NASSCOM®
Center of Excellence-IoT & AI
A MeitY Initiative with Govt. of Karnataka, Haryana, Gujarat & AP

STARTUP
HARYANA
FIRST STEP OF SUCCESS

25
STARTUP SUCCESS STORIES
COE, GURUGRAM

Business Opportunities

Technical Support

Operational Support

STARTUP

Intellectual Property

Mentoring

Funding Connect

Go to Market

Foreword

Ankur Gupta

IAS Principal Secretary
Department of Information
Technology Electronics &
Communication -
Govt. of Haryana

State of Haryana is one of the pioneers in India when it comes to promotion of innovation in digital technology. Be it digitalization of land records, adoption of digital payments, digital portals for various citizen services, promotion of digital culture in the bureaucracy or any other area, the state of Haryana is second to none in the country.

Haryana government recognizes that in order to progress in the 21st century we need to be ahead in both promotion of technology adoption and the development of innovative solutions. While the IT industry in cities like Faridabad and Gurgaon is driving the service sector, the startups in the state are leading the country in innovative solutions development.

We have already seen startups working with players like NHAI for toll management, department of mines for mine inspection using drones, local government authorities for air quality inspection among many others. This clearly establishes that the long term vision in promoting and supporting the startups in state is bearing fruit. Going forward we expect much more innovation coming out of the startups especially in the areas like agriculture, environment, healthcare, MSME manufacturing among others.

Hartron innovation hub in Gurugram continues to push ahead in promoting the digital innovation. Startups incubated and virtually connected there are showcasing their solutions around the country. NASSCOM Center of Excellence – IoT & AI which is also supported by Ministry of Electronics and IT apart from the Government of Haryana, continues to support their efforts by promoting their solutions to corporates. I am confident that we have just started on the long journey of innovation and in future we will see a lot more coming out of the center.

Sudhanshu Mittal

Head - CoE Gurugram &
Director - Technical Solutions

While the hype around startups is recent, the phenomena of startups is not –players like Uber / Ola, Flipkart, OYO, Makemytrip etc were startup at one point of time not too distant in past and are recognized as revolutionary visionary today. The biggest change in startups culture is that today the seasonal professionals after having spent a lifetime in the corporate world look to starting afresh and doing something new which will make an impact on the market and turn them into billionaire. It is this drive and passion which is propelling the startups where failure is not a dirty word anymore and the ability to rise again is mantra.

Biggest challenge that the startups today are faced with is the disconnect between the solution developers and the users who would adopt the solutions. Successful bridging of this gap will determine whether startups of today are able to thrive and turn into unicorns or fail miserably in their endeavour. This is apart from the other areas where startups need help like technology support, Go-To-Market support, Funding, Intellectual Property, Legal etc.

The NASSCOM Center of Excellence – IoT & AI is committed to do all that can be done to support the startups in country in whichever way it can. The team at CoE works with startups to help them in addressing their operational issues as well as focuses to take them to the large corporates where they can demonstrate their solutions in the expectation of business generation.

We are hopeful that you will find the booklet useful. Any feedback and comments are most welcome and are actively solicited.

Agua wins USD 10k in Hackathon on 'Future-proofing Global Water Crisis' by Asian Development Bank

Agua Wireless Systems

Agua Wireless Systems is a line of IoT based wireless products which consists of motor controllers, level sensors, flow sensors, automated valves which are controlled by their machine learning-based algorithms, based on user's consumption behaviour, reports any underlying issues like leakage or pilferage. Agua can save over half the water that is otherwise wasted.

Success: After the solution was deployed, an apartment complex, which used to pay Rs 3.89 lakh per month as water bill, is now paying only Rs 1.5 lakh, resulting in 55 percent overall savings. Agua has won USD10k in the ADB-AIM Hackathon on 'Future-proofing Global Water Crisis' category organized at the ADB Headquarters, Manila, Philippines. The event was organized by the Asian Development Bank and a total of 220 teams from 39 countries, participated to create a solution for the Global Water Crisis.

World class infrastructure, a state of the art IoT lab, expert guidance about everything from technology development to patents, peer to peer learning opportunities, a chance to interact with stakeholders from the government and private sectors. The NASSCOM CoE-IoT incubation facility at Gurgaon has provided us this and much more. We at Agua Wireless Systems consider ourselves lucky to have been a part of this exceptional cohort of startups.

- Kanish Aggarwal

● **Enables 55% overall savings in utility bill**   ● **Projected revenue of Rs 1 crore**

Air quality monitors across Gurugram for GMDA

Airveda Technologies Private Limited

Airveda Technologies has built air quality monitors for PM2.5, PM10, CO2, Temp, Humidity & TVOC for Indoor environments and PM2.5 & PM10 for outdoor environments. Airveda monitors use a high-quality laser-based sensor which is calibrated against a BAM (Beta attenuation monitor) to provide the most accurate results.

Founder: Namita Gupta

Success: Airveda has been shortlisted by Gurugram Metropolitan Development Authority (GMDA) for deploying 50 air quality monitors in Gurugram. These air monitors will display the levels of PM 10 and PM 2.5 in ambient air. The expenses of installation will be borne by the agencies as part of their CSR initiatives. Other clients include several schools across Delhi like Pathways, Ardee School, Vasant Valley, American Embassy School, British School & several RWAs like Park Place, Palms, Arralias. Apart from that, Airveda has worked with the Nagarro, DLF, Denso, Airtel, TimesInternet, BCG, Bill & Melinda Gates Foundation etc.

