



Venture Center's Initiatives to Fight against COVID-19

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1. Introduction to Venture Center

Entrepreneurship Development Center (trademarked and famously known as Venture Center) hosted by CSIR-National Chemical Laboratory (NCL) in Pune is India's largest inventive enterprises and science business incubator. The Venture Center strives to nucleate and nurture technology and knowledge-based enterprises by leveraging the scientific and engineering competencies of the institutions in the "Pune region" in India. The Venture Center aims to empower and enable scientists and engineers in pursuing technology, innovation and entrepreneurship objectives.

It is home to more than 75+ resident start-ups at any given time and in the last 13 years since inception in 2007 Venture Center has supported >450 knowledge intensive enterprises, innovators and entrepreneurs in developing IP rich deep-tech products and services through its various incubation programs.

Venture Center was founded with support from NSTEDB, Department of Science and Technology, Government of India. Venture Center is NIDHI Center of Excellence, national implementation partner for the NIDHI-Entrepreneur in Residence Program and NIDHI Prayas Center. Venture Center also hosts a BIRAC BioNest (Bioincubator), BIRAC Regional Bioinnovation Centre, Center for BioPharma Analysis and Technology Transfer Hub. Venture Center is a BIRAC-Biotechnology Ignition Grant partner and home to NIDHI Seed Support System of DST-NSTEDB and BIRAC Seed and LEAP fund.

Venture Center is the winner of National Award for Technology Business Incubator 2015, Asian Association for business Incubation (AABI) Incubator of the year 2018 & National Entrepreneurship Award (for Eco-system Builder) 2019.

More about Venture Center: <http://venturecenter.co.in/>

2. List of various initiatives taken by Venture Center towards managing the crisis due to COVID-19

As the COVID-19 coronavirus situation is becoming challenging day-by-day worldwide, Venture Center is directing all its efforts towards developing solutions for some of the pressing needs in the times of such crisis and also helping entrepreneurs build technologies to fight this global pandemic.

Venture Center has created an online platform to capture all its efforts in this direction. <https://www.venturecenter.co.in/covid19/>
A list of all such efforts is given below,



- a) Venture Center is the Nerve Center of “Task Force on Repurposing Drugs for COVID-19” (TFORD).
- b) Creation of Pune Face Shield Action Group
- c) Creation Pune Non-Contact Thermometer Action Group
- d) Funding support for startups: Call for proposals under Special Drive for COVID-19
- e) Do it yourself at Protoshop at Venture Center
- f) COVID19 Resource Center for Regulations and Test Standards-An RIFC initiative of Venture Center
- g) Venture Center is a satellite partner for National funding call-CAWACH, an initiative of NSTEDB,DST, Government of India
- h) Supporting more than two dozen startups for technology development relevant to COVID-19 and facilitate scaling-up their deployable technologies and raising funds (For e.g. Mylab Discovery Solutions Pvt. Ltd.)
- i) Facilitating Technology Transfer through TechEx
- j) Joining hands with other organizations fighting for COVID-19

3. Mechanism of implementation, progress and impact

This section briefly talks about the mechanisms & processes that Venture Center has used to bring all its initiative into measurable actions, progress so far and impact.

- a. **Venture Center is the Nerve Center of “Task Force on Repurposing Drugs for COVID-19” (TFORD- COVID 19).**

The Principal Scientific Advisor to the GoI, Dr K VijayRaghavan, has constituted a S&T Core Group on COVID19. Under the aegis of the S&T Core Group on COVID19, a Task Force has been constituted focused on Repurposing of Drugs for COVID19

The Task Force is being coordinated by:

Dr V Premnath, Head, NCL Innovations at CSIR-NCL and Director, Venture Center
Dr Anurag Agarwal, Director, CSIR-IGIB

Key goals of this initiative are:

- Information collection and dissemination
- Systematic analysis, organisation, categorisation, prioritisation
- Inter-disciplinary advisory group; Engagement platforms; Learned opinions
- Foresight on path to market and bedside; suggest alternative routes to market
- Anticipate barriers and suggest mechanisms to remove barriers
- Virtual network of stakeholders; Connecting the dots

Progress as in second week of April 2020 :

Venture Center has organised a team that is working on this project. The Nerve Center is located at Venture Center for ease of operations. The team has gathered in-depth information on various drug candidates to allow informed decision making.

