in today’s world involves many facets. This programme addresses all those by helping you:

Learn the foundations of marketing
Appreciate modern consumer psychology
Grasp the drivers of a good brand
Acquire a strategic mindset
Learn frameworks for planning media and optimising budgets
Master the planning and execution of SEO, digital advertising, and social media marketing
Create winning, marketable content
Improve performance continuously by analysing and monitoring data

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The programme is anchored in a cutting-edge curriculum that is designed to provide you with marketing essentials like segmentation, targeting, and positioning, and integrated marketing communication, branding essentials like brand identity and architecture, and a complete digital marketing repertoire that includes strategy, operations, media planning, and content creation. That means you learn on multiple levels and attain a well-rounded proficiency.

Key points for you to remember about IIT Delhi’s Digital Marketing Programme

Duration: 6 months
Format: Live online sessions and recorded videos
Programme fee: INR 55,000+GST

Enrol now, boost your career, and help your businesses grow with digital marketing!

About IIT Delhi

The Indian Institute of Technology Delhi (IIT Delhi) is one of the 5 initial IITs established for training, research and development in science, engineering and technology in India. Established as College of Engineering in 1961, the Institute was later declared as an Institution of National Importance under the “Institutes of Technology (Amendment) Act, 1963” and was renamed as “Indian Institute of Technology, Delhi”. Since its inception, over 48,000 students have graduated from IIT Delhi in various disciplines including Engineering, Physical Sciences, Management and Humanities & Social Sciences. Of these, nearly 5070 received PhD degrees. The rest obtained Bachelor’s and Master's Degrees in Engineering, Sciences and Business Administration. These alumni today work as scientists, technologists, business managers and entrepreneurs. There are several alumni who have moved away from their original disciplines and have taken to administrative services, active politics or are with NGOs. In doing so, they have contributed significantly to the building of this nation, and to industrialisation around the world.

Disclaimer: This article has been produced on behalf of Erulearning (Service Provider for Continuing Education Programme (CEP), IIT Delhi) by Times Internet's Spotlight Team.
IIT Delhi alumnus Dr. Amit Sinha (B. Tech., Electrical Engineering, 1998) has gifted an endowment of INR 10 crores (USD 1.34 million) to the Institute, through the Amit & Deepali Sinha Foundation, to support the establishment of various student fellowships, scholarships, and development programs, as well as faculty chairs in key technology fields.

The endowment will establish a first of its kind full-ride fellowship (covering all education related expenses at the institute) at IIT Delhi for the top 5 undergraduate students joining the Institute each year, for all four years, based on their JEE Advanced rank. Of the 5 fellowships, one would be awarded to the top woman JEE ranker joining the Institute, aiming to encourage women in STEM.

In addition, the endowment will establish 15 student scholarships to provide financial assistance to students from economically weaker backgrounds, along with two leadership-based awards for third year students to support internship/exchange programs. The endowment will also establish two faculty chairs to promote research in Electrical Engineering and Computer Science. The Electrical Engineering chair will promote research in areas such as wireless communications, renewable energy, and nanoelectronics, while the Computer Science chair will promote research in areas such as artificial intelligence, cybersecurity, and quantum computing.

Acknowledging the contribution, Prof. V. Ramgopal Rao, Director, IIT Delhi said, “I would like to thank Amit and Deepali Sinha for their generous endowment. Alumni contributions are an important resource to enhance an institute’s competitiveness in attracting both students and faculty. IIT Delhi is proud of such alumni who serve as role models for our students. It is a testimony to the high regard they have for their institute and an acknowledgement of the role IIT Delhi has played in their careers. We wish them further success.”

Prof. P.V.M. Rao, Dean, Alumni Relations, while sharing his thoughts said, “Amit’s generous contribution will help us in attracting best students to the Institute leading to academic excellence and student success.”

Dr. Amit Sinha is President and Member of the Board of Directors of Zscaler, a cloud-based information security company headquartered in San Jose, California. Together with his wife, Ms. Deepali Sinha, they have setup the Amit & Deepali Sinha Foundation to promote academic excellence, health, and wellness. The Foundation provides fellowships and endowments at leading academic institutions worldwide and supports multiple non-profits.
Explaining their motivation to contribute to the advancement of IIT Delhi, Dr. Sinha reminisced, "We both grew up in ordinary middle-class families in Jamshedpur, India. As I reflect on the journey that got me to where I am today, I am constantly reminded of how central IIT Delhi has been in shaping my life. Some of my most memorable years, deep friendships and strong career foundations were forged on campus at IIT Delhi, for which I shall be eternally grateful."

Adding to this, Mr. Vinay Piparsania, CEO, IIT Delhi Endowment Management Foundation mentioned, "Amit’s contributions to these programs will not only inspire students but become a testimony of excellence for the future generations to come."

Dr. Sinha earned his S.M. and Ph.D. in Electrical Engineering and Computer Science from the Massachusetts Institute of Technology, Cambridge, and his B.Tech. in Electrical Engineering from IIT Delhi, where he was also awarded the President of India Gold Medal. He has authored over 25 journal/conference papers, contributed to 3 books, and is the inventor of 36 US patents granted or pending. Outside Zscaler, Dr. Sinha is an Independent Director at DataRobot, an AI Cloud platform company. He is also an investor and advisor to several startups.