



JUMPSTART

ANNUAL HUDDLE

—  **2020**  —

INVESTOR SHOWCASE

Bringing together leading minds, innovators,
decision makers from the MedTech
ecosystem in one virtual space.

FOUNDING PROGRAMME LEADS



Industry Liaison Office



SUPPORTED BY

**Enterprise
Singapore**

FOREWORD

Since inception in 2016, JUMPstart has established a successful model of accelerating early stage hardware and software medical devices by working together with clinicians, scientists/researchers and engineers to develop innovative solutions that address areas of unmet need.

We have since completed 5 cohorts, supporting 22 new ventures with over 90 entrepreneurs and these new ventures have successfully raised close to S\$19 Mn with 3 of these new ventures already commercially launching products - a testament to our approach.

Today we bring to you 10 selected start-ups, 6 from our portfolio and 4 from our vibrant community. We hope you enjoy their pitches today and encourage you to continue the conversation in the future.

Irene Cheong

PROGRAMME LEAD

NUS

Whye-Kye Lye

PROGRAMME LEAD

NTU

Woon Wong Kwong

PROGRAMME LEAD

SUTD



ABOUT JUMPSTART

JUMPstart (Joint University MedTech Programme) is Singapore's only university programme dedicated to supporting entrepreneurs developing regulated software or hardware Medical Device solutions. Operated by the three largest local universities, NUS, NTU and SUTD, and supported by Enterprise Singapore, we provide comprehensive support to pre-start-ups and start-ups. JUMPstart is strengthening Singapore's growing Medical and Health technology ecosystem by accelerating innovation and developing entrepreneurs to develop solutions that address unmet needs.

JUMPstart's tailored acceleration methodology is based on a core philosophy of customizing entrepreneurial support to ensure projects with clear clinical and commercial potential receive appropriate mentoring, support and essential funding. Our 24-month intensive industry-led programme delivers modular support to accelerate MedTech innovation to market.

As a collaboration driven, industry-led and outcomes focussed programme, JUMPstart has successfully leveraged resources available within the Universities and complement those with external resources such as investors and industry to develop a comprehensive ecosystem for health technology translation and commercialization through new business ventures.

Learn more about JUMPstart



www.jumpstartmedtech.sg



<https://www.linkedin.com/company/jumpstart-medtech>



FOUNDING PROGRAMME LEADS



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ECOSYSTEM COLLABORATORS





ANNUAL HUDDLE

INVESTOR SHOWCASE
2020

JUMPSTART PORTFOLIO START-UPS



FATHOMX

HiCura

iota medtech



NEUROPLAY
SYSTEMS

JUMPSTART COMMUNITY START-UPS



RECORNEA
securing your vision

UpperMed
Improving PD patients' lives





Easy breath tests for Disease Detection

Rapid and Non-Invasive breath tests that enable easy disease detection.

FUNDING STAGE

SEED

Raising Series A

ABOUT THE START-UP

- An NUS spin-off, Breathonix focuses on the development and commercialisation of easy breath tests for disease detection using its proprietary breath sampling technique and data analysis algorithms.
- The product comprises a high-precision breath sampling device, software with patented biomarkers and proprietary machine learning algorithms.
- Breathonix has identified two initial applications for the product:
 - Non-Invasive Test for Early-Stage Lung Cancer Screening
 - Rapid Breath Test for COVID-19 Mass Screening

SIGNIFICANT MILESTONES

- 7 Completed a clinical study with the first prototype which was successful in detecting early stage lung-cancer patients, as well as misdiagnosed tuberculosis patients.
- 7 Signed a Research Collaboration Agreement with the National Center of Infectious Diseases in Singapore to develop a rapid breath test for mass screening of COVID-19 and currently conducting patient recruitment for the clinical study.
- 7 Featured on National Research Foundation Magazine.
- 7 Awarded ESG Founders Grant.
- 7 Secured SGD 100,000 from NUS GRIP program
- 7 Won MedTech Sector Winner (out of 2400 startups) of Slingshot 2019 competition with \$50,000 award from Enterprise Singapore.
- 7 Featured on Strait Times twice, — [2019 Dec 13](#) and [2018 Sep 10](#)
- 7 In the final stages of securing Research Innovation Grant from Nanjing Government for developing breath test platform.