We have been incubated with NASSCOM CoE-IoT now for over a year. We are extremely grateful to the center for giving us access to a lively and high energy place to work, where multiple startups in the hardware space coexist and encourage each other. In addition, the CoE team has been extremely helpful whenever we have needed intervention with the Government or affiliated institutions as well as given us several opportunities to showcase our products to Government officials.

- Namita Gupta

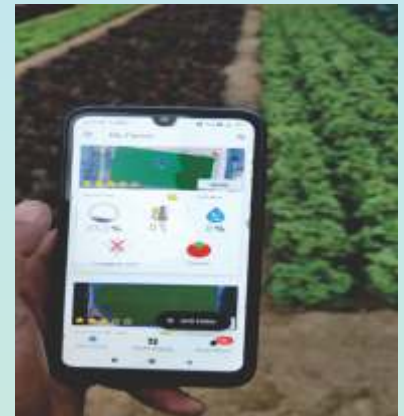● **Revenue of Rs 1.6 crore**   ● **Key clientele included World Bank, L&T, DMRC & GMDA**

Croplytics ® Autonomous Irrigation System

AgSmartic

AgSmartic Technologies

AgSmartic technologies has built Croplytics, which is a wireless soil sensor based platform that helps in irrigation management and optimizing farming inputs, leading to significant water, fertilizer, energy and labour savings. Another vertical consists of image processing based identification of crop disease & pests and giving out recommendations specific to the farm's geographic location. Current capabilities consist of crop disease & pest detection for 7 crops including tomatoes, chillies, gourds, musk-melon, watermelon and eggplant.

Co-Founders: Rashi Verma and Abhishek Sinha

Success: The Croplytics ® controller and app has been deployed in Punjab, Madhya Pradesh, Bihar and Delhi resulting in saving the agriculture inputs like water and electricity by 15% and 21% respectively. The continuous monitoring of the farm helped in detecting the disease in Brinjal at a very early age resulting in saving 12% loss in yield. The real time and farm based local advisory/alerts provides actionable insight to the farmers.

NASSCOM CoE-IoT is successfully fostering an ecosystem that is needed in start-up ecosystem. It clearly focuses on development through a shared workspace, and provides a dynamic environment. This has been a tremendous asset to us in terms of strategy, networking and infrastructure. We've met numerous investors, subject matter experts and entrepreneurs whose inputs have been invaluable.

- Rashi Verma

● **Raised Rs 20 lakhs via FITT - BIRAC fund and Rs 5 lakhs via MSME grant**

3D printing of Ventilator parts and Face Shields for Covid-19, Heritage Preservation in Digital Space

VIZARA
IMMERSIVE | INTERACTIVE | INTELLIGENT

COVID-19: In these trying times of COVID-19, Vizara is dedicated to contributing towards providing assistance in any form to our medical community, who are at the frontlines right now to help combat this disease. Vizara were asked by the Department of Science and Technology to 3D print some samples for Ventilator splitters and flow-limiters and deliver to AIIMS for testing.

Co-Founders: Dr. Anupama Mallik, Prof. Vijay Chandru & Prof. Santanu Chaudhury

Heritage Preservation: Our heritage is very fragile, as wear-tear, and natural and man-made disasters keep destroying it and erasing it from our landscape and memories. Vizara is dedicated to digitization of tangible and intangible heritage and is working with the government in creating AR-VR and 3D printing based digital installations for monuments. Recently showcased at the International Heritage Symposium and Exhibition (IHSE) 2020, inaugurated by the Minister for Culture and Tourism at the National Museum, Janpath, New Delhi in January.

We are committed to fully support our health-force in tackling and fighting the spread of Corona Virus. We are grateful to the Department of Science and Technology to have the trust in our 3D printing capabilities and in providing us the necessary passes and permissions to be able to 3D print the parts for ventilators and deliver them to AIIMS for testing. We are also grateful to NASSCOM CoE-IoT for providing the logistics and admin support to run our 3D printers at their Labs. We commit to design and manufacture any items as may be needed by our medical staff during this fight against Covid-19 in India.

– Anupama Mallik

● **Project - Indian Digital Heritage (IDH), DST**   ● **Revenue - Rs 4 crore through 5 Monument Projects**

Domestic & Commercial LPG cylinder type identification & segregation.

Bharat Petroleum Corporation Limited (BPCL) approached NASSCOM CoE-IoT & AI with the problem of automating identification and counting of incoming cylinders at bottling plant. After suitable curation, CoE found suitable partner who could undertake the PoC.

The camera based solution allows counting and differentiation of 14kg (domestic) and 19kg (commercial) LPG cylinders at the bottling plant and their automated logging. The fist PoC on single bay with minimum accuracy requirement of 90% was done at the Cherlapally bottling plant. After the success, complete pilot at 11 bays with 99% accuracy target was undertaken. The pilot deployment is complete and under observation.

In late 2018 NASSCOM CoE-IoT & AI brought an interesting problem statement from a public sector Oil & Gas company. The company had clear vision and meant business. The problem was to inspect/count LPG cylinders moving on a conveyor line using ordinary CCTV cameras in real-time. We took up the challenge and successfully demonstrated our solution. And that led to our first PO and Customer - a Fortune 500 oil & gas major! This turned out to be a great opportunity for my startup and has put us on a growth trajectory and we are thankful to CoE for that.

– Raghuram, Algotech

Dispenser Hacking Challenge

NASSCOM CoE-IoT & AI has entered into a definitive contract with Bharat Petroleum Corporation Limited (BPCL) to drive a challenge to identify the hacking possibility (both hardware and software) in the fuel dispenser unit used at the filling stations.

