





CONTENTS

02	About SUTD, Vision & Mission	28	SUTD At A Glance
06	Chairman's Message	30	Strategic Growth Areas
08	President's Message	32	Education Activities
10	Board of Trustees	36	Faculty / Staff Profiles
15	Senior Management	37	Research Activities
17	Significant Milestones	48	Corporate Governance
22	Awards & Accolades	53	Financial Statements
24	SUTD Benefactions		



IGNITING INNOVATION BY DESIGN

SUTD Time Capsule — The form of the capsule represents the cyclical nature of time
Designed by Architecture & Sustainable Design Assistant Profs Carlos Bañon and Felix Raspall.

ABOUT SUTD

SUTD was incorporated in July 2009 as a Company limited by guarantee under the Companies Act, Chapter 50. It is an Institution of Public Character under the Charities Act, Chapter 37.

The principal activities of SUTD are in the advancement and dissemination of knowledge, the promotion of research and scholarships, and the conferring and awarding of degrees.

VISION

Technology and design always have been and always will be essential for society's prosperity and well-being.

Embracing this tenet as a call to action, SUTD is a leading research-intensive global university focused on technology and all elements of technology-based design.

It will educate technically-grounded leaders who are steeped in the fundamentals of science, mathematics and technology; are creative and entrepreneurial; have broad perspectives informed by the humanities, arts and social sciences; and are engaged with the world.

It will embrace the best of the East and West and drive knowledge creation and innovation, as well as innovative curriculum and teaching approaches.

Its faculty, students and staff will have

1. far-reaching aspirations to create a better world by design
2. the confidence and courage to try new ideas and approaches

3. a questioning spirit fuelled by the thrill of multi-disciplinary learning and doing, and
4. life-long competencies, especially the ability and appetite to learn and innovate.

By excelling in all these dimensions, SUTD will be viewed as the foremost university in the world for technology and design education and research.

MISSION

To advance knowledge and nurture technically-grounded leaders and innovators to serve societal needs, with a focus on Design, through an integrated multi-disciplinary curriculum and multi-disciplinary research.









INSPIRING LEADERSHIP

“A leader, by definition, brings in the new and brings about change. This requires more than knowledge; it needs confidence and conviction. This requires more than good intentions; it needs willingness to act and to seek the broader good. This requires more than great ideas; it needs tenacity and determination. To be a leader, to put it bluntly, you need guts.”

**- Mr Lim Siong Guan,
Professor in Practice, Lee Kuan Yew School of Public Policy
and SUTD Board of Trustee**

CHAIRMAN'S MESSAGE



In the blink of an eye, SUTD is 10 years old. We now have a student cohort of over 1,600 and an integrated campus and hall of residence designed to foster collaboration and creativity.

We have matriculated eight batches of students and graduated four cohorts or around 1,400 undergraduate and postgraduate students. These graduates have done very well as shown in the annual graduate employment survey by the six autonomous universities in Singapore, with high employment rates and starting salaries. This is no small feat for a young university established in 2009 which moved into our current campus only in 2015.

“Design is pervasive at SUTD, incorporated into the curriculum, research and our collaboration with industry partners.”

SUTD’s differentiating factor is our strong focus on design grounded in technology. Design is pervasive at SUTD, incorporated into the curriculum, research and our collaboration with industry partners. It uses technology and is informed by inquiring after the human condition, both individual and societal, in all its diversity. Our pedagogy leads the way with intimate multi-disciplinary learning and discovery. Our students and researchers have a unique learning experience at SUTD.

Our strength in design innovation has gained recognition through winning awards such as the President’s Design Award - the first for the SUTD Library Pavilion in 2014, and the second for the ‘Future of Us’ Pavilion at Gardens by the Bay in 2018. We led in the curation of the Singapore Pavilion at the 16th International Architecture Exhibition of the Venice Biennale in 2018, a major international platform to showcase our strengths.

At the Ministerial Forum at SUTD in April 2018, Prime Minister Lee Hsien Loong emphasised that design is a core element of the building of Singapore as a nation. He cited how our leaders had purposefully approached solving issues like attracting and enabling investment and housing the population. Against this historical backdrop, the reimagining and rebuilding of Singapore for the future continues to emphasise the importance of design innovation.

Through both education and research, SUTD aims to advance Singapore’s design capabilities in talent, leaders and innovators with the ability to develop and realize new approaches. We collaborate with industry partners to develop educational challenges fit for the future. To date, 12 research centres have been set up for multi-disciplinary research at SUTD. We have identified four focus areas — Healthcare, Cities, Aviation and Artificial Intelligence – in which we will make an impact. We have also set up the SUTD Academy to help professionals, managers and executives upskill to be effective and relevant in our fast-changing economy.

I would like to thank our partners, stakeholders, faculty, staff and students, and especially our benefactors, for their continued belief and support in SUTD. You have helped us grow and to come far, and we look forward to working with you in our quest for greater heights.



Mr Lee Tzu Yang
SUTD Chairman

PRESIDENT'S MESSAGE



SUTD has come a long way since its establishment and this year, we celebrated a significant milestone, our 10th Anniversary. Throughout this time, SUTD has developed from a sprout to what we are today and I am especially proud of what we have achieved thus far.

This year, we graduated our fourth batch of students who were very well-received by industry, with overall employment rate at 94%, an increase of 2.6% from last year. We also added a broad multi-year collaboration agreement with Aalto University to collaborate in multiple fields such as student and faculty exchange and mobility, joint teaching and design studio, joint research projects, and concerted efforts in advancing innovation and entrepreneurship.

“Furthermore, we will need to deepen our existing differentiating factors, in particular, to further strengthen our focus on Design as well as our unique multi-disciplinary curriculum and research to nurture technically-grounded leaders and innovators to serve societal needs.”

We were very pleased to have hosted high level visitors to SUTD and shared with them our unique multi-disciplinary pedagogy. They include His Royal Highness Crown Prince Haji Al-Muhtadee Billah, Crown Prince of Brunei Darussalam and the President of Chile, Sebastián Piñera.

In Education, we have come up with an array of new initiatives, such as the SUTD Honours and Research Programme (SHARP), the incorporation of fundamental digital competency for all our students, as well as greater flexibility for engineering undergraduates to pursue a Minor. For our Freshmores, to help transition them into varsity life, we have also expanded our grade-free system such that half of the subjects taken in the first three terms need not count towards their grade point average. Additionally, we have introduced overseas immersion trips in ASEAN countries and Asia to be part of the Freshmore curriculum to help enhance the learning experience. SUTD will be providing a substantial subsidy to all Freshmore students who participate in these overseas immersion trips.

Last year, we identified four key growth areas to focus on — Aviation, Cities and Healthcare, supported by capabilities in Artificial Intelligence/Data Science — and I am pleased to share that over the course of this year, we have made good progress. In the area of Aviation, we recently signed an agreement with the

Civil Aviation Authority of Singapore (CAAS) to set up an Aviation Studies Institute to focus on research and development in air traffic management, economics and emerging aviation technologies.