Preliminary website of the TFORD-COVID19: <http://www.nclinnovations.org/covid19/> has been created. The website captures the following information,

- 6 Molecule Briefs are now public and available to all for free download at the site.
- 1 Assessment Framework for IP is now online
- An online Discussion Forum has been created
- Funding options have been identified and listed on the site

All efforts for this work have been publicized via various social media platforms like Twitter and LinkedIn.

- Twitter: <https://twitter.com/TFORDCOVID19>
- LinkedIn: <https://www.linkedin.com/in/tford-covid19/>

b. Creation of Pune Face Shield Action Group



An enthusiastic group of startup entrepreneurs and Venture Center staff rallied together to take up the challenge, design, fabricate and deliver the requested face shields as soon as possible.

Details available here: <https://www.venturecenter.co.in/faceshield/>

The Pune Face Shield is a simple and low-cost design of a Face Shield designed by entrepreneurs and staff at Venture Center. It is based on a design originally put online by Makers Asylum, Mumbai. However, the Pune Face Shield design uses MDF and can be machined (other than laser cutting). This makes the process simpler, cheaper and scalable. The Pune Face Shield Designs are now available freely for download under a Creative Commons Attribution – Non Commercial – ShareAlike 4.0 International Public License.

Venture Center is raising funds for this initiative via CSR from corporate, individual and

organizational donors.

As in the second week of April 2020 Pune Face Shield Group at Venture Center has

- Donated: 15700+ Face Shields
- Daily production: 2500 per day
- Number of beneficiaries: 38 Institutes
- Funds raised for the activity so far: ~7 lakhs
- Number of donors: 61 organization and individuals
- Number of volunteers : 34 (includes VC startups and staffs)



c. Creation of Pune Non-Contact Thermometer Action Group

The non-contact thermometer is designed and developed using readily available modules to provide safe and quick temperature measurement of the forehead for primary screening during current COVID19 emergency. The design is made available open source wherein the complete knowhow with mass manufacturing ready hardware and software design is available to manufacturers for free. This is an effort to enable a large number of manufacturers to manufacture the thermometers and cater to their local needs. Now it is in process of being scaled up in partnership with NCL (National Chemical Laboratory) with BEL (Bharat Electronics Ltd. Pune)

The non-contact Thermometer is designed and developed by BMek, a startup at Venture Center and Protoshop at Venture Center.

The technical details of this device are available for copying under the Creative Commons – Noncommercial- share Alike Licence at: <http://www.protoshop.in/covid19/>