CoE Gurugram initially shortlisted 15 companies, for the Ethical Hacking challenge. After the joint session along with the BPCL team, 6 curated innovators submitted the one pagers for their approach towards discovering the vulnerabilities. Finally, 2 teams were shortlisted to be present at the BPCL, Navi Mumbai, where they were joined by the Fuel dispenser unit manufacturer. Manish Bajpai and Aravind NA from Nivetti Systems and Arun Magesh along with Asmita Jha from Payatu visited the BPCL unit at Mumbai for 2 days. There they were joined by technical experts from BPCL and their vendor who explained them the working of the fuel dispensing unit. Subsequently the

teams provided their details reports about the potential weaknesses in the fuel dispensing units. The reports are under study by BPCL team along with their partners and on the basis of their final recommendations, the cash reward upto Rs. 5 lacs shall be given to the teams. It may potentially be followed by initiating the deployments with BPCL by the shortlisted innovators which come up with solutions to plug the identified vulnerabilities.

NASSCOM CoE-IoT is doing a phenomenal job of supporting the Indian start-ups operating in IoT & IoT security space by bringing in the critical customer connect and tabling the pressing problems that need to be solved for the industry. Nivetti Systems was invited by CoE to participate in an Ethical Hacking Challenge for an Oil PSU.

- Manish Bajpai, Nivetti

Payatu got selected for NASSCOM CoE Ethical hacking challenge after the grueling selection process. The CoE team was very proactive and supportive in arranging the Fuel Dispenser and other requirements related to testing & managing the associated logistics. We have got an excellent opportunity to work with CoE and BPCL teams.

- Murtuja Bharmal, Payatu

- **15 companies were shortlisted, out of which 6 curated innovators submitted their solutions & 2 teams were present**
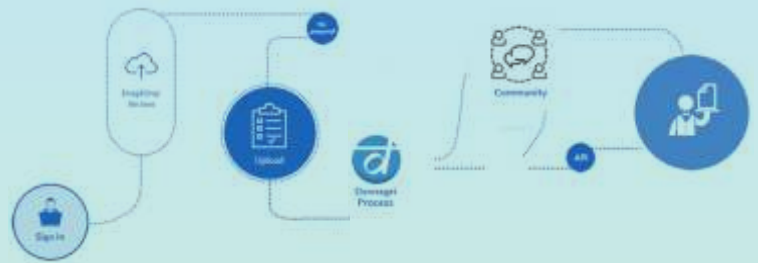
Awarded best Social Impact Startup & order from CDAC to translate 1.5 crore words

devnagri

Devnagri does NLP based contextual translation across 22 vernacular languages. Their USP is their contextual ability rather than just a literal translation. Devnagri is 5 times faster than traditional translation and can reduce 80% translation time.

Co-Founder: Himanshu Sharma & Nakul Kundra

Success: Devnagri has won the award for the best Social Impact startup at Lucknow during the recently concluded UP startup conclave and received the award by the Deputy Chief Minister, Mr. Dinesh Sharma.

Devnagri has also got the order from CDAC to translate 1.5 crore words to Vernacular (English to Hindi, Bengali & Gujarati) and have got empanelled with Archaeological Survey of India and awarded the first contract of translating 5 lakhs words. Other Clients include Phonepe, Cardekho, Myntra, Iffco Tokio, NAFED, Rasna, Prestige & Magic pin.

NASSCOM CoE-IoT has arranged many meetings for us with the government and other industry players. They have enabled several impact events and conferences free of charge, which is a huge plus for us. Every week the center is visited by some Industry delegates and it was a huge learning opportunity for us to meet them and pitch our product to them. CoE helped us a lot. Thanks a lot for your support.

- Himanshu Sharma

- Revenue of Rs 1.8 crore
- Key clientele include CDAC, Archaeological Survey of India, Iffco Tokio, NAFED, CERC, Phonepe, Cardekho & Myntra

IoT Firmware Download in IPv6 in Partnership with ICANN and IIT Hyderabad

ICANN & IIT Hyderabad

भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

NASSCOM CoE-IoT in partnership with ICANN & IIT Hyderabad has driven research in the area of standardized methodology for firmware download for IoT devices in the IPv6 world.

For this engagement, CoE entered into partnership with IIT Hyderabad and ERNET. A team at IIT-H spent over one year in the main part of research with ERNET providing the infrastructure backbone support and technical expertise. Alain Durand, Principal Technologist from ICANN visited CoE Gurugram, where there was a vibrant and informative exchange on the potential benefits of establishing standards to the current proprietary systems of firmware download for IoT devices and the benefits of adopting IPv6 over IPv4. A formal announcement of this partnership was done in June 2019, which was chaired by IT Secretary Shri Ajay Sawhney and attended by CoE President Ms Debjani and many other dignitaries.

With the submission of final report, the research engagement has been completed. The next program being considered is the exploration of DNS-SEC in IoT devices to improve the security of IoT devices.