In Healthcare, we have appointed clinicians from Changi General Hospital as adjunct faculty, who offer their industry expertise, conduct guest lectures, mentor students and collaborate with SUTD faculty on design projects and research. This will ensure that the ideas and solutions innovated by our students and faculty are grounded in real medical needs and requirements.

For Cities, we have been working closely with academia, public agencies and industry to produce research outcomes and policies that could aid Singapore and the region as we move towards developing and evolving into Smart Cities. Furthermore, we are also working towards launching a Cities Minor for students in the near future.

There have also been significant developments in Artificial Intelligence (AI), which cuts across the three key growth areas mentioned above. We have signed a few Memoranda of Understanding (MOU) with multiple institutions and companies to beef up our research and offerings to students in this area. For example, our collaboration with Autodesk will allow all our students to have access to their AI-driven generative design software. In addition, Temasek Laboratories@SUTD has received a research grant to develop next generation technology in robotics and AI where MIT-CSAIL is one of our collaborators. We are also working with A*STAR, Nanyang Technological University and Tsinghua University to develop cutting-edge AI capabilities to better prepare students for the AI-driven economy.

Going forward, we aim to strengthen our bench strength to align with the above-mentioned growth areas, so as to deepen our capabilities and enable us to be forerunners in these areas.

Furthermore, we will need to deepen our existing differentiating factors, in particular, to further strengthen our focus on Design as well as our unique multi-disciplinary curriculum and research to nurture technically-grounded leaders and innovators to serve societal needs.

Lastly, we will also focus on developing new differentiation areas. These efforts are meant to bring together education, research and enterprises to create a vibrant Changi innovation ecosystem.

In closing, I would like to thank everyone who has supported us throughout these years, our faculty, staff, students, industry partners, parents, benefactors (this is not an exhaustive list), for without them, SUTD would not be what it is today. You may have come across the Chinese idiom, “十年树木，百年树人”，which translates to: ‘It takes 10 years to nurture a tree, but a hundred years to nurture a man’. I strongly believe that a good education programme takes some time to develop. We have grown much as a university, but I believe that these past 10 years is only just the beginning for us. By working together with our many stakeholders, I believe we can achieve even greater heights in education and research, and fulfil our mission to produce world-class technically-grounded leaders and innovators who can better the world by design.



Professor Chong Tow Chong
SUTD President

BOARD OF TRUSTEES



Mr Lee Tzu Yang

Chairman, Public Service Commission

Mr Lee is the Chairman of the Board of Trustees and also chairs SUTD's Executive Committee. He is the Chairman of the Public Service Commission, a member of the Legal Service Commission, a Justice of the Peace and Vice Chairman of the Board of Visiting Justices and Board of Inspection. He also chairs the board of The Esplanade Company Limited. Mr Lee graduated from the London School of Economics and Political Science in 1976, and worked for Shell from 1979 – 2014, retiring as Chairman of Shell Companies in Singapore. He was recognised by the Institution of Chemical Engineers as an Honorary Fellow in 2016.



Dr Fidah Alsagoff

Joint Head, Enterprise Development Group / Head, Life Sciences

Dr Alsagoff has been a member of the Board since 2012 and is currently a member of SUTD's Executive Committee and Finance Committee. Dr Alsagoff is a Senior Managing Director at Temasek International Pte Ltd. He is currently Joint Head of Enterprise Development Group and Head of Life Sciences. In addition, he is also Executive Director of Sheares Healthcare Management Pte Ltd. Dr Alsagoff graduated from the National University of Singapore with a Bachelors of Medicine and Surgery, and later with a Masters of Medicine in Public Health. He attended INSEAD on a Lee Kuan Yew Scholarship for post-graduate studies, and subsequently graduated with an Executive MBA (with distinction). As valedictorian of his EMBA class, he was awarded the Claude Janssen Prize.



Mr Robert Chew

Managing Partner, iGlobe Partners

Mr Chew is a member of SUTD's Advancement Committee and Finance Committee. He is the Chairman of Assurity Pte Ltd, a subsidiary of GovTech. He is an Advisor of iGlobe Partners, a technology VC firm, and serves on the boards of Anacle Ltd, SourceSage and StaffOnDemand. He is also a Board Member of National Healthcare Group, Singapore Mediation Centre, Shared Services for Charities, and the National Council of Social Service. Mr Chew was a former Partner of Accenture. He is a Fellow of the Singapore Computer Society (SCS) and was awarded SCS's IT Leader of the Year in 2009. He chairs the Standards Council and was conferred the Public Service Star in 2017.



Mr Choo Chiau Beng

Chairman, NRF Holdings Pte Ltd

Mr Choo is one of the pioneer Board members and is a member of SUTD's Executive Committee. Mr Choo was the Board Member of NRF before he became the Chairman of NRF Holdings Pte Ltd. He is also the Chairman of the Board of Governors of Raffles Institution and a rector at one of the residential colleges in National University of Singapore. A Colombo Plan Scholar, Mr Choo graduated with a Bachelor of Science (First Class Honours) and a Master of Science degree in Naval Architecture from the University of Newcastle upon Tyne. He also attended the Programme for Management Development in Harvard Business School. Mr Choo was conferred Doctor of Civil Law by the University of Newcastle upon Tyne in 2009.



Ms Cordelia Chung

*Managing Director / Chief of Staff,
LIXIL Group Corporation*

Ms Chung has been a member of the Board since 2011 and is currently a member of SUTD's Audit Committee and Promotion and Development Committee. Ms Chung is Chairman of Clarksdale Investment Limited, an investment and consultancy company. She is also senior consultant at Raymond T.Y. Chan, Victoria Chan & Co, a law firm specialized in commercial law. Ms Chung spent 24 years with IBM and was the first Asian female executive who served on IBM Chairman & CEO's Strategy Team. She was the Regional General Manager for IBM ASEAN. Besides being a Trustee of SUTD's board, she also serves on the Board of Directors of Hong Kong Science and Technology Parks Corporation, Hong Kong Government Human Resources Planning Commission and Hong Kong Government Research Grants Council. Her past services include serving on Singapore Government Economic Strategies Committee.



Mr Patrick Daniel

Chairman, ShareInvestor Group Pte Ltd, Former deputy CEO, Singapore Press Holdings (SPH) and former editor-in-chief, English/Malay/Tamil media group, SPH

Mr Daniel is one of the pioneer Board members and chairs SUTD's Promotion and Development Committee. He is also a member of SUTD's Advancement Committee. Patrick has had a 3-decade career with Singapore Press Holdings (SPH). He joined SPH in 1986 as a writer and retired in 2018 after stints as deputy CEO and editor-in-chief. He also chaired several SPH subsidiaries, including SPH Magazines and SPH Radio. Patrick is currently non-executive chairman of the ShareInvestor Group. He also serves on the boards of Sembcorp Marine Ltd and chairs Verdant.sg, his investment holding company. Mr Daniel has an honours degree in Engineering Sciences and Economics from University College, Oxford and a Master of Public Administration degree from the John F. Kennedy School of Government, Harvard University.