As in second week of April 2020,

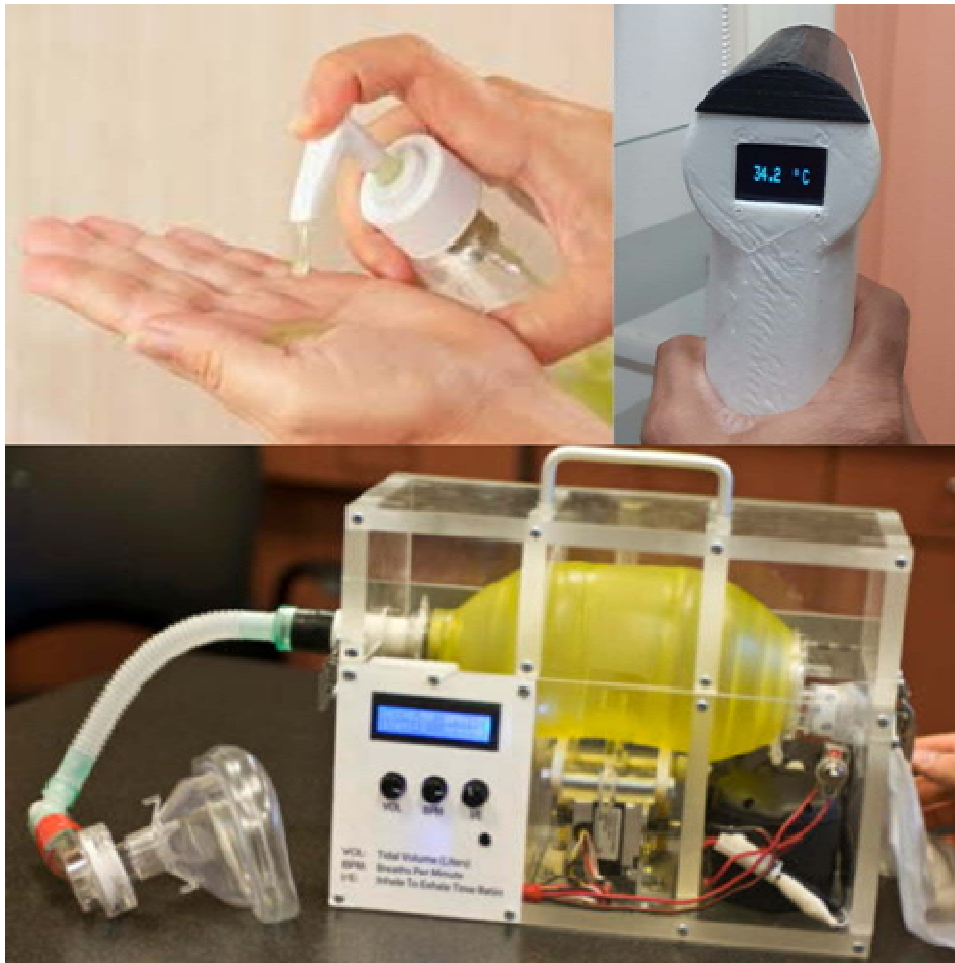
Seven prototype units have been manufactured at Venture center till date. One unit is being used at NCL Innovation Park gates, One unit at NCL Medical center and five units were handed over to Pune Police.



d. Do it yourself at Protoshop in Venture Center;open source projects

The Venture Center's Protoshop team has announced and made available the following open source projects relevant for COVID19 response.

- [IR Thermometer](#)
- [Face Shields](#)
- [Alcohol based hand-rubs](#)
- [Open source Ventilators](#)
- [Reusable cotton masks](#)
- [Decontamination and Reuse of N95 Face Mask](#)



More information about the above can be found here: <http://www.protoshop.in/covid19/>

e. COVID19 Resource Center for Regulations and Test Standards - An RIFC initiative of Venture Center



COVID19 Resource Center for Regulations and Test Standards for products needed urgently for the national response to the COVID19 crisis. Visit rifc.venturecenter.co.in/covid19/
 This is an initiative of Regulatory Information and Facilitation Center at Venture Center (supported by BIRAC under the BIRAC Regional Bioinnovation Center)




f. Funding support for startups: Call for proposals under Special Drive for COVID-19

Under the aegis of DST-NSTEDB and NITI Aayog, Venture Center announced a special call for proposal from startups and entrepreneurs with technology which are relevant to COVID-19 and can be deployed within the next few months for financial support to expedite validation, testing and its commercial deployment through the following programs.

- a. NIDHI PRAYAS (grant funding up to Rs 10 Lakh)
- b. NIDHI COVID-19 Seed Support System (Equity investment)
- c. Recommendation to TDB (Soft Loan)

The call was opened on 23rd March and closed on 25th March 2020

Venture Center carried out an expedited evaluation and shortlisted following companies for funding support.