COVID-19 Coronavirus Dashboard for Government of Punjab

A pandemic like COVID-19 needs to be dealt with special efforts to contain & prevent the spread. DronaMaps volunteered to contribute to these efforts by providing a reliable dashboard & patient tracking mechanism. DronaMaps has deployed a user-facing public dashboard that is built to provide information pooled from official sources for citizens at large. The second is an administrative dashboard for the Government of Haryana, Punjab & Rajasthan with more advanced features like Heat Maps and red zoning of districts / sub-districts based on real-time location of quarantined patients with density distribution as well as geofencing and alerts for high-risk patients/ suspects. It uses the following tracking mechanisms:

- Using Live GPS via Phone App
- Using Tower CDR data
- Using Cell operator VLR data

Co-Founders: Utkarsh Singh & Ayushi Mishra

Volumetric assessments for Department of Mines, Government of Haryana

DronaMaps did the survey for a Stone Mine for Department of Mines & Geology, Government of Haryana. High resolution quality maps and 3D models allowed instant calculation of aggregate volumes, keeping track of equipment locations and monitoring safety & environmental compliances. All the information was displayed on a central dashboard for the Department's stakeholders. The volume estimated using GIS and the volume excavated (at actual mine) both were cross verified by the authority, thereby helping Mines and Geology Department, Government of Haryana to increase its revenue.

DronaMaps has built a computer vision led platform that does aerial survey based 3D Maps at cm level accuracy. Applications include Property Tax Assessment, Roads and Infrastructure planning, Urban Roads Execution, Flood analysis, surveillance & city planning.

> NASSCOM CoE-IoT has enabled the technology we have built - 3D mapping bringing together drones, autonomous cars and smart cities powered directly through the CoE at Gurugram. The decision makers visiting CoE get all the solutions to their modern mapping needs under one-roof, in sub-centimeter level accuracy. Our development team out of the CoE Gurugram is particularly focusing on publishing advanced algorithms in AI and its local datasets of the Indian terrain to bring the best of the world, right here at home.
>
> *- Utkarsh Singh*

● **DronaMaps is on Forbes 30 Under 30 - Asia - Enterprise Technology 2020**

Nebulaa Grain Analyser

Nebulaa

Nebulaa, has developed a Grain Analyser, called MATT which has the capability to assess each grain from multiple sides thus covering its entire surface, reducing the overall time of testing from 30 minutes, when done manually, to 1 minute. It can assess any morphology character ranging from varietal differences, we eviled to damaged. Nebulaa focus on Paddy, Wheat, Barley, Maize & Pulses. Nebulaa has been awarded India Patent.

Co-Founders: Tanmay Sethi & Mohit Dadhich

Success: The product has been tested across APMC environments for the past one year of Telangana, Uttar Pradesh, Rajasthan, Haryana, Punjab, Chhattisgarh and Andhra Pradesh. More than 18 agriculture commodities can be analyzed by MATT. MATT is also being used by Seed Companies, Feed Companies, Millers, Processors, FMCG Company and State Civil Supplies for the analysis of their raw and processed material.

The NASSCOM CoE-IoT team has been very active in helping us in ways to get new business opportunities. It started with the connection with a Beverage giant where the CoE team introduced the concept of automated testing of input through MATT to the Client. After the first demonstration that we gave at CoE Gurgaon, the team have come up with new ways and ideas for implementing MATT in industry. We have been introduced to a plethora of Industry giants for implementing MATT including Mother Dairy who introduced us to the challenges they face in Mango quality testing and the industry requirements. Along with Carlsberg, we have been connected to Budweiser, R&D.

- Tanmay Sethi

- **Granted India Patent for Method And System For Testing Quality of Commodities**
- **Selected among Top 20 social startup by MEA & NITI Aayog**

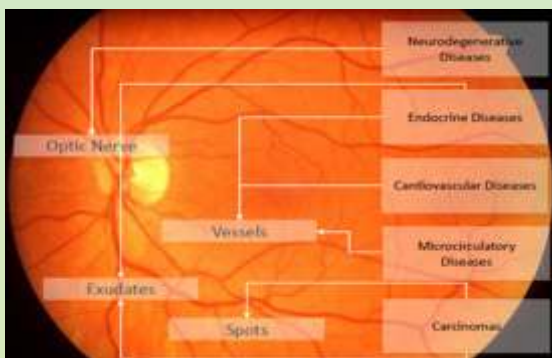## Retinal scan based disease screening for Govt of Maharashtra

RADICAL
Radical Health

Radical Health is a HealthTech diagnostic startup that uses retinal image scan for early disease detection, risk prediction of diseases which are local to the eye as well as systemic diseases like Cardiovascular & Neuro-vestibular ailments. The solution is hardware agnostic and can easily be deployed in low-resource environments as well.

Co-Founders: Sombodhi Ghosh & Rito Maitra

Success: Under the National Health Mission, this solution has been deployed for Govt of Maharashtra in 9 district hospitals across 8 districts of Maharashtra including Pune, Satara, Sindhudurg, Osmanabad, Nandurbar, Nashik, Akola & Nagpur. Other deployments includes Minto Hospital, Bangalore, Dr Shroff's Eye Hospital, Delhi, Disha Eye Hospital, Kolkata, Swarup Eye centre, Arunodaya Deseret Eye Hospital (ADEH), Gurugram, Currae Eye Hospital, Kolkata.

Our work heavily depends on cutting-edge AI and IoT, and NASSCOM CoE-IoT has been instrumental in helping us get that done. They've helped us get connected to large public health programs, corporate health giants, and showcase our solutions to audiences that would be unreachable otherwise including ministries, government executives, top clinicians and healthcare industry leaders. But most importantly, it is the people who matter in the end - and we could not ask for more encouraging and understanding partners than the folks here in Gurgaon, who have been instrumental in helping us get through times of crisis.

