



HEALTHCARE INNOVATION CHALLENGE #1



SYNOPSIS

Healthcare sector is under immense pressure to improve the quality of its services, improve the patient experience and scale up in the absence of sufficient skilled personnel. The role of digital technology is crucial if the sector has to keep pace with growth in demand.

To assist the healthcare sector, NASSCOM Centre of Excellence has launched the Healthcare Innovation Challenge (HIC) which aims to help the service providers with their digital technology adoption needs. The occasion was graced by Dr. Saket Kumar, IAS, Special Secretary, Government of Haryana and Pramod Bhasin, Founder Genpact, Chairman Clix Capital and Past Chairman & Member of NASSCOM Executive Council.



Dr. Saket Kumar, IAS, Special Secretary Industry & Commerce,
Government of Haryana

We had realized the importance of technology in healthcare even before COVID-19. The Ayushman Bharat initiative which helped three lakh families in Haryana, is the biggest public delivery system and is entirely done through online system. In the movement of the patient when patient lands at the airport or Railway station, the IT system plays a critical role where everything is managed through a supply chain management system and dealt in an online manner so that everything can be tracked and utilized.



Pramod Bhasin, Founder Genpact, Chairman Clix Capital and Past Chairman & Member of NASSCOM Executive Council

Technology can play a critical role in all areas where hospital faces challenges such as supply chain, patient registration, physician assistance etc. We cannot solve the healthcare problem without the use of technology, nor can we reach all parts of India without the assistance of technology. We (India) are number 2 or 3 in start-up network, and Gurugram is now number 1 in India in the creation of start-up as we all have come together to create the most innovative country in the world. The startups in India are innovating at a pace which is unparalleled, and no other country comes close, may be Israel to an extent.



Dhammapal Chawhan, MD, HARTRON

Post COVID-19, we want to focus on supporting start-ups in their infrastructure needs not just by giving them space but by providing them low-cost Graphic Processing Units (GPUs) also in the data centres. Most of the start-ups we are supporting are IT, IoT and Fintech start-ups and they need these state sponsored GPUs as they spend a lot of money to develop and train their solutions. We are working hard for creating this proposal of providing low-cost GPUs, high-end storage, and provision of other testing facilities; these kinds of support will help them come up with innovation faster and reduce their time to market.



Sanjeev Malhotra, CEO, NASSCOM CoE – IoT & AI

We have witnessed an acute intervention of digital technologies across the industry but healthcare is one industry where this intervention is needed the most. In a country like India where the demand and supply gap between the healthcare providers and people is huge, only futuristic digital technologies can provide the required boost and scaling for the sector to allow it to deliver as per the need.



Dr Sameer Mehta, CEO, Mehta's Multispeciality Hospital

We are doing seven technology drives with startups in our hospitals for combination of proof of concept, technology drive, and in one case pricing model check as well. These are non-patient risk items whether it is the sensor which is as effective as other alternative sensors, or ease of measuring vitals; we have got something happening with ICU remote monitoring where there is gold standard in terms on of sampling rate that actually helped us during COVID. One of these technology drives has helped us to meet our main hospital a 99.9% success rate for COVID care and in new hospital 98.7%, which is a relatively high percentage for people who are on ventilator support in ICUs.



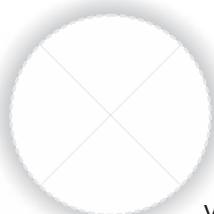
Dr Jayashankar Das, Director - Research, Institute of Medical Sciences & SUM Hospital, Bhubaneswar

We are looking at use cases which are the need of the hour mostly in terms of COVID and post COVID management for the next 2-3 years, as we are the major vaccine trial centre as well. The institution is looking into 2-3 challenges. There is a need of on-site diagnosis mechanism mainly for the COVID and COVID related complications which need to be ultra-sensitive and cost-effective. The diagnosis mechanism should also eliminate as many errors as possible that came through ICMR where we faced the problem of positive-negative bias which led to treatment getting delayed. Now county is looking for robust diagnostic kit which can give result in 5-6 minutes with 100 per cent accuracy and is less invasive. Another important part is that we would like to have an AI/IoT based management system that can help us segregate non-COVID patients through the system deployment in hospitals, with segregation being done at the site. Segregation, management, and follow-up of patient is a serious challenge and we look forward to having an AI/IoT solution for deployment through our partnership with CoE-IoT & AI.