Name of the company	Logo	Brief note on proposed solution for COVID-19	Selected under
Seagull Biosolutions Pvt. Ltd.		The company is working to on developing Immunodiagnostic ELISA kit and potential vaccine candidates for COVID-19	NIDHI SEED SUPPORT SYSTEM by NSTEDB, DST
Module Innovations Pvt. Ltd.		The company proposes to develop develop a rapid 15 minutes Lateral flow test based on gold nanoparticles for the detection of S1 and S2 spike proteins of COVID-19	NIDHI PRAYAS by NSTEDB, DST
BMeK LLP		The company is developing thermal scanning and analysis tool for mass scanning and cloud computing	NIDHI PRAYAS by NSTEDB, DST



g. Venture Center is a satellite partner for National funding call-CAWACH, an initiative of NSTEDB, DST, Government of India

The Centre for Augmenting WAR with COVID-19 Health Crisis (CAWACH) is an initiative by National Science & Technology Entrepreneurship Development Board (NSTEDB), Department of Science and Technology (DST), Government of India.

Under this initiative a nation-wide call has been announced requesting proposals from startups working on developing solutions for COVID-19 for funding assistance up to Rs 2 crore per start-up. More details available at: <https://isba.in/cawach/>

Venture Center is a partner to this program and a Satellite Center. Venture Center will be responsible for shortlisting proposals and managing and tracking progress for the shortlisted startups affiliated to Venture Center.

h. Supporting more than two dozen startups for technology development relevant to COVID-19 and facilitating scaling-up the deployable technologies and raising funds (For e.g. Mylab Discovery Solutions Pvt. Ltd.)

i) Venture Center's Startups Against COVID19.

Startups at Venture Center have lined up to fight against COVID19. These startups function in a plethora of domains such as Diagnostics, Peripheral Medical Devices, PPEs & Assistive Devices, Sterilizers & Disinfectants, Digital Technology & Informatics.



Find out what these startup are developing to combat with COVID-19 here: <https://docs.google.com/spreadsheets/d/1DpLEOuvmf0ZHuy-lkFmh0xzVJPRWg0jSfioloFUqP94/edit>

ii) Venture Center support startups to scale up their technology and facilitate fund raising.



Mylab is an innovative biotechnology company providing next-generation testing kits aimed at providing solutions to life science and diagnostic industry. Mylab has developed "PathoDetect" which is a CoVID-19 detection kit that offers an in vitro diagnostic real time PCR assay for qualitative detection of 2019-novel Coronavirus RNA in respiratory specimens. It is only Made in India KIT with 100% accurate results compared to other domestic and international competitors. It has been approved by Central Drugs Standard Control Organization (CDSCO) and ICMR.

Venture Center is supporting Mylab in providing advice and access to CSR funds to rapidly scale their operations to meet the National need in this moment of crisis.

i. Facilitating Technology Transfer through TechEx



TechEx.in is a Technology Transfer Hub operated by Venture Center, Pune, India and supported by the National Biopharma Mission (Govt of India). It aims to help technology developers and technology commercialization entities find each other, forge partnerships and advance the technology closer to the market in a win-win partnership. TechEx.in (Tech Transfer Hub) in Pune shall be happy to facilitate (on a pro bono basis) Technology Transfer between Technology Providers and Seekers for Technologies that can be deployed rapidly by manufacturers to assist in the National Campaign against COVID19.

More details can be found here: <http://www.techex.in/covid19/>

j. Joining hands with other organizations fighting for COVID-19

Venture Center is happy to associate with other organizations fighting for COVID-19. Venture Center is responding to various national calls, CSR opportunities announced by several organizations and other initiatives.

A list of such organizations and associations is given below,

- a. CII
- b. InvestIndia
- c. Indian Railways
- d. Pune Platform for COVID-19 response (PPCR)
- e. DST media cell
- f. ISBA
- g. AGNii
- h. PSA's office
- i. Other organizations offering CSR

4. Recognition across various media platforms

Venture Center's initiatives to fight against COVID-19 have attracted significant media attention. Many of the leading media agencies like ANI, Indian express, NDTV, Republic TV,

local news agencies and many others have captured these efforts.