- Rito Maitra

- **Won the Amazon AI Conclave Award in Healthcare**
- **Raised a funding of Rs 1.5 crores**

Free Flow Highway Travel & Parking Experience

Stackfusion

Stackfusion is a smart parking & Toll automation solution with an edge device based computer vison led product consisting of Automatic License Plate Recognition & Vehicle detection with in-house image detection algorithms for recognising indigenous license plates. The real time identification of a vehicle, calculation of fee (toll or parking) and auto e-payment transaction ensures that the traffic is non-stop and the user gets a smooth uninterrupted experience.

The solution has been accredited by the National Highway Authority of India (NHAI) as a technology innovator for next generation ETC (Electronic Toll Collection) systems. Further, theirs is the first Indian solution to have successfully integrated FASTag for cashless payments in commercial parking space.

Co-Founders: Sumeet Mahapatra & Pranay Sharma

NASSCOM CoE-IoT has been the perfect launchpad for us. We have immensely benefited from the CoE Lab at Gurgaon where we could rapidly iterate and test our embedded hardware and sensor integrations. The peer group at CoE enables us to collaborate with other startups in the areas of AI, PoC, industry approach among others. CoE has helped us in gaining traction, especially in the Public Sector space owing to the deep network it has.

- Pranay Sharma

- **Deployed India's first FASTag based Smart Parking** • **Working for NPCI for the National Electronic Toll Collection system**
- **Accredited by the National Highway Authority of India (NHAI)**

Veda Labs raises Pre-series a funding

Veda Labs has built a computer vision led platform that uses CCTV video feeds in stores to present real-time analysis as well as facial recognition, MAG (Mood, Age & Gender) classification, Customer footfall analysis, SKU detection, CHMS (Camera Health Management System).

Co-Founders: Vivek Singh & Veer Mishra

Success: Veda Labs, has raised Pre Series A round from Satin Neo Dimensions. Vedalabs plans to use the funds raised to expand its product deployment capabilities. Veda Labs has also been shortlisted by MBRDI (Mercedes Benz Research & Development Institute) to co-develop ADAS (Advanced Driver Assistance Systems) & other Computer Vision based solutions.

Clients include Future Group, V Mart, PepsiCo, Royal Enfield, Lenskart, Omnipresent Robotics etc.

NASSCOM CoE-IoT & AI has helped in scaling the product. We have been in touch with them for appropriate industrial connects and guidance on how best to scale the tech stack. CoE has given us an opportunity to exhibit in CEATEC Japan.

- Vivek Singh

- **Key clientele includes Pepsico, Panasonic, NASSCOM CoE, vMart. Glue Design, Street Wall, BMW & Satin Credit Care**
- **Revenue is Rs 8 crore**

IoT based Smart Toilet

Garv Toilets led by Mayank and Megha have developed an IoT based Smart Sanitation solution, having the following benefits:

- Vandalism Proof
- Self-sustainable
- Real-time monitoring
- User friendly

Co-Founder(s):
Mayank Midha & Megha Bhatnagar Midha

Success: Garv Toilets bagged a CSR project in Patna funded by Coca Cola and went on to install 100 units as part of multiple CSR activities. Till now over 800 smart toilets have been installed, reaching out to over 140,000 daily users. Garv Toilets have won an order from the Uttar Pradesh government to install smart toilets as part of the Swachh Bharat Mission and have also won several reputed awards as well – including the 2018 Unilever Young Entrepreneur Award and the Mohammad Bin Rashid Award for Global Prosperity

GARV TOILETS
THE FUTURE OF PUBLIC SANITATION

(under the category of Sustainable Cities). Garv Toilets has been awarded a project with the Delhi Metro Rail Corporation, where they will install Smart Sanitation Center at the Kashmere Gate Metro station in New Delhi, that will later be integrated with metro cards, enabling users to access these toilets. The project cost is around Rs 57 lakhs. NASSCOM CoE under its Tech4Impact initiative is facilitating the access to Technology & Funding for the development & deployment of this world-class sanitation infrastructure.

Smart Sensors & Monitoring App
Vandal proof Steel body
Solar Power
It has a host of features
Auto Flush & Floor Clean
Bio-digester Tank

- Installed over 800 smart toilets, globally
- Won 2018 Unilever Young Entrepreneur Award and the Mohammad Bin Rashid Award for Global Prosperity

Torchit empowers over 10,000 visually impaired

Torchit has built an accurate yet simplistic affordable SONAR-based assistive device, called Saarthi, to help the visually impaired navigate in any kind of setup from a closed room to crowded pavements. Users can toggle between three range sets - low (2 feet), medium (4 feet) and max (8 feet). Saarthi has a 99.7 % accuracy level and has been tested on more than 1,200 users. The device has gained accreditation from the National Association of Blind, and Blind People Association for being an innovative and impactful product.

torch-It
Empowering of your Beyond Sight

Co-Founders: Mohit Chelani & Hunny Bhagchandani

Success: Torchit has empowered over 10,000 visually impaired till now. Recently, Torchit did a CSR Project with HDFC Gruh Udyog & Oil India for distribution of 1,000 Saarthi devices & 2000 Saarthi devices respectively to blind & visually impaired people. Torchit has also set up an assembly center at Ahmedabad in association with the Blind Peoples Association, where differently abled people are empowered by providing a livelihood to them, which is followed by a strict quality check. The center has been able to produce about 2500 devices.

Saarth
Walk with Pride
Saarthi is an object detection handheld device which is portable and pocket friendly in nature.
Gift to an visually impaired friends
torch-It

We are only as blind as we want to be
torch-It

We have been associated with NASSCOM CoE-IoT for over an year now and we have benefitted greatly with regards to the government projects that we are seeking to engage with, especially Government of Haryana, and be a part of the events to connect.