Ganesh Babu BS, Aravind Eye Care System, Madurai

We feel that most of the patients are dependent on hospital staff for any piece of information, and there are challenges in care giving system like complaints for treatment advised etc. We thought of coming up with technology solution for empowering the patients so that they will be able to manage situations like Glaucoma on their own, where they need to apply medicine on regular basis and do not need to visit the hospital as only 20 per cent of the patients actually to come for review after 2-3 years. Most of the Ophthalmology is based on imaging and today most of the available equipments cannot be integrated in network to capture the images or the results. We expect a common interface that could be developed and made available which should be able to connect with any equipment, get the output available in system and help in providing effective patient care.



Dr Pankaj Nathwani, Director, Zydus Hospital

We always believe that digital health is the future of healthcare and absolutely crucial in taking it to the next level of quality and growth of clinical services. We are hoping for a very good output from this platform where we can do something for patient and to clinical excellence.



JP Dwivedi, Chief Information Officer,
Rajiv Gandhi Cancer Institute & Research Centre

Everybody is trying to implement electronic health records. In OPDs problem is crowd but it is manageable but in IPDs it is a bigger crowd and we don't expect doctors to go there and put up notes. I want startups to find the solution as we are talking of voice recognition and handwriting recognition for more than a decade, and lot of products are available. Now we want a solution where, if we try handwriting recognition with the doctor's app, there should be a facility that doctor selects the patient, taps there and scribble and that automatically gets converted into a note. Doctor can review, correct it and next time it auto corrects. The challenge is that the surface of tablet is normally smooth, so there should be some sort of resistance and startup should give a product that can provide paper like experience while writing. Second option is voice recognition, where doctor can tap on the patient and records voice which can be converted into note. Both options are open, if startups can provide a flawless working along with the hospital information system and EMR, every hospital in the country will welcome it.



Ishaq Quadri, Secretary, HIMSS India

We need to look at the solution that Mr Dwivedi has asked for from Indian languages perspective as well. It will be great if the solution can support voice recognition not just in English but Indian languages also.



Dr Thulasiraj Ravilla, Executive Director, Aravind Eye Care System

In the last 4-5 years, technology has moved into the core activities of providing care whether it is diagnosis, patient safety, improving efficiency or empowering patients. Now technology can and is playing a major role, and through this initiative of NASSCOM CoE we are getting a front bench both to experiment and appreciate. A lot of our growth, especially, reaching out to the rural community has become possible because of the technology. In 2004, we started a telemedicine on a large scale and today we do around 2000-3000 consultation every day with rural patients. So, that is kind of B2B platform, and the reach of health into the community will increase exponentially as we develop a B2C model wherein community or patient can directly reach out and everything is tracked. I feel that this initiative that is being launched is of great relevance and importance.

WHAT THE MEDIA SAYS

DATA QUEST

NASSCOM CoE for IoT/AI
launches Healthcare
Innovation Challenge
(HIC)

BUSINESS NEWS THIS WEEK

We are going to
start incubation centres in
other Haryana cities also:
Special Secretary, Haryana