FOUNDING TEAM



Jia Zhunan
Co-Founder,
Technical Lead



Du Fang
Co-Founder,
Commercial Lead.



Prof. T. Venkatesan
Serial Entrepreneur
(founded 6 companies),
Former Director NUSNNI



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Advancing Breast Cancer Screening with AI

FathomX is an edge computing based Medical Imaging AI Assistant that aims to enhance breast cancer screening with AI by reducing the inefficiencies and inaccuracies in the current care-pathway.

ABOUT THE START-UP

- A spin-off from the National University of Singapore and National University Health System, FathomX aims to improve breast cancer screening by significantly reducing false positive rates by 80% and interval cancer false negative results by 25%.
- Their core algorithm enables cancer-risk estimation through medical imaging and analysis of medical history records, producing a heat-map abnormal lesions for faster diagnosis and an AI Generated Radiology Report that follows existing guidelines.
- Their Imaging AI aims to enhance the existing clinical workflow for radiologists diagnosing breast cancer (i) by allowing for faster readings and (ii) eliminating the double-blind reading requirement per screen for each diagnosis.

SIGNIFICANT MILESTONES

- 7 Core algorithm was recognised as the Overall Winner (Asian Category) and Top 5 (Global Category) Digital Mammography DREAM Challenge Champions, competing against 1100 teams. Research on core algorithm published in JAMA Open Network and AAAI Workshop publications.
- 7 Secured NUS Graduate Research Innovation Program Funding of \$100,000 to incorporate the company.
- 7 Awarded Healthcare Services Research Grant by the National Medical Research Council (Under Ministry of Health Singapore) in November 2017.
- 7 Award Winners in Hubei Innovate/Qingdao Innovate in November 2019.
- 7 Signed Research Collaboration Agreement with NUH, KKH, Lifepool Australia and Taipei Medical University.
- 7 Signed an MoU with HP Enterprise to co-develop and co-deploy solution across multiple clinics in the APAC region.
- 7 Recently awarded SGD1.25 Million in I2Start Funding for commercialisation. Funding comes from SMART, NHIC and Enterprise Singapore.

FUNDING STAGE

SEED

Raising Series A

FOUNDING TEAM



Amos Heng
Chief Operating Officer



Du Hao
Chief Technology Officer



Dr. Feng MengLing
Chief Scientific Officer



Dr. Micheal Hartman
Chief Medical Advisor



www.fathomx.co



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Hello to Smarter Care

HiCura aims to enhance patient care by improving the accuracy and success rate of the first-attempt needle insertion during epidural anesthesia with their AI based imaging assistant - uSINE

ABOUT THE START-UP

- HiCura Medical Pte Ltd is an NUS spin-off that was incorporated in Singapore in May 2019. HiCura uses Artificial Intelligence (AI) in healthcare to enable automatic image guidance for medical procedures.
- Their product, uSINE, increases the success rate of the first needle puncture attempt during neuraxial procedures such as epidural, spinal anaesthesia and lumbar punctures. This leads to higher patient safety and satisfaction, and better clinical outcomes.
- uSINE's machine learning algorithm improves image visualization and enables automatic identification of spinal landmarks. uSINE alerts the anaesthetist in real-time during ultrasound scanning of the spine when the right needle entry point and angle are found. uSINE has the potential to transform the current way anaesthetists are performing epidurals.