- Mohit Chelani

- Empowered over 10,000 visually challenged • Millennium Alliance Round 5 award – TDB, USAID & UK Govt.
- Won Top 5 promising social start-ups award by Prime Minister Narender Modi

Drone based Flood Assessment, Progress monitoring & Solar power optimation

Heliware, a product of SGR Labs, is suitable for a wide range of engineering and environmental applications, including:

- Calculating simple backwater profiles to modelling entire catchments to mapping potential flood risk for any project site
- Progress monitoring dashboard & analytics for EPC & Infrastructure projects companies as well as utilities

Co-Founders: Rajan Srivastava & Adarsh Misra

Success: For solar EPC companies like Azure Power, ReNew Power, Heliware has done simulation and designing Photo Voltaic array layouts for optimising solar power generation under varying ambient conditions, thereby increasing power generated by 35%. The algorithm establishes a geo-referenced perimeter for the captive area Based on pre-generated 3D models or aerial survey based models and performs shadow calculations on top of it to generate the PV array design and generate associated report & drawings.

Heliware have done flood estimation model for Maruti Suzuki's plant-based on geo-referenced elevation of the plant and superimposing the precipitation model on top of it.

For NTPC & Kalpatru, SGR Labs has offered cloud based progress monitoring dashboard comprising of multi-stakeholder real-time project management and asset management tool.

> NASSCOM CoE-IoT has helped us in connecting with the clients and pitching opportunity to the investors. We have also benefitted from the Lab access for our product customisation requirements. We've been able to access cloud credits benefits from CoE partners.
>
> *- Rajan Srivastava*

- Revenue of Rs 1.2 crore
- Key clients include Maruti Suzuki, Kalpatru, NTPC, ReNewPower, Azure Power, JMC Projects etc.

World's first smartphone integrated microscope

Medprime Technologies has built a patent approved, low cost & portable connected microscope that is suitable for diagnostic and research applications. Being a low computing resource solution, it can be integrated with a smartphone or tablet for edge computing capabilities.

It has a redesigned optical system to obtain the same path length in a smaller space without compromising on resolution or magnification. Digitizing microscopy allows images to be sent from one place to another easily for diagnosis & integration with Hospital Information Systems, which coupled with the processing power of phones and tablets, helps Machine Learning powered sample analysis.

Co-Founders: Greeshma Unnikrishnan & Samrat Swami

Success: Key deployments include Bhabha Atomic Research Centre, Mumbai; Department of Health & Family Welfare, Odisha; Lilavati Hospital & Research Centre, Mumbai; AIIMS Nagpur; Kokilaben Dhirubhai Ambani Hospital, Mumbai; ICAR Research Complex for Eastern Region, Patna; L&T Technology Services Ltd; Northern Railway, Lucknow; Dr Rajendra Prasad Central Agricultural University, Pusa; Government Medical College, Aurangabad; Department of Sericulture, Leh; Military base hospital, Barrackpore; National Centre for Cell Science, Pune; National Centre of Cancer Prevention and Research, Delhi; Jawaharlal Nehru Medical College.

> NASSCOM CoE-IoT & AI provides a high-energy and inspiring work environment, not to mention the infinite networking opportunities with other entrepreneurs, mentors, experts and corporates. CoE has a good reach in the corporate sector and utilizes it for the benefit and growth of its startups.
>
> *- Greeshma Unnikrishnan*

- Projected Revenue of Rs 1 crore
- Applied patents for Universal Digitization head for integration of smart device with microscope

Kashware wins Payments and Settlement Innovation Contest organised by RBI

A patent-pending product to ensure contactless payments with any POS terminal (non-NFC based as well) similar to Samsung Pay. All the physical cards can be converted to a virtual wallet, which can be used to make the transaction. It comes in the form of a Ring based "pop socket" attached to back cover of the smartphone which can double up as a stand for the smartphone as well.

Co-Founders: Siddhant Ryan Malhotra & Amarpreet Singh

Success: RBI organised a Payments and Settlement Innovation Contest. It had multiple rounds, spanned over a quarter and hundreds of teams across India participated in the contest. Kashware was in top 3 out of the seven finalists across India including Mastercard and ToneTag.

We got incubated in Nasscom CoE IoT a year back, and what a journey it has been. Which was only an idea then, we have been able to turn into a PoC, then an MvP and are now ready with our final product. It provides access to one of the best hardware labs in town, A suite of mentors and practical tools that help you in your journey. That up with an ever-motivated CoE team and other entrepreneurs around you - and suddenly your journey doesn't feel lonely anymore.

- Siddhant Ryan Malhotra

- Kashware has filed a patent for contactless payments by using the magnetic coil with any PoS terminal.
- National Common Mobility Card certified to work across all public transports, metro etc

Gesture Research has partnered with PwC for Smart City Project

Gesture Research works on Natural User Interface (NUI) to make touch less interfaces that can understand hand gestures and voice as well as Gesture Control, Computer Vision and Virtual Reality. Our products range from serious HealthCare solutions used for surgery planning and execution, to fun applications like gaming and entertainment.

Co-Founders: Munish Dhiman & Aarti Dhiman

Success: Gesture Research partnered with the consulting companies like PwC, KPMG & Deloitte for solutions like Virtual Command Center for a Smart City project. Some of these partnerships turned to tenders and MoUs with Government and Non Government bodies. Gesture Research demonstrated Holoportation i.e Virtual Teleportation at NASSCOM product Conclave, Gartner Expo and Tie Global Summit.