INDUSTRIAL AUTOMATION

Haryana cities to have
Incubation Centres –
Special Secretary

INDIA EDUCATION DIARY

Haryana cities to have
Incubation Centres –
Special Secretary

Hospital	Use Case	Use Case description
KIMS Hospital, Hyderabad Zydus Hospital, Ahmedabad Aravind Eye Hospital, Madurai	OPD Automation	<p>A Solution that has the below given capabilities:</p> <ul style="list-style-type: none"> Automate patient registration process through Aadhar card or other Government ID with self/OTP consent Provide payment integration for consultation charges Allow the patient to check the next steps in the treatment inside the hospital by integrating OPD consultation with other steps recommended by the Healthcare provider and guide the patients where to go, when to go so that the patients wait time is reduced as much as possible Display Queue Number and Waiting time Provide medication reminders, follow-up reminders, post-op instructions to patients via the Mobile Application Book the test via the Mobile Application and Deliver Lab & Radiology investigation reports to patients via WhatsApp & Email Digitizing the prescription, using drop down menus via Tablet/Laptop Inform the visitor about parking status
KIMS Hospital, Hyderabad Sakra World Hospital, Bengaluru Dr Mehta's Hospital, Chennai	In-Patient Care Automation	<p>Patient room solution (combination of software & hardware/IoT device) which should take care of the complete nursing care & patients requests and having the below-mentioned capabilities:</p> <ul style="list-style-type: none"> Touch panel based system at patient bed for publishing updates to HIS and subscribing to specific topics, departmental requests placement over voice, and accessing outstanding bill, ongoing Hospital offers, yoga videos, internet browsing etc Allow the nurse to set the reminders sent to on-duty nurse's mobile application and / or nursing station's desktop/tablet based dashboard. Typical examples are Medication notification, Intravenous fluid completion notification. For IV fluid notification, the deployment of a non-intrusive IoT based device for reverse countdown reminders is needed Connect medical equipment's like Vital Monitors, Syringe pumps, Ventilators, Defibrillators, Analog Oxygen meters through IoT device to switch on / off the equipment, capture vitals and monitor equipment utilization
Rajiv Gandhi Cancer Institute, Delhi	Prescription Digitalization	<p>The Hospital has doctor Application, which is having the in-patient details. The Handwriting recognition solution should allow the doctor to scribble on his/her tablet, and convert it to text. The solution should be able to integrate with Srishti PARAS HMIS and signed handwritten notes should be published to the HIS, to be able to do an accuracy audit.</p> <p>Alternatively, the solution should allow the Doctor to enter voice note via the existing Doctor Application, which should be converted to text. The Voice file along with the text note should be published to the HIS.</p> <p>The solution should have Machine Learning based algorithm that can increase its recognition accuracy as the doctor does manual edit & review.</p>
Dr Mehta's Hospital, Chennai	Digitizing Pathology Slides	Digitizing Histopathology slides for long for life time storage and creating datasets for AI based diagnosis. There is no slide scanner. End-to-end low cost solution is needed.
Aravind Eye Hospital, Madurai	Integration of Diagnostic Equipment with EMR	The medical equipment used for diagnosis, investigation or treatment are mostly standalone. Data from these equipment are important and currently recorded manually or by screen capturing tools and then populated in the EMR. There is a need for easy integration of these diagnostic devices / equipment with the electronic medical records by developing appropriate platform that mediates the software application with the devices and captures the output from the devices into application seamlessly. All the results and images will be stored as part of the EMR for referring in subsequent visits of the patients.
Institute of Medical Sciences, Bhubaneshwar	AI based tool for respiratory syndrome diagnosis	The features of infected lungs and hearts seen on medical images can help assess disease severity, predict response to treatment, and improve patient outcomes. However, a major challenge is to rapidly and accurately identify these signatures and evaluate this information in combination with many other clinical symptoms and tests. AI based assisted tool which can differentiate the respiratory disorders like flu, pulmonary and other lung disorders to screen the patient based on radiology images like Chest X-ray, CT scan etc. is needed.

— Hospital Partners —



Rajiv Gandhi Cancer Institute
and Research Centre



— Association Partners —



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CO-CREATE/INNOVATION PARTNERS



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FOR FURTHER INFORMATION CONTACT :

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