SIGNIFICANT MILESTONES

- 7 Secured NUS Graduate Research Innovation Program Funding of \$100,000.
- 7 Awarded Startup SG Tech Proof-of-Concept grant of \$250,000.
- 7 Completed product development and tested for technical and deployment feasibility.
- 7 Signed a research collaboration agreement with KK Hospital in Singapore.
- 7 Concluded two clinical studies to establish effectiveness of use in normal and obese patients (BMI>30). Commencing a third clinical study in 2020.
- 7 Filed a patent application in Singapore and in the process of seeing regulatory approval by the HSA as a Class B medical device.
- 7 Selected as one of the finalists to pitch in The Elevator 2020, organised by National Health Innovation Centre (NHIC) and CATALYST.
- 7 Selected as one of fifteen promising medtech startups across Asia Pacific as part of Medtech Actuator accelerator programmes current cohort.

FUNDING STAGE

SEED

Seeking Seed Funding

FOUNDING TEAM



Dr. Cailin NG
Chief Executive Officer



Dr. Leng Yusong
Co-founder and
Chief Technology Officer



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iota medtech

AI Platform for Medical Images for South-East Asia

Iota Medtech uses Artificial Intelligence to assist radiologists to prioritise medical scans that require immediate attention. Their platform reduces the amount of time needed to read each scan by highlighting the area of interest.

ABOUT THE START-UP

- Iota AI helps to identify the "needle-in-the-haystack patient" in the queue and prioritises it by flagging it out to the radiologist in our software.
- The AI solution can identify abnormal brain scans by flagging out images that require immediate surgical attention to radiologists, speeding up the delivery of acute treatment to patients suffering from Traumatic Brain Injury. This improves the traditional workflow of analysing CT images through the First In First Out (FIFO) method.
- Iota AI model is trained using localised brain scans optimised for the South East Asia market.

SIGNIFICANT MILESTONES

- Signed Memorandum of Understanding (MOU) between Iota Medtech and National Neuroscience Institute (NNI).
- Leveraging partnership with local hospitals such as National Neuroscience Institute the team has used a repository of high-resolution CT brain images incorporated within the clinical protocol (>10,000 brain scans per year).
- Winner of JTC Launchpad Pitch Wars (Pitching event).
- Showcased Iota AI in Asia Pacific MedTech Forum 2019.
- Joined 500 Startups Global Launch Programme (San Francisco).
- Aim to receive CLASS B regulatory approval from HSA and SEA regulators.

FUNDING STAGE

SEED

Seeking Seed/Series A

FOUNDING TEAM



Benjamin Hong
Chief Executive Officer



Victor Tan
Chief Technology Officer



Loo Xinyang
Regulatory and
Quality Manager



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ITEMOSinc™

Accurate, Non-invasive and Real-time monitoring core-body temperature

ITEMOSinc aims to enable the best way to Accurately, Continuously and Non-Invasively Monitor Core Body Temperature using an in-ear device.

FUNDING STAGE

PRE-SEED

Seeking Seed Funding

ABOUT THE START-UP

- ITEMOSinc has created an in-ear device that can measure core body temperature real-time. The company has found two initial applications for their technology:
 - Continuous monitoring of core-body temperature for high risk profession e.g. firefighters
 - Consumer-centric temperature monitoring for fever detection as a symptom of COVID-19
- The technology employs an algorithm to compute core temperature using both aural-canal temperature measurement and in-ear auricle temperature measurement. Initial results indicate a strong correlation in output temperatures compared to the 'gold-standard'- telemetric pill.
- Their initial product is ready for in-human trials which are due to be conducted in early 2021. The company has approached the Singapore Civil Defence Force to conduct in-human trials.

SIGNIFICANT MILESTONES

- Signed a partnership agreement with Hong-Kong based Well Being Digital for commercial development.
- Created a initial prototype of device which needs incorporation into Personal Protective Equipment of firefighters.
- Signed an MoU with COSEM - an exclusive distributor to the Singapore Civil Defense Force - for product sales.