Mrs Fang Ai Lian

Advisor, Far East Organization

Mrs Fang is one of the pioneer Board members and chairs SUTD's Audit Committee. Mrs Fang serves as a Director in several companies, including the Banyan Tree Holdings Ltd, Metro Holdings Ltd, Jubilant Pharma Limited and Cromwell EREIT Management Pte Ltd. She is also Advisor to the Far East Organization and a Member of the Governing Board of Duke-NUS Graduate Medical School of Singapore. In addition to serving as Chairman of the Board of Trustees of the Singapore Business Federation and the Medishield Life Council, a member of ToteBoard. Mrs Fang qualified as a Chartered Accountant in England and is a Fellow of the Institute of Chartered Accountants in England and Wales and a Fellow of the Institute of Certified Public Accountants in Singapore.



Ms Goh Swee Chen

Former Chairperson, Shell Companies in Singapore

Ms Goh is a member of SUTD's Audit Committee. She has been the Chairperson of Shell Companies in Singapore since October 2014 and also Vice President, Lubricants - Asia Pacific. Ms Goh also chairs/sat in the Board of several Shell Joint Venture in China and Saudi Arabia. She is also a Board Member of Singapore International Chamber of Commerce, Advisory member of NUS MEM Program and a Member of the Singapore National Climate Change network. She graduated with a B.Sc. from Victoria University and an MBA from Chicago Booth.

BOARD OF TRUSTEES



Mr Sam Goi Seng Hui

Executive Chairman, Tee Yih Jia Group

Mr Goi is one of the pioneer Board members and chairs SUTD's Advancement Committee. Mr Goi holds multiple board positions in various listed companies and organisations. He is the Honorary Chairman of the Ulu Pandan Citizens' Consultative Committee, Dunman High School Advisory Committee, Futsing Association and the Nanyang Gwee Clan Association, the Honorary President of Kong Hwa School Alumni, and a Honorary Council Member of the Singapore Chinese Chamber of Commerce & Industry. Mr Goi also serves as the Vice Chairman of IE Singapore's "Network China" Steering Committee, regional representative for Fuzhou City and Fujian Province and is a Council Member of the Singapore-Tianjin Economic & Trade Council, Singapore-Zhejiang Economic & Trade Council and Singapore-Jiangsu Cooperation Council. Mr Goi is also Singapore's Non-Resident Ambassador to the Federative Republic of Brazil.



Ms Lai Wei Lin

2nd Permanent Secretary (Education), Ministry of Education

Ms Lai is a member of SUTD's Executive Committee. As 2nd Permanent Secretary (Education) in the Ministry of Education, she oversees the development, planning and review of higher education policies and programmes, and works with SkillsFuture Singapore, the Institute of Technical Education, polytechnics and Autonomous Universities to ensure smooth implementation. Besides being a Trustee of SUTD's Board, Ms Lai also currently sits on the Board of Nanyang Technological University. She graduated from Harvard University, and has been with the Singapore Administrative Service since. She was awarded the Eisenhower Fellowship in 2018.



Mr Lim Kang Song

Director, All Gifted LLC

Mr Lim is a member of SUTD's Promotion and Development Committee and Academic and Research Committee. Mr Lim has over 30 years of corporate experience across multiple functions including general management, operations, sales and strategic alliances with Oracle, IBM, Tandem and 3rd Frontier. A strong advocate for the technology development, Mr Lim was the former co-chair for manpower development for SGTech as well as the co-chair for IT sector within TechSkills Accelerator (TeSA).



Mr Lim Siong Guan

Professor in Practice

Mr Lim is a member of SUTD's Executive Committee. He is a Professor at the Lee Kuan Yew School of Public Policy, instructing on leadership and change management, as well as a Senior Fellow of the Singapore Civil Service College. He was the Group President of GIC from 2007 to 2016 and subsequently, Advisor to Group Executive Committee to March 2019. Siong Guan chairs the Board of Directors of Swiss Re Asia Pte. Ltd., and is a member of the International Board of the stars Foundation, a Swiss foundation that promotes leadership development for leaders of the next generation.



Ms Low Sin Leng

Chairman of the Board, Nanyang Academy of Fine Arts

Ms Low has been a member of the Board since 2011 and currently chairs SUTD's Finance Committee. Ms Low was the Senior Executive Director of Sembcorp Industries Limited and concurrently the Executive Chairman of Sembcorp Development Limited. In 2013, she retired from Sembcorp Industries Ltd and assumed the new role of Senior Advisor, a title she relinquished in 2017. She is currently the Board Chairman of NAFA (Nanyang Academy of Fine Arts) and the Board (Independent) Director of L' Air Liquide S.A. A President Scholar and Colombo Plan Scholar, Ms Low Sin Leng holds a First Class Honours in Electrical and Electronics Engineering from the University of Alberta, a MBA from the Catholic University of Leuven, Belgium and an AMP from Harvard Business School.



Prof Lui Pao Chuen

Advisor, National Research Foundation

Prof Lui is one of the pioneer Board members and chairs SUTD's Academic and Research Committee. Prof Lui also chairs the SUTD - MIT Collaboration Governing Board which oversees the collaboration between SUTD and MIT. Prof Lui is currently Advisor to the National Research Foundation, Prime Minister's Office and to six other Ministries. Prof Lui has served an Adjunct Professor of the NUS Faculty of Engineering since 1990. He is a Fellow of the Singapore National Academy of Sciences, and a Fellow of the Singapore Academy of Engineering. Prof Lui was on the board of directors of various Government agencies, universities and corporations. He is a board member at Tropical Marine Science Institute and the Centre for Remote Imaging, Sensing and Processing (CRISP) in NUS; and NUS High School Board of Governors.



Mr Ong Peng Tsin

Managing Partner, Monk's Hill Ventures

Mr Ong serves as a Board Member and chairs SUTD's Investment Committee. He has over 25 years of industry experience and is currently the Managing Partner at Monk's Hill Ventures, a leading early-stage tech Southeast Asian venture capital firm. He was a Venture Partner at GSR Ventures. He also founded companies including Electric Classifieds, Interwoven, and Encentuate. He is a member of the International Advisory Board for the University of Texas at Austin and is also the Chairman of SolveEducation! Mr Ong served on the Boards for SingTel, YY.com, IMDA, IE Singapore, MDA, Infocomm Investments. Mr Ong holds a B.S. in Electrical Engineering from the University of Texas and an M.S. in Computer Science from the University of Illinois.



Mr Charles Marshall Ormiston

Founder, Bain & Company Southeast Asia, Inc.

Mr Ormiston is one of the pioneer Board members. During his tenure, he Chaired the Finance and Investment Committee before the two were separated. He now serves as a member of the SUTD Investment Committee. Mr Ormiston has spent the last 30 years working for Bain & Company, the management consultancy. He founded the Singapore Office, was the Managing Partner of Greater China and Southeast Asia, served on the Board of Directors, Chaired Bain's Nominating Committee and currently leads the Asia-Pacific Retail Practice. Mr Ormiston earned an MBA with High Distinction from the Harvard Business School, where he was named a Baker Scholar. Mr Ormiston has also served on the Boards of MediaCorp, the Infocommunications Authority of Singapore, the Media Development Authority, the Sentosa Development Corporation and as Chairman of the United World College of SE Asia.

