

# SUTD Capstone Programme

## INDUSTRY-BASED CAPSTONE PROJECT

At Singapore University of Technology and Design (SUTD), we believe that the power of design roots from the understanding of human experiences and needs, to create for innovation that enhances and transforms the way we live. This is why we nurture technically grounded leaders and design innovators of tomorrow through an interdisciplinary curriculum delivered via a hands-on, collaborative learning pedagogy and environment that concludes in an industry-based Capstone project.

The Capstone project is a collaboration between companies and senior year students of different majors contributing their technology and design expertise to solve real-world challenges faced by companies. This project will culminate with a design showcase, unveiling the interdisciplinary innovations from the graduating cohort.

**"The Capstone project crystallises various learnings of a student and gives them a cumulative mastery of all their experiences at SUTD."**

## HOW TO PARTICIPATE AS A CAPSTONE PARTNER

- 1) Sign the standard Capstone agreement letter
- 2) Provide details of your proposed Capstone project(s) with the 'Project Form' by 31st April\* (Please request for an editable softcopy from the capstone office)
- 3) Attend project scoping discussions with SUTD professors to ensure that the project scope:



Involves students from at least two different majors



Conducted over two terms (from September to April)



Has enough scope for a team of five to seven students



Fulfills university learning objectives

- 4) Provide at least one company mentor who will work closely with students and faculty instructors
- 5) Contribute a participation cost of \$6,000\*\* per project. SUTD will provide the team usage of its facilities and labs for the development of the prototype. Allowable items that will be purchased will be discussed before finalising the project acceptance

## VALUE TO CAPSTONE PARTNER

SUTD invites you to join us as a Capstone Partner. Capstone Partners can look forward to:



Access to design and technology oriented students



Own intellectual properties, prototypes and reports generated during the Capstone project



Access to a wide range of faculty technical expertise.



Have first-hand opportunity to gauge and recruit talent

#All intellectual property generated during the Capstone project belong to the Capstone Partner. Non-disclosure clauses are enforced to safeguard confidential information.

\*SUTD may stop accepting proposed Capstone projects earlier sufficient projects have been received for year.

\*\*Depending on the complexity of the project, the amount of funding will be confirmed at the scoping sessions with the professors.

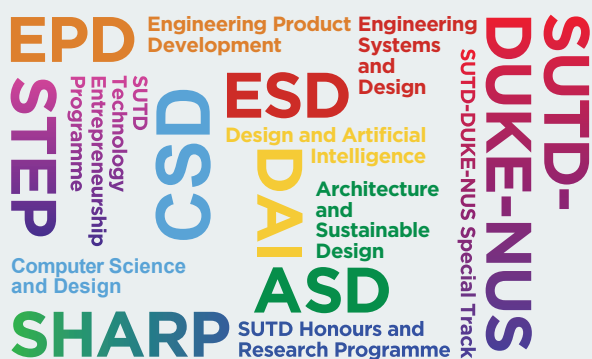
## CAPSTONE OFFICE CONTACT

For any queries, please contact the Capstone Office:

Telephone: 6499 4076  
Email: [capstone@sutd.edu.sg](mailto:capstone@sutd.edu.sg)  
Website: [www.sutd.edu.sg/Capstone](http://www.sutd.edu.sg/Capstone)



## SUTD OFFERS FIVE MAJORS AND THREE SPECIAL PROGRAMMES:



## KEY CAPSTONE PROJECT MILESTONES

MILESTONE	PERIOD
Project sourcing by SUTD	Sep '22 to Mar'23
Companies to attend project scoping sessions with SUTD Professors	Apr '23 and May '23
Project selection and results	Jun '23
Begin administrative process with successful companies	Jul '23
Project duration	Sep '23 to Apr '24
Capstone Design Showcase	Apr '24 (Physical/Virtual)



## NEO-PERSONAL AIR COMMUTER (VTOL DRONE/PLANE) – NEO AERONAUTICS

NEO Aeronautics envisioned the future of travel — ultra-short haul air transport with drone technology. They collaborated with a team of SUTD students to develop a proof-of-concept for a Personal Air Commuter (PAC) Transport Network that could easily integrate into existing infrastructure and demographics. This Capstone project was a great success which contributed to the remarkable progress of NEO Aeronautics. NEO Aeronautics is now targeting to enter the U.S. market with its latest version, Crimson S8.

# Our Collaborations



## HUMMINGBIRD – NDR MEDICAL TECHNOLOGY PTE LTD

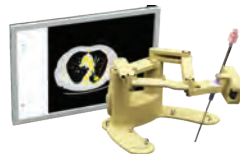


“It was a great pleasure to work with Team HummingBird on SUTD’s Capstone project. They are exceptionally innovative and self-driven students. They gave us totally new perspectives and ideas in improving our ANT-C robotics system. The project provides NDR the opportunities to redefine our technology ideas.”

NDR Medical has been seeking new ways to improve biopsies

- To minimise collateral damage to the surrounding blood vessels, healthy tissues and organs
- Increasing success rates of locating tumours.

This collaboration saw SUTD students develop an AI-powered trajectory planning software with a robotic system. It provides surgeons with greater assistance to deliver the safest and least invasive procedures to locate the tumour.



**Dr Jason Ng**  
Co-founder & CTO  
NDR Medical

## MACHINE LEARNING DRIVEN ANOMALY DETECTION SYSTEM – JURONG PORT PTE LTD

Jurong Port generates enormous amounts of digital event logs, which provide for vast insights into port IT operations and security.

SUTD students leveraged on this to develop an algorithmically-driven machine learning analytics platform that:

- Classifies the log information into anomalous and non-anomalous events.
- Presents them into graphs and sends mobile alerts to the users.

This threat detection system now monitors Jurong Port’s log data, enabling them to identify and rectify potential problems swiftly.

“The capstone project has showcased the strength and resourcefulness of the students in conducting thorough literature review, market analysis on current solutions along with evaluation and implementation of a cost effective solution. It was both a fun and learning journey for both parties.”

**Mr Ho Kong Meng**  
Senior Manager Information Technology  
JurongPort



## TESTIMONIALS



**Pavithren S/o V S  
Pakianathan**

SUTD Alumnus (ISTD) Participated in  
SUTD Capstone Programme 2018

“Managing the expectations set by the university and the industry partners was quite a challenging task but it was a valuable experience. The Capstone experience made me realise the huge potentials of solving real-world problems through a synergy between industry and academia.”



**Tan Jia Hao**

SUTD Alumnus (ESD) Participated in  
SUTD Capstone Programme 2018

“Capstone was an exciting finale to my undergraduate education at SUTD. The project required multi-disciplinary knowledge and were more challenging as compared to other projects in my earlier years at SUTD.”



**Amy Elizabeth Gibson**

SUTD Alumnus (EPD) Participated in  
SUTD Capstone Programme 2017

“The Capstone project taught me numerous things. Not only were we able to get industry exposure and make connections through that, the entire course allowed you to experience a project from start until finish. This was incredibly beneficial to prepare me for the start of my career. On top of the soft skills, it also allowed me to apply the knowledge I have learnt in SUTD.”