Venture Centre designs face shields for Pune police, healthcare personnel

ANJALIMARAR
PUNE, APRIL 3

A GROUP of volunteers and startups operating under Venture Centre have designed and developed face shields, which will be distributed to health workers and police personnel in the city. These face shields, to be worn over regular masks, are meant to protect these frontline workers from catching any kind of infection while discharging their duties, such as handling crowds or coronavirus patients. Priced at Rs 25, each face shield is made of readily available PMP sheets, MFR sheets and elastic bands. "We have been working round-the-clock for the last

three days. So far, we have distributed 300 face shields to the Pune Police. They have asked for an additional 3,000 shields," said Sagar Ingale, who is co-ordinating the production at Venture Centre, supported by CSIR-National Chemical Laboratory. At a time when medical practitioners have strongly advised people to use hand sanitizers, wash their hands frequently and avoid touching their face, the advantage of this shield is that it protects the entire face, said its makers. On Friday, the teams dispatched some shields to medical teams operating at Dadasaheb Mungeshkar Hospital, Noble Hospital, Jehangir Hospital and Sahyadri Hospital. In the next two

days, the team has sent out over 350 shields. When asked if there are separate shield designs for police and medical teams, since they face different kinds of risks, Ingale said, "At present, all shields have the same design. Since we will deliver the shields at hospitals on Friday, any specific needs that arise will be taken into consideration". The current shields are not meant to be washed and can be easily disposed off. However, the team recommends replacement if the shield is subjected to any extreme exposure, like flash or similar lights. "The replacement of the shield depends on the exposure and usage," said Ingale. www.indianexpress.com



ANI @ANI

Maharashtra: A Pune based Venture Center supported by Council of Scientific & Industrial Research National Chemical Laboratory is manufacturing face shields for health workers and police personnel to protect them from #COVID19.



8:42 PM - Apr 3, 2020 - Twitter Web App

161 Retweets 825 Likes

Centre in Pune to connect tech experts, manufacturers to fight COVID-19 pandemic

ANJALIMARAR
PUNE, APRIL 1

TECHEX, A Pune-based platform is planning to connect technology experts with manufacturers to produce tools to fight the coronavirus pandemic. Such tools can pertain to diagnostics, novel therapeutics, re-purposing of drugs, vaccines or other interventions required for Covid-19. To this end, TechEx has invited applications from both technology experts and manufacturing companies. "We are looking for mature technology and bringing it in contact with suitable companies who could take the technology from labs into markets," said V Premnath, director of Venture Centre, a science incubation centre supported by CSIR-National Chemical Laboratory (NCL) under which TechEx operates. "We will need to find people with technology that is at a stage where it can be ready for manufacture. We need players who

can act fast," he added. The initiative is spearheaded by the Department of Biotechnology (DBT) and Biotechnology Industry Research Assistance Council (BIRAC). Being India's largest science business incubator, with more than 75 startups born here, the Venture Centre is in search of appropriate manufacturing partners capable of carrying out mass production of intubated thermometers - the specialised thermometers used to check body temperature which are now extensively used at airports, railway stations and other public locations due to the coronavirus pandemic. Recently, Venture Centre was also chosen to be the technology transfer hub for the Western Zone covering Maharashtra, Gujarat and Goa. Last week, Pune-based MyLab was granted permission to produce Covid-19 test kits by the Indian Council for Medical Research.

corona virus : आज्ञा देवचार्यदेव पोषणयय नही कोरोना विषय : पुण्यातित संस्थेने सोडवण

कोरोना विषय : आज्ञा देवचार्यदेव पोषणयय नही कोरोना विषय : पुण्यातित संस्थेने सोडवण



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ANI @ANI

Ajinkya Dhariya, an entrepreneur: This sanitization unit can disinfect 80 sq ft area by 99.99% bacterial reduction in 15 minutes. Within next week we will be installing these sanitization units at a local hospital. #Maharashtra twitter.com/ANI/status/124...

ANI @ANI

Maharashtra: PadCare Labs, a start-up based in Pune developed a sanitization unit to disinfect surface area, in an attempt to fight #coronavirus pandemic. Ajinkya Dhariya, an entrepreneur says, "this sanitization unit works on the principle of UV mechanism."



588 5:44 am - 5 अप्रैल 2020



PadCare Labs, a start-up based in Pune developed a sanitization unit to disinfect the surface area, in an attempt to fight coronavirus pandemic.