BOARD OF TRUSTEES



Mr Quek Gim Pew

Chief Defence Scientist/ Future Systems Technology Architect, Ministry of Defence

Mr Quek is a member of SUTD's Academic and Research Committee. He also sits on various boards of organisations, institutions and directorship of companies. He chairs the Governing Board of the Centre for Quantum Technologies, and the Temasek Defence Systems Institute in NUS. He is also a Fellow of the Academy of Engineering, Singapore, and an Adjunct Professor in the NUS Department of Electrical and Computer Engineering. Mr Quek has a Bachelor of Engineering (1st Class Hons) in Electrical Engineering from the National University of Singapore and a Master of Science (Distinction) in Electrical Engineering from the Naval Postgraduate School, USA.



Mr Tai Lee Siang

Executive Director, BuildSG, Building and Construction Authority

Mr Tai is one of the pioneer Board members and chairs SUTD's Campus Infrastructure and Facilities Committee. Mr Tai is currently the Executive Director, BuildSG, Building Construction Authority, which is focused on industry transformation map of the built environment sector. He was elected as President of Singapore Green Building Council in 2011 and was officially appointed as a Board Director of World Green Building Council and was subsequently elected as Chairman in 2016. Mr Tai currently holds the position of Executive Director, BuildSG Office, Building and Construction Authority. His main focus is on Built Environment Industry Transformation Map.



Ms Tan Min Lan

Group Managing Director, Head Chief Investment Office APAC, UBS Global Wealth Management

Ms Tan is a member of SUTD's Advancement Committee. Ms Tan is a Group Managing Director at UBS AG. Since 2013, she heads up the APAC investment office at UBS Global Wealth Management, and serves on the private bank Global Investment Committee, Emerging Market Investment Committee and Asia Investment Committee. Prior to this, Ms Tan was with the UBS Investment Bank where she held a number of senior appointments, including the Global Head of FICC Macro Strategy Research and Head of Equities for Singapore. She was ranked a top analyst in Asia across major institutional investor surveys, including being named the Number 1 analyst in Singapore by Asiamoney for ten straight years, from 2002 to 2012. Before joining UBS, Ms Tan had worked at Merrill Lynch and the Monetary Authority of Singapore.



Mr Ronny Tan Chong Tee

Board Member, Sentosa Development Corporation & President, Sentosa Golf Club

Mr Tan is one of the pioneer Board members and was formerly the Chairman of SUTD's Finance Committee as well as Chairman of SUTD's Investment Committee. Currently, he is a member of SUTD's Finance Committee and Campus Infrastructure and Facilities Committee. In the corporate sector, he sits on the Asian Board of a Swiss private bank, Lombard Odier and is a director of Singapore Exchange Regulation Private Ltd. Since 2002, he serves on the Taman Jurong Citizen Consultative Committee. Mr Tan holds a degree in Economics and Statistics from the University of Singapore and a Diploma in Banking and Finance.

SENIOR MANAGEMENT



Prof Chong Tow Chong
President



Ms Giselia Giam
*Vice President,
Administration and Chief
Financial Officer*



Prof Lim Seh Chun
*Associate Provost,
Student Affairs*



Prof Pey Kin Leong
*Associate Provost,
Undergraduate Studies
& SUTD Academy*



Prof Yeo Kiat Seng
*Associate Provost,
Research & International
Relations*



Prof Kristin L. Wood
*Associate Provost,
Graduate Studies,
Co-director, SUTD-MIT
International Design Centre*



Prof Erwin Viray
*Head of Pillar, Architecture
and Sustainable Design*



Prof Peter Jackson
*Head of Pillar, Engineering
Systems and Design*



Associate Prof Tony Quek
*Acting Head of Pillar,
Information Systems
Technology and Design*



Prof Ricky Ang
*Head, Science and
Mathematics*



Prof Lim Sun Sun
*Head, Humanities, Arts and
Social Sciences*



Dr Jaclyn Lee
*Chief Human Resources
Officer*



Ms Neo Chin
Chief Investment Officer



Ms Corinna Choong
*Senior Director, Marketing
& Communications*



Mr Poon King Wang
*Senior Director,
Strategic Planning*



10
YEARS



IGNITING
INNOVATION
BY DESIGN

SIGNIFICANT MILESTONES



2009

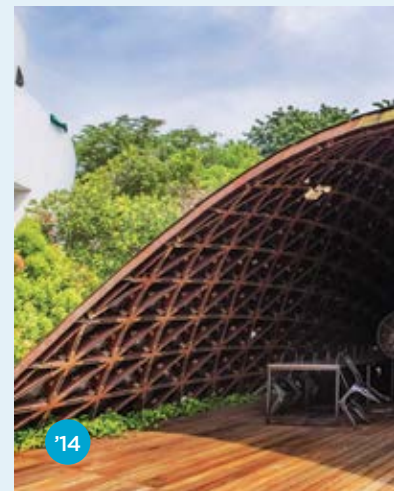
- Established SUTD, Singapore's fourth public university
- Appointed the Founding Chairman of the Board of Trustees, Mr Philip Ng
- First SUTD office at Ghim Moh Road Chinese Language Centre
- Appointed Founding President, Prof Thomas Magnanti

2010

- Signed collaboration agreement with Massachusetts Institute of Technology (MIT)
- Appointed Founding Provost, Prof Chong Tow Chong
- Signed collaboration agreement with Zhejiang University (ZJU)
- Won gold award in 2010 Singapore Design Award (for SUTD logo)
- Launched MIT-SUTD Dual Masters Programme

2011

- Moved into interim campus at Dover
- Signed MOU with Singapore Management University (SMU) to collaborate in education, research, and student and faculty exchanges
- Held a groundbreaking ceremony for new East Coast campus



2012

- Opened the SUTD-MIT International Design Centre
- Signed MOUs with the Ministry of Defence (MINDEF) to establish Temasek Laboratories at SUTD, and iTRUST, Centre for Research in Cyber Security
- Matriculated first batch of undergraduate students
- Signed MOU with the Singapore Institute of Architects
- Established the Lee Kuan Yew Centre for Innovative Cities
- Unveiled multi-disciplinary Fabrication Laboratory
- Launched first SUTD PhD programme

2013

- Graduated first three MIT-SUTD Dual Masters students
- Held topping out ceremony for new East Coast campus

2014

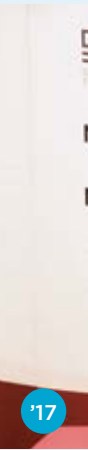
- Launched SUTD-SMU Dual Degree Programme in Technology and Management
- Beam Raising Ceremony at antique structures donated by Jackie Chan
- Achieved provisional accreditation for Engineering degrees by the Institute of Engineers Singapore (IES), through its Engineering Accreditation Board (EAB)