NASSCOM COE-IoT is one of the best facilities available for innovative Startups. With a wonderful ecosystem, hardware labs, mentors and an unmatched supporting team from NASSCOM and HARTRON it is undoubtedly the place where the startups grow for sure. We have been supported multiple times for showcase events, the customer connects and in many other ways time to time during our duration here, really thankful for this wonderful initiative.

- Munish Dhiman

- Working with AIIMS for the Gesture Recognition solution

Avrio signs Cooperation agreement with Sescom, a European facility management company

Avrio is developing a Non-Intrusive Load Monitoring system which will allow their algorithm to predict Appliance load profile from a single device installed in the main power line without the need of appliance level sensors. The device in the main power line is installed non-intrusively through clamp-on type CTs and data is sampled at a high frequency to allow them to get the load signatures and analyse it against the in-house dataset of load signatures to identify distinct loads.

Co-Founders: Puneet Batra & Ankit Chouhan

Success: Avrio Energy gives feedback to its customers on how to reduce their energy consumption. For utilities, they offer a reduction in AT&C and theft, enhanced demand response. They also provide customised energy-saving recommendations and itemised billings. Avrio's solution is helping QSR chains like WowMomo etc helps retail businesses save up to 20% on their operating costs. They're piloting with BSES Rajdhani Power Limited for residential users. Avrio also signed a Cooperation agreement with

Sescom, a European facility management company for deployment of their solution.

> NASSCOM CoE provides a great environment for the product companies and well-equipped lab. We have been able to demonstrate our solution to various Government stakeholders. We intend to deploy the solution at HARTRON campus.
>
> *- Puneet Batra*

- Avrio has been selected for Brinc IoT program in Poland

MicroGo presents its solution to Niti Aayog's Empowered Committee for COVID-19 deployment

MicroGo has a suite of sanitisation products including GoAssure, that provides Contactless & Waterless Hand Sanitisation solution. The IoT based device assures hand hygiene compliance i.e. six steps of hand hygiene and 20 secs hand rubbing and provides surveillance & analytics on hand hygiene.

Co-Founders: Dr Rachna Dave

Success: The hand sanitisation solution has already been installed at several airports operated by the Airports Authority of India (AAI) including Chennai, Hyderabad, Calicut, Guwahati, Baroda, Pune and Kolkata, in addition to a host of enterprises and companies like the Taj Group, Tata Capital, BigBasket, Waycool and IRCTC.

MicroGo has presented the GoAssure solution to the NITI Aayog's Empowered Group 6 Committee, chaired by Shri Amitabh Kant, CEO NITI Aayog for COVID19 associated deployment. The startup has been contacted separately by the NITI Aayog to understand their scale and possible contributions.

> We connected with NASSCOM CoE a few days back. Within hours we had a series of discussions on how we are contributing to the COVID-19 crisis, what opportunities can be created and how CoE can help. Startups always get benefitted if their reach is increased and CoE has a large community. From increasing our outreach to giving us a voice - it is always comforting to know that we have their support, especially during these difficult times. It was a great opportunity for us at MicroGO to present our solutions for COVID-19 to Sh. Amitabh Kant, CEO, NITI Ayog. We thank CoE for this opportunity.
>
> *- Dr Rachna Dave*

- Deployed at AAI Airports including Chennai, Hyderabad, Calicut, Guwahati, Baroda, Pune, Kolkata
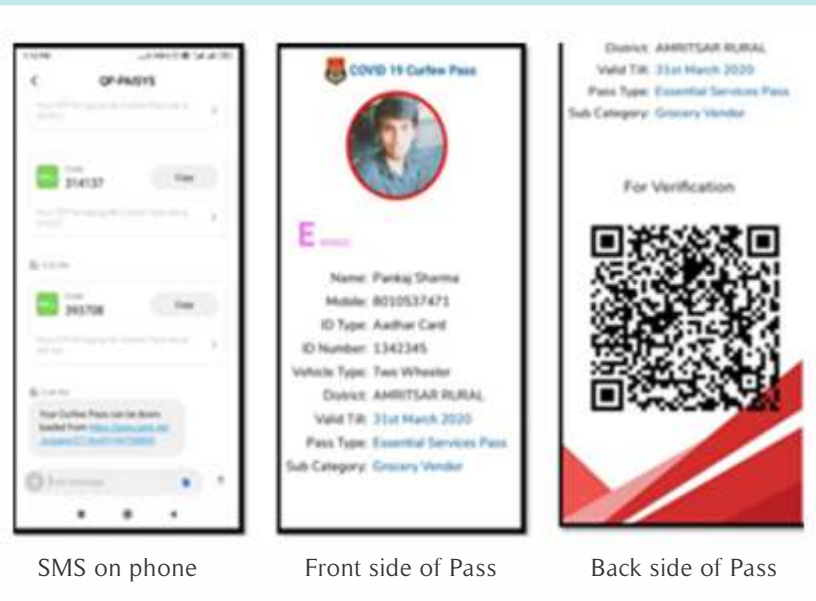- Won DBT Biotech Product & Process Development Award 2019 and BIG, SBIRI grant from BIRAC

Staqu deployes ePass for Government of Punjab during COVID-19 lockdown.

Staqu is a computer vision based startup having facial recognition capabilities and intelligent monitoring of objects, crowd, perimeters and vehicles. Their solution is deployed with Haryana Police, Punjab Police, Rajasthan Police, Telangana Police, Uttarakhand Police, Uttar Pradesh Police, Assam Police Dubai Police, Indian Army.