FOUNDING TEAM



Yock Seng
Co-founder and
Chief Executive Officer



Shawn Tan
Co-founder and
Chief Technology Officer



Prof. Ivan Low
Scientific Advisor and
Principal Investigator



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NEUROPLAY SYSTEMS

The NeuroPlay Ambidexter: A gamified digital therapeutic system

A digital therapeutic platform in a gamified form for delivering and objectively monitoring essential therapy to children with neurodevelopmental delays such as Autism Spectrum, Attention Deficit Hyperactivity Disorder and Cerebral Palsy at therapy center and home settings.

FUNDING STAGE

PRE-SEED

Seeking Seed Funding

ABOUT THE START-UP

- NeuroPlay Systems is developing fun and engaging digital therapeutic systems for children with neurodevelopmental disorders.
- Ambidexter, their first product is a digital therapeutic platform that has a gamified environment for delivering and objectively monitoring essential therapy to children. The solution will deliver fine motor skill development related therapy via a smart game controller that provides key exercises such as forearm pronation / supination, wrist flexion and extension, and finger muscle development exercises. The smart game controller robot is adaptive in nature that changes from assistive to resistive function based on the child's own strength and his ability to complete the task in a given period of time.
- The team aims to create a scalable platform for delivering gamified therapies and collecting data. The team is in the process of developing data libraries for all the sensors within our system so we can create an environment for third party game developers or even therapists to develop fun and engaging games for children.

FOUNDING TEAM



CHEONG Chun Wai
Technical Lead



ZENG Jiayi
Quality and
Regulatory Lead

SIGNIFICANT MILESTONES

- 7 Awarded the Enterprise Singapore POC grant of SGD 250,000.
- 7 Prototype developed and tested for improvement in fine motor skills development.
- 7 First clinical study was done at Cerebral Palsy Association of Singapore.
- 7 Next clinical study is underway and the team intends to recruit children from Early Intervention centres across Singapore. Team has passed the IRB and other approvals to conduct the study.



neuroplaysystems@gmail.com



Quick, affordable and convenient diagnostic tests.

QuikPath is creating quick and easy, point-of-care diagnostic tests for COVID-19 and other infectious diseases that can be performed by anyone anywhere.

ABOUT THE START-UP

- QuikPath aims to make diagnostics quicker, accessible, convenient and affordable – without compromising on sensitivity or specificity.
- Their technology is based on LAMP RT-PCR and is easily adaptable for a variety of diseases. Their current application for this Point-of-Care technology is for Rapid Screening of COVID-19. The test can be performed by anyone and with results in under 40 minutes per test.
- Their patent pending technology includes an easy-to-use cartridge that allows for RNA amplification in a single step. The cartridge contains a proprietary reagent mix to detect viral RNA.
- QuikPath has designed two products, each comprising a patent pending cartridge and an analyzer to serve as heatbath:
 - QuikPath Rapid aimed for easy detection of COVID-19 on site removes the need for any kind of laboratory equipment and skilled professionals.
 - QuikPath RAPID Self is the first of its kind home-test for COVID-19, based on PCR-technology, making it the more reliable than the limited home tests currently available in the market

SIGNIFICANT MILESTONES

- 7 Provisional patent filed in Singapore and India.
- 7 Final stage of product review by the HSA, Singapore.
- 7 Distributor and OEM discussions in progress.

FUNDING STAGE

SEED

Seeking Seed Funding

FOUNDING TEAM



Dr. Anansa Ahmed
Co-Founder,
Product & Technical Lead



Ishita Damani
Co-founder,
Commercial Lead



Akansha Sharma
Operations &
Regulatory Specialist



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Securing your vision with advanced ophthalmic solutions

Recornea's GROSSO® implant is the world's first metal corneal implant to restore the physiological curvature of the cornea with predictable clinical outcomes.