'15



'16



'17



'15



'18

2015

- Established the SUTD-JTC Industrial Infrastructure Innovation Centre
- Received President's Design Award for the in-house library pavilion design at the interim campus at Dover Road
- MIT held its Executive Committee meeting outside the USA at SUTD's new campus, a first in its 150-year history

- Moved from interim campus to brand new campus in Changi
- Opening ceremony of SUTD campus, witnessed by Singapore Prime Minister Lee Hsien Loong
- Graduation of pioneer batch of undergraduate students
- Agreement with the National University of Singapore to establish joint engineering PhD programme
- Received S\$11 million donation from the family of Mr Ng Teng Fong to set up a joint Innovation, Design and Entrepreneurship Alliance with ZJU

2016

- First graduate employment survey conducted with 85% of fresh graduates employed within six months of completing their final examinations
- First batch of Masters of Architecture students graduate
- Appointment of Mr Lee Tzu Yang as Chairman of SUTD Board of Trustees
- Launched \$44.3M ST Engineering Electronics and SUTD joint Cyber Security Laboratory
- Launched SUTD Master of Science in Security by Design programme



2017

- Achieved full accreditation of B.Eng and M.Arch degree programmes
- Launched SUTD’s first integrated Bachelor and Masters programme, the SUTD Technology Management Programme
- Successfully completed the seven-year MIT-SUTD education collaboration
- Launched SUTD’s five-year growth plan
- SUTD and Keysight Technologies set up the Measurement Technologies Lab
- SUTD ranked 5th most influential scientific research institution in telecommunications based on citation impact of research papers

2018

- Launched SUTD Academy
- Prof Thomas Magnanti appointed as President Emeritus
- Prof Chong Tow Chong appointed as President
- SUTD tops MIT’s list of emerging engineering schools
- SUTD graduates first batch of SUTD-SMU Dual Degree programme students
- SUTD and NUS curate for the Singapore Pavilion at the Venice Biennale
- Signed collaboration agreement with Aalto University

2019

- SUTD celebrates its 10-year anniversary

AWARDS & ACCOLADES

Staff

Award	Received by
Recognised as top 20 expert in the world on electronic transistor front end reliability by International Integrated Reliability workshop (IIRW 2018) and the IEEE Electron Device Society (EDS)	Associate Provost Prof Pey Kin Leong
MRS iMatSci Innovator Award 2018	Assistant Prof Desmond Loke and his research team
Global Highly Cited Researchers 2018 List	Associate Prof Tony Quek
2018 IEEE ComSoc Distinguished Lecturer	Associate Prof Tony Quek
Innovation Prize at Purmundus Challenge 2018	Assistant Prof Javier Gomez Fernandez and Assistant Prof Stylianos Dritsas
The American Society of Mechanical Engineers (ASME) Design Theory and Methodology Award	Prof Kristin L. Wood
The American Society of Mechanical Engineers (ASME) Best Paper Award	Assistant Prof Soh Gim Song and research team
National Day Award 2018	
a) The Public Administration Medal (Gold)	President Emeritus, Prof Thomas Magnanti
b) The Commendation Medal (Pingat Kepujian)	Associate Prof Yeo Kang Shua
c) The Commendation Medal	Associate Prof Foong Shaohui
President's Design Award 2018 : The Future of Us Pavilion	Prof Thomas Schroepfer, Professor and Director, Advanced Architecture Laboratory
Asia Education Leadership Award 2018	Prof Thomas Schroepfer, Professor and Director, Advanced Architecture Laboratory
German Design Award 2018 - The Future of Us Exhibition Pavilion	Prof Thomas Schroepfer, Professor and Director, Advanced Architecture Laboratory
German Design Award 2018 - The Face of Recycling	Assistant Prof Michael Budig
IUMRS - MRS Singapore Young Researcher Award 2018 Finalist	Associate Prof Yang Hui Ying
Nature Research Awards for Inspiring Science 2018 (Selected as one of the top 10 finalists, and the only one from Asia)	Associate Prof Dawn Tan
40 Under 40, Prestige Magazine, 2018	Associate Prof Dawn Tan
GameStart 2018 Indie Awards (Judges Choice Award)	Game Lab
High Recognition for Depth of Research on Industrial Cybersecurity (2018)	iTrust
Singapore Good Design Mark 2018	
a) Shrilk And The Revolution Of The Bioinspired Materials	SUTD-MIT International Design Centre (Javier Gomez Fernandez & Stylianos Dritsas)

Award	Received by
b) Swirl: Surveyor With Intelligent Rotating Lens	SUTD-MIT International Design Centre (Foong Shaohui, Danial Sufiyan Bin Shaiful, Kyi Hla Win, Tan Chee How, Ang Wei Jun, Matthew Ng, Peh Ying Hong, Luke Soe Thura Win, Low Jun En, Sai-Kit Yeung, Lim Hock Beng)
c) Thor: Transformable Hovering Rotorcraft	SUTD-MIT International Design Centre (Foong Shaohui)
d) TIM: Tree Inspection Microdrone	SUTD-MIT International Design Centre & National Parks Board of Singapore. (Foong Shaohui, Soh Gim Song, Jake Goh Tze Huan, Ang Wei Jun, Lee Jiong Le, Tan Chee How & Ervine Lin Shengwei)
e) Potato Pirates	Codomo (Aditya Batura, Fendy Lieanata, Lim Jia Xuan, Seah Tat Leong)
f) Instability Desk	Yogiaman Tracy Design, SUTD (Kenneth Tracy)
g) Pocket Money	Ring Theory / SUTD-MIT International Design Centre (Edward Tiong, Jack Zhang, Kenneth Teo, Delane Foo)
h) Informed Design Platform	SUTD-MIT International Design Centre (Bige Tuncer)
i) sTetro: A Modular Reconfigurable Staircase Cleaning Robot	Manojkumar Devarassu, Mohan Rajesh Elara, Manivannan Kalimuthu, Shi Yuyao, Karthikeyan Elangovan, Veera Jagadheeshwar, Thein Than Tun, Ayyalusami Vengadesh, Pratap Kandasamy
ASEAN ICT Awards (AICTA) 2018 (Gold medal – Research and Development)	iTrust

Students

Award	Received by
Singapore Amazing Flying Machine Competition 2019 (Judges' Commendation Award)	10 SUTD students represented SUTD in 3 categories: <ul style="list-style-type: none"> Category C3: First Person View Racing (Micro Class) Category D1: Semi-Autonomous and, Category D2: Full Autonomous. The team won the Judges' Commendation Award with the design of their flying machine for Category D2, and ranked fourth in Category D1.
SCDF Lifesavers' Innovation Challenge 2018 (First Runner-Up)	Bai Jialong, Adam Idris Lim Wei & Lai Zheng Hui Carey
Best Design Award at the Autonomous Aerial Vehicle Challenge 2018 (Best Design Award)	Tan Wei Heng, Chistopher Sim, Kenneth Chow, Malcom Neo and Tan Jin Yuan
IES Innovation Challenge (Gold Award)	Subramanian Gowtham
Singapore 3MT (3-Minute Thesis) competition (First prize)	John Chan You En
Create4Good Challenge III (First prize)	Team UGLYGOOD