Co-Founders: Atul Rai & Summit Nayak

Success: During the coronavirus lockdown, only the essential services were allowed to move from one place to the other. However, regulating it became a pain for the enforcement authorities, so the Government of Punjab tied up with Gurugram based Staqu to digitise the ePass issuance & verification system. The OCR & facial recognition capabilities also allowed to cut down the applicants with fake IDs thereby bringing down the manual effort by the enforcement authorities. The passes are also "colour-coded" and "letter-coded" in accordance with the government guidelines to ensure easier visibility thus maintaining social distancing norms.

SMS on phone   Front side of Pass   Back side of Pass

Staqu launches thermal camera based community screening solution

Success: Staqu has also launched a thermal camera based solution, which will alert the system if anyone is found with a body temperature above 37°C on the basis of heat signatures directly through the thermal cameras. The startup claims that the solution has a range of up to 100 meters and can identify multiple people at the same time.

We had won NASSCOM CoE AI Game Changer award in 2018. We thank CoE for providing us with the opportunity to present our product, JARVIS to the Mr Amitabh Kant, Niti Aayog. We look forward to more such opportunities.

– Atul Rai

- **Funded by Indian Angel Network**
- **Clients included Haryana Police, Punjab Police, Rajasthan Police, Telangana Police, Uttarakhand Police, Uttar Pradesh Police & Assam Police**

Agva Healthcare to deploy 30,000 ventilators to curb the COVID-19 pandemic

The COVID-19 pandemic has necessitated the government authorities to ensure the availability of ICU grade ventilators. Noida-based medtech startup, which claims to build the world's cheapest portable ventilator at 1/10th the current price of ICU grade ventilators is playing a significant role in meeting the requirement.

Unlike regular ventilators, these products run on room air also, can be used to provide ventilation to patients at home. It can deliver 100% FiO2 when connected to Oxygen Source. The entire ventilator can be controlled by a capacitive multi-touch interface with a very simple control mechanism. It also has Apnea Detection capability with volume guaranteed backup ventilation.

Co-Founders: Prof. Diwakar Vaish & Dr. Deepak Aggarwal

Success: There are already 600 such machines currently deployed across the country, now Vaish is aiming to quickly deploy around 30,000 of them in the short run. He has held consultations with the Ministry of Health and Family Welfare regarding how Agva ventilators can be deployed and they have asked for few changes to suit the needs of COVID-19 patients.

AgVa Healthcare
AgVa Healthcare for all

NASSCOM CoE has given us the opportunity to present the product to key decision makers from the Government as well as the people who are going to implement these devices on the ground level. These kinds of connects make it very easy for a new innovation to have its strong foothold and be taken from the Lab to the consumers.
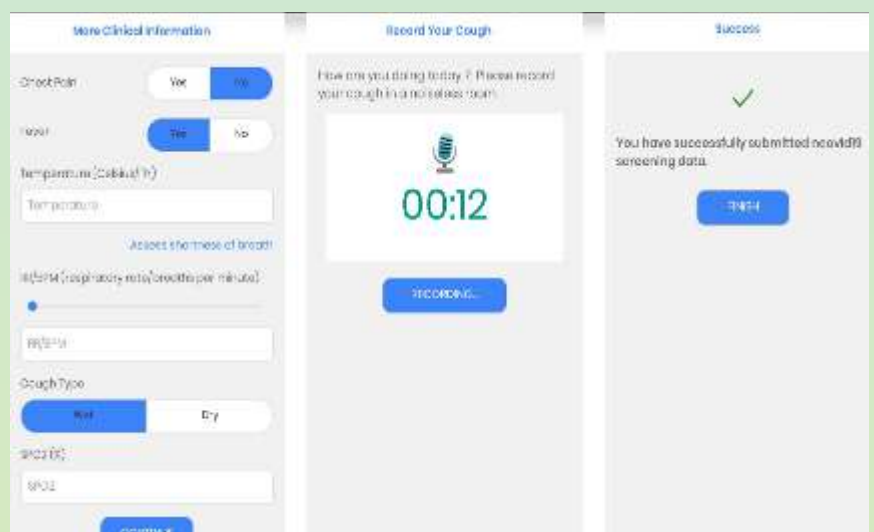
- Prof Diwaker Vaish

- **Partnered with Maruti Suzuki & Bharat Electronics Limited to ramp up the ventilators production to 15,000 per month**

Docturnal does Cough based COVID-19 detection

Docturnal is a point of care non-invasive screening and diagnostics startup that does Cough & respiratory sounds based TB & Pneumonia detection. Docturnal's product portfolio also includes solutions for CoPD and Asthma with a pipeline of lung based ailments that can be identified by an aural component.

Co-Founders: Arpita Singh, Rahul Pathri, Vaishnavi Reddy & Shekhar Jha

Success: One of the most critical aspects to identifying the confirmed positive COVID-19 cases, considering the paucity of COVID-19 test kits is to be able to successfully screen the suspected cases for the PCR testing.
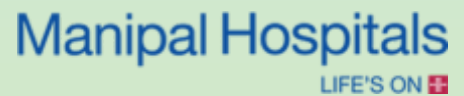
Docturnal is a product that screens the sound of a person's cough from home. However, in a clinical setting, an external microphone array is provided. The respiratory sounds along with the collated data are fed to the proprietary algorithms for TB & Pneumonia. They're leveraging the existing data for Pneumonia & its variants to build a binary classifier for screening COVID-19 & working with ICMR to obtain labelled Acoustic & Clinical data for COVID-19.

- **Raised $250,000 from IIIT-H, AIRmaker, BIRAC, Axilor and Mumbai Angels & got Uber Exchange top 10 award innovation**

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