FUNDING STAGE

SEED

Raising Series A

ABOUT THE START-UP

- RECORNEA aims to reinstate adequate physiological visual conditions and to get tailored treatment with an optimal visual recovery in a large number of patients suffering from pathologies with detrimental and invalidating corneal shape deformations.
- Their first product GROSSO® a corneal implant, to be implanted in a single and simple surgical procedure to treat a progressive eye disease called keratoconus. This product is the world's first metal corneal implant to restore the physiological curvature of the cornea with predictable clinical outcomes.
- Their product is minimally invasive, allows for uniform corneal reshaping and stops the progression of keratoconus.

FOUNDING TEAM



Emiliano Lepore
Co-founder and
Chief Executive Officer



Moses Kakanga
Co-founder and
Chief Technology Officer

SIGNIFICANT MILESTONES

- 7 Completed product development and tested for technical and deployment feasibility.
- 7 Italian Patent Granted and waiting for PCT extension.
- 7 Animal testing conducted on pig-eyes to validate design assumption and surgical procedure.
- 7 Scheduled to start human clinical trials in Q1 2021.
- 7 Awarded EU Fast Track to Innovation Grant of 1.6 MC and recognised as TOP 5% in 2019 of the most innovative companies in Europe.
- 7 Received 2 pre-seeds from Entrepreneur First from Singapore and GFactor from Italy.
- 7 Recognised by Medtech Innovator Asia Pacific as Top 10% - Most innovative Company.



Arcadio Garcia de Castro
Regulatory Affairs



Edoardo Grosso
Eye surgeon and
co-inventor of the
GROSSO® implant



www.recornea.com



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Improving the quality of life for dialysis patients

UpperMed brings modern technology and service to all Peritoneal Dialysis patients to automate the setup of the heavy dialysate, data logging, and infection control in one package.

FUNDING STAGE

SEED

Seeking Seed Funding

ABOUT THE START-UP

- UpperMed is dedicated to improving the quality of life for dialysis patients. Their product is a portable solution for those on PD with easy accessibility to dialysis procedure – PD Care™, which includes a portable device and companion mobile application for data management.
- Their data management platform intends to enable medical staff to achieve real-time access to patients' dialysis status and adjust the prescription accordingly.

FOUNDING TEAM






Cheng Yi-Chih, MSE
Chief Executive Officer



Lin Zi-Yan
Chief Technology Officer

SIGNIFICANT MILESTONES

-  Completed the development of a workable prototype and are working on the product usability to improve the user interface design.
-  Signed a letter of intent partnering with Omron to integrate PD Care™.
-  Signed MOU with two medical centers Yi-Da hospital & National Taiwan University Hospital to conduct clinical trials.



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Empowering patients and clinicians

Zealth is building an operating system for Indian healthcare to deliver continuous, personalised, and predictive care to 1.38 billion people.

FUNDING STAGE

SEED

Seeking Seed Funding

ABOUT THE START-UP

- Zealth AI is building India's 1st digital health intervention platform powered by artificial intelligence that provides remote monitoring through vitals and patient reported outcomes (PRO)
- Their solution is device agnostic and provides 24*7 support to patient through an online community.
- Zealth AI is the only fully automated and holistic end to end solution which caters to both patient remote monitoring through vitals and captures crucial symptoms that can not be captured otherwise via patient reported outcomes
- Their unique algorithms are tailor-made to analyse the PRO data coming from diverse populations of India, particularly from tier 3-4 cities in regional languages.
- Zealth AI not only leads to high patient satisfaction but also reduces phone calls and hospitalization burdens.

FOUNDING TEAM



Monika Mehta
Chief Executive Officer



Dheeraj Mundhra
Chief Technology Officer

SIGNIFICANT MILESTONES

- 7 Completed product development and product is market ready. Deployed in pilot phase.
- 7 First paid pilot in mid of June with one of the biggest public hospitals- PGI Rohtak, in the State of Haryana, India. Generated a revenue of \$5000.
- 7 Signed MOU with four more leading hospitals in India who are on board as paying customers.
- 7 Received the Antler funding of \$100,000.



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JUMPSTART

**COMMERCIALISATION
COLLABORATIONS
INVESTMENTS**



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