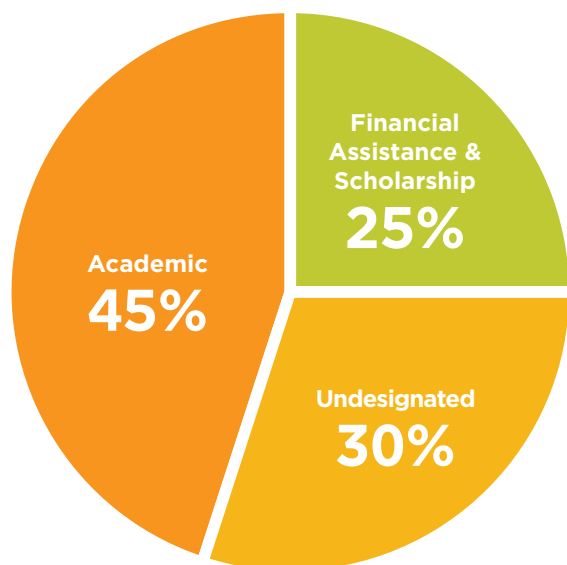
SUTD BENEFACCTIONS

To all our donors, we are truly grateful.

On behalf of SUTD's Board of Trustees, Senior Management, faculty, staff, students and alumni, we sincerely thank you, the many generous individuals, corporations, foundations and organisations who have joined us in our efforts to create a better world by design.

Donors like you make our mission possible. Thanks to your thoughtful gifts, SUTD can advance our teaching and research in critical areas that address societal challenges. You help ensure that aspiring architecture and engineering students can reach their full potential by enabling us to offer bond-free scholarships to nurture exceptional talent, and bursaries that provide access for many deserving students to a unique multi-disciplinary, hands-on education at SUTD. Your gifts also support important grants so that every student has a chance at experiential learning beyond the classroom, to hone their life-skills and values.





SUTD is a firm advocate of providing equal opportunities for all and thanks to the foresight of our donors, these meaningful resources will propel us in the right direction. For Financial Year 2018, based on donor intent, 25% of our endowment fund supports scholarships and financial assistance schemes; 45% supports academic programmes such as research, professorships, merit awards, student competitions, entrepreneurship projects and exchange grants; and 30% are undesignated funds that supports the priorities of the University. In Academic Year 2018, we awarded S\$12.74 million in donor-funded programmes, to which 774 students were directly impacted as a result of your investments in SUTD.

Charitable giving is vital to SUTD's success. Every gift from our donors has a tremendous impact at SUTD. We maintain a 100% fundraising efficiency ratio – every dollar we raise goes directly towards endowed or expendable programmes designated by the donor. General funds support educational and flexible funding that will permit SUTD to innovate and invest in exciting new programmes and developments for the future.

As we celebrate our 10th Anniversary this year amidst Singapore's Bicentennial commemoration, we have much to be grateful for. Our success is yours. We very much appreciate your strong support that has helped our young university in so many ways. Your contributions have enabled SUTD to realise 10 years of academic and learning excellence and fulfil our mission to be an innovative leader in architecture and engineering education.



Special acknowledgements also go to our Founding Patron for Advancement, Emeritus Senior Minister Mr Goh Chok Tong and our Chairman of the Advancement Committee (Board of Trustee), Mr Sam Goi, for their leadership and guidance in the University's fundraising efforts. Their support has been instrumental in getting to where we are today.

We invite you to partake in our cause to impact the next decade for a better world. That is the vision of SUTD10X, our SUTD 10th Anniversary campaign to create not just 10% improvement but 10 times the impact. This is a movement to strengthen the foundation of Singapore and our region, and a rallying point and conviction that young architectural and engineering talents are worth investing in. A future where no one gets left behind, where education and technology improves lives. This is only possible with your continued support.

Many thanks once again to our esteemed group of SUTD donors, a vibrant and engaged community who provides a broad base of support for SUTD, our students and our priorities.

Your support is truly inspiring to our entire SUTD community.





REDEFINING DESIGN INNOVATION

“And I would say the key thrust of what you need to do, is to champion design as a discipline. Design is a horizontal expertise that cuts across all sectors and activities. It is about how we identify problems, bring together multiple disciplines, and take a user perspective to solve the problem, through a practical iterative process of prototyping, testing and improvement. Do, fail and re-do again.”

**- Mr Ong Ye Kung,
Minister for Education**

SUTD AT A GLANCE

Graduated
4 batches
of undergraduates

Topped list
of emerging
engineering schools
in the world

94%
employed* within six
months of graduation

**Highest
starting salary**
across all universities
at \$4,071*

Secured jobs in
78.6%
of Singapore's key
industries^

**10 graduate
programmes**
launched

**45
partnerships**
in 15 countries

**Global
exposure**
for 100% of students

39
summer
programmes

135
exchange
opportunities

239
Masters & PhD
students graduated

SUTD Academy
**trained 2,711
adult learners**
in 1.5 years over the course of
115 course runs

**5th most
influential**
scientific research institution
in telecommunications

**Overall employment rate*

**Mean gross monthly salary*

^Based on the Economic Development Board's list of Singapore's industries and key activities

As of 31 Mar 2019



Faculty, Researchers, Students

102 Tenure-track Faculty +
4 Faculty Fellows

363
Researchers

411
PhD & Masters students



Publications*

>4,230

Citations*

>39,475

*Based on the documents indexed in Web of Science



Accolades

**>319 and
growing**



Invention Disclosures & Patents

214
Technology
Disclosures

143
Patents
filed

16
Patents
granted



Growing Start up Network

46 Start Ups
includes 11 in Incubation
Space @ SUTD



Research Funding

\$354M
since 2010



Research Centres and Labs

5+7

>800 Industry Partnerships

Includes internship and employment opportunities

STRATEGIC GROWTH AREAS

In 2017, SUTD entered its next phase of growth and identified four key focus areas – Healthcare, Cities and Aviation, supported by capabilities in Artificial Intelligence/Data Science. With the strong support from the Ministry of Education, a \$75-million dollar budget has been earmarked to help us drive these growth plans. Here are the key developments achieved over the last year.



Healthcare

In the area of Healthcare, SUTD has continued to deepen its partnership with Changi General Hospital (CGH). A new five-year MOU, extending and expanding on the SUTD-CGH partnership that began in 2013, was signed in 2017. Today, SUTD's partnership with CGH is further strengthened with the appointment of SUTD faculty as CGH Visiting Academicians and CGH clinicians as SUTD Adjunct Faculty. Not only do the clinicians serve as mentors to the SUTD-Duke-NUS Special Track students; they also co-create problem statements with our faculty for student projects, conduct guest lectures, and collaborate with SUTD faculty in design and research projects.