Pune-based startup develops sanitisation unit to ward off coronavirus challenge ANI | Updated: Apr 05, 2020 07:12 IST Pune (Maharashtra) [India], April 5 (ANI): PadCare Labs, a start-up based in Pune developed a sanitization unit to disinfect the surface area, in an attempt to fight coronavirus pandemic. Ajinkya Dhariya, an entrepreneur said, "This sanitisation unit works on the principle of UV mechanism." "This sanitization unit can disinfect 80 sq ft area by 99.99% bacterial reduction in 15 minutes. Within next week we will be installing these sanitization units at a local

ANI @ANI

Maharashtra: A Pune based Venture Center supported by Council of Scientific & Industrial Research National Chemical Laboratory is manufacturing face shields for health workers and police personnel to protect them from #COVID19.



8:48 PM - Apr 3, 2020 - Twitter Web App

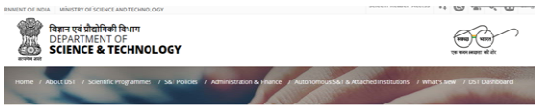
161 Retweets 853 Likes



All these initiatives are also available at :



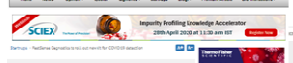
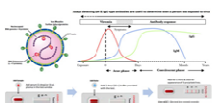
The deep-impact technologies developed by Venture Center's incubatee startups have also been recognized at various platforms.



DST funded startup develops kits for testing asymptomatic COVID-19 infections & gears up for vaccine production

Seqali BioSolutions, a startup working on new biological technologies, is being funded by the Department of Science and Technology (DST), to undertake the development of Active Virosome (AV)-Vaccine and immunodiagnostic kits for COVID-19.

Active Virosome Technology (AVT) developed by SeqaliBio is useful for the production of vaccines & immunodiagnostic agents. The AVT platform is useful for producing novel, non-replicating & economical Active Virosome agents expressing desired antigens from the target pathogen. These will be used to develop a novel vaccine for the prevention of COVID-19 infection and also immunodiagnostic kits for COVID-19.



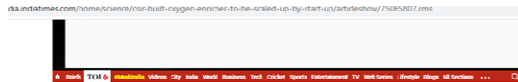
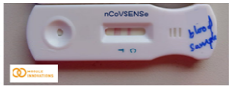
DST supported healthcare startup developing rapid test for detection of COVID-19

The Department of Science & Technology has funded Mobile Innovations, a Pune based healthcare startup working on point of care diagnostic to build up on its platform technology for rapid diagnosis of disease to develop a product for detecting COVID-19 with a 10 to 15 minute test.

Using the proven concept from its flagship product iSense, Mobile is now developing mCOSENSE (TM) which is a rapid test device for detection of antibodies that have been generated against the COVID-19 in the human body.

With the current stage that India is in, doing a mass screening is of extreme importance. With the rapid test device it will be possible to confirm infection in patients and also determine whether an infected patient has recovered and also identify the stage of infection in the patients.

The current confirmatory method of Real-Time Reverse Transcription Polymerase Chain Reaction (RT-PCR) though a gold standard is costly, takes longer time and needs trained



CSIR-built Oxygen enricher to be scaled up by start-up

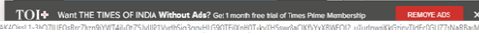
Chetan Kumar | TNN | Apr 9, 2020, 16:52 IST



The device can also be helpful for patients suffering with chronic breathing problems.

PUNE: A membrane oxygenator equipment (MOE) developed by government-run Council of Scientific & Industrial Research's (CSIR) National Chemical Laboratory in Pune will be scaled up by a government-funded start-up.

With an urgent requirement of respiratory interventions to treat breathlessness — one of the critical symptoms of Covid-19 — the equipment can be used to treat patients who have been released from intensive care units (ICUs).



DST supported startup to make natural, alcohol-free sanitizer to combat COVID 19

By India Education Bureau Admin - April 10, 2020