A Joint Professorship was also awarded to Prof Hsu Pon Poh from CGH and Prof Pey Kin Leong (Associate Provost, Undergraduate Studies and SUTD Academy).

Last year, SUTD launched the SUTD-Duke-NUS Special Track programme which aims to nurture future clinicians who are adept at both practising medicine and harnessing technological advancements across disciplines to impact healthcare. This partnership is with Duke-NUS Medical School, the only US-styled graduate-entry medical school in Singapore. There are currently 12 students enrolled in the Special Track.

In Research, SUTD continues collaborating with CGH to seed impactful projects. Three new projects were granted in 2018 to (i) develop cochlear implants that are MRI compatible; (ii) develop a smart phone app that allows heart-health screening; and (iii) improve sorbent-based dialysis so that it is more cost-effective and efficient. Beyond CGH, research collaborations have extended to other hospitals and healthcare partners. Discussions with healthcare and medtech companies are also underway.

As of 31 March 2019, 18 invention disclosures and eight patents have been filed. Of these, 14 invention disclosures and 5 patents involved students from the Healthcare Product Design, and Biomedical and Healthcare Engineering modules, as well as from the capstone projects and internship with CGH.

Going forward, SUTD will introduce the **Launching HEalthcare StArtups & Products (LEAP)** Programme to make healthtech innovations more ready for downstream incubation, investment, testbedding, productisation or market penetration; and will set up the National Assistive HealthTech (NASH) initiative, a “First-of-its-kind” national initiative aimed at supporting entrepreneurship and scaling-up Assistive HealthTech startups.



Cities

The Cities sector encompasses four broad objectives:

- Advancing theoretical understanding of city development and urban governance;
- Applying computational analysis and urban science from the complex systems perspective;
- Providing design solutions to address real-world urban problems;
- Presenting a dynamic overview of urban developments in Southeast Asia so that students and the wider Singaporean society can appreciate the opportunities available in remaking the future of Southeast Asian cities.

To these ends, working closely with local agencies (such as URA) as well as foreign ones (such as Indonesia Institute of Sciences), concurrent research projects in Singapore, Jakarta and Phnom Penh, focusing on the issues of urban density, liveability and the sharing urban economy has commenced.

Moving forward, SUTD will launch a “Cities Minor” so that students can have the requisite depth and breadth of knowledge and design skills to appreciate and act on the complexities of urban change. This will be augmented by overseas exposure trips and design studios to selected Southeast Asian cities where students can have first-hand experience of developing design solutions to specific urban challenges. Such trips also sensitise them to other research and business opportunities in these cities. SUTD also has plans to expand its research interest to more cities in the region, such as Bangkok and Manila, to establish the university as a premier research, design and education centre for the study of Southeast Asian cities.



Aviation

The Aviation sector has amassed the competencies of SUTD and captured them strategically under six focused themes:

- Airport Terminal Design;
- Airport-Airline Operations;
- Aircraft Manufacture, Maintenance and Repair;
- Air Traffic Management;
- Air-Sea-Land Transportation System Integration;
- Robotics and Automation.

These six themes consist of both research and education offerings for interested undergraduates.

Of particular mention will be Civil Aviation Authority of Singapore’s (CAAS) partnership with SUTD, to conduct a preliminary study on Singapore’s Air Traffic Management landscape within the domains of economics, operations and policy. This collaboration between CAAS and SUTD will eventually pave the way for the establishment of a facility within SUTD, dedicated to Air Traffic Management research.

On the curriculum front, SUTD has also developed and launched the Airport Systems Planning and Design elective course for students in January 2019. In the near future, there are plans to launch an Aviation Focus Track within the Engineering Systems and Design pillar.

Undergraduates are also promised a myriad of opportunities to work directly with Aviation industry partners through undergraduate projects, internship placements and Capstone projects. Companies such as Changi Airport Group, Singapore Airlines, ST

Aerospace, Boeing, Thales and Embraer are just some of SUTD’s partners in these fronts.



Artificial Intelligence

The Artificial Intelligence (AI) sector aims to develop transformative AI capabilities in SUTD by focusing on four themes:

- Theory and Fundamentals of AI Systems;
- Discovery by AI;
- Human-AI Interaction;
- Infrastructure for AI of the future.

There have been significant developments in the AI sector and some of the activities include co-organising an InitiaAltion Workshop and AI Challenge, an AI summer school with AI Singapore, A*STAR and various local universities and the 2018 Singapore Symposium on Natural Language Processing. SUTD also signed MOUs with iFlytek Co. Ltd, Singapore-Nanjing Eco Hi-Tech Island Administrative Committee and Sino-Singapore Nanjing Eco Hi-Tech Island Development Co. Ltd, to establish a Joint Research Centre in Artificial Intelligence on the Singapore-Nanjing Eco Hi-Tech Island.

A Minor in AI was made available to SUTD students in January 2019, aimed at educating students on the foundation, theory and applications of AI technology. Graduates with a Minor in AI will be imbued with knowledge and skills to solve real-world problems using AI technology.

Moving forward, SUTD plans to set up three essential AI clusters for education, research and development:

- Graphics Processing Unit (GPU) cluster;
- Robotics cluster;
- Edge Computing cluster.

These clusters will also cater to undergraduate courses and research activities. The AI sector is currently exploring partnerships with industries and institutions for research funding, internship and overseas opportunities, so that graduates have the relevant experience to augment their education in SUTD. There will be AI-focused outreach activities, such as the InitiaAltion Workshop, which is an Introduction to AI and a yearly hands-on machine learning workshop. In the meantime, there are discussions with prominent AI companies to establish strategic research and industry partnerships.

EDUCATION ACTIVITIES



Undergraduate Programmes New Education Initiatives

New programmes and initiatives have been introduced to offer students more options, new learning pathways and greater flexibility to customise their curriculum to suit their interests.

SUTD Honours and Research Programme (SHARP)

The SUTD Honours and Research Programme (SHARP) is tailored for undergraduates who aspire to be research scientists, engineers and innovators. SHARP students undertake a structured research-oriented programme and graduate with a Bachelor of Engineering or Bachelor of Science, with the option to pursue a graduate degree such as a Doctor of Philosophy (PhD) in Engineering or Architecture, or a Master in Engineering by research at SUTD.

Minor Programmes

As more than 80% of current students have shown interest in taking up a Minor, SUTD has enhanced its curriculum to allow greater flexibility for engineering undergraduate students to pursue a Minor degree with the same number of subjects required for graduating. Currently, SUTD offers seven Minor programmes:

- Minor in Design Innovation, Ventures and Entrepreneurship (DIVE)
- Minor in Engineering Systems (ES)
- Minor in Artificial Intelligence (AI)
- Minor in Digital Humanities (DH)
- Minor in Design, Technology and Society (DTS)
- Minor in Engineering Product Development (EPD)
- Minor in Information Systems (IS)



Overseas Opportunities

SUTD students are in more classrooms all over the world.

In December 2018, SUTD established a strategic partnership with Aalto University, Finland that encompasses student and faculty exchange as well as collaboration through joint research workshops. Continuing our mission to nurture global citizens, SUTD now partners 45 institutions in 15 countries to offer a variety of global opportunities to all of our students. With increased partner networks, the number of semester overseas exchange opportunities increased by five times (20 to 135) for our most sought-after Global Exchange Programme since 2016. Coming Fall 2020, SUTD students will be able to go on board exchange in new partner universities such as Tecnológico de Monterrey in Mexico, Tianjin University in China, National Cheng Kung University, Chulalongkorn University in Thailand, University of Southern Denmark in Denmark, Tampere University in Finland, IE University in Spain as well as Chalmers University of Technology and Uppsala University in Sweden.

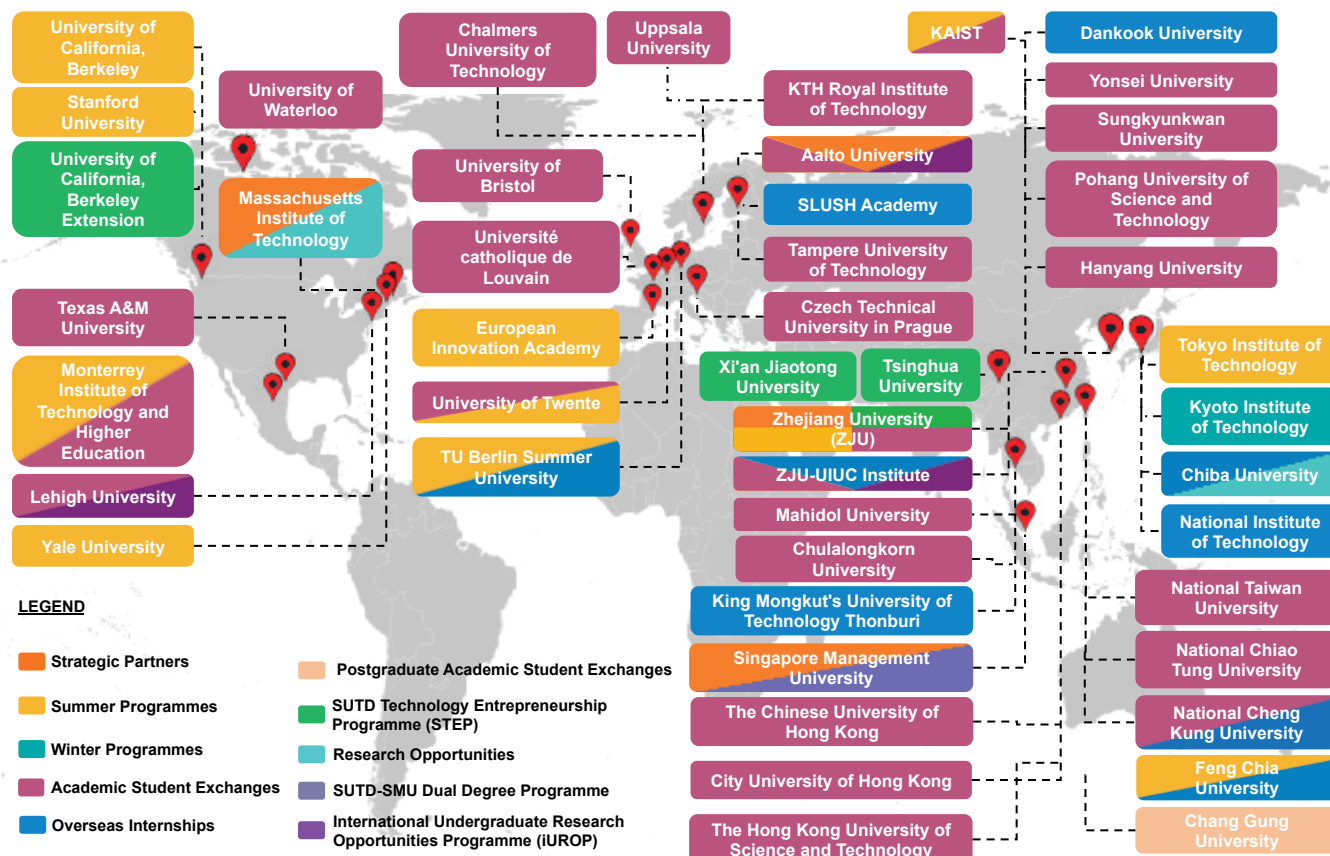
To encourage international diversity and interaction in our student community, we continue to welcome a diverse community of exceptional students from around the world through exchange partnerships to create a melting pot of cultures and ideas on campus, bringing the world to SUTD. Since 2016, SUTD has hosted 210 exchange students from over 27 partner universities.

SUTD's Summer Opportunities offer more than 39 programmes in 14 countries. Students can also choose from a wide range of options which include short-

term overseas exchanges, internships and immersion opportunities. Today, students already participate in programmes at the following universities:

- Aalto University, Finland
- TU Berlin University, Germany
- Stanford University, USA
- University of California, Berkeley, USA
- Zhejiang University, China
- Tsinghua University, China
- Tokyo Institute of Technology, Japan
- KAIST University, South Korea
- Hanyang University, South Korea

SUTD's Growing International Partner Networks: Nurturing Global Citizens



EDUCATION ACTIVITIES

Graduate Programmes

SUTD is an innovative research intensive university that encourages interdisciplinary curriculum and learning. It collaborates extensively with industry partners to provide real-life experiences to enhance student learning through meaningful attachment and research projects.

Masters Programmes

SUTD offers both Masters by research and Masters by coursework programmes. They include the Master of Engineering, Master of Engineering in Innovation by Design, SUTD-CGU Dual Masters in Nano-Electronic Engineering and Design in collaboration with Chung Gung University in Taiwan, Master of Science in Security by Design, Master of Science in Urban Science, Policy and Planning, Master of Architecture as well as the Master of Science in Technology Entrepreneurship.

These Masters programmes are offered on minimum of 1-year full-time to 2-year part-time with candidature of up to 3 years.

SUTD PhD Programmes

SUTD offers innovative PhD programmes including the Joint SUTD-NUS Engineering Doctorate for its four academic pillars and two clusters. Distinctive features include

- Access to multiple world-class faculty members with co-supervision flexibility
- Leading-edge interdisciplinary research experience and collaboration at local or overseas research attachments at top universities worldwide
 - PhD Industry Attachments: PhD students can embark on an Industry Internship Programme (of up to 6 months). This will expose them to hands-on industry experience with projects, a broader research scope to supplement their PhD research, and the opportunity to





network with other research collaborators.

This is attainable as course credits for the PhD programme.

- Participate in a multi-disciplinary design experience
 - PhD Big-D Project: A task-based, self-driven entrepreneurial programme that aims to transform ideas, inventions and scientific understandings into tangible products, systems and/or services
- Professional development programme and teaching experience
- Enhanced student experiences through workshops and global competitions where they are exposed to other global concerns in addition to contributing to their research and academic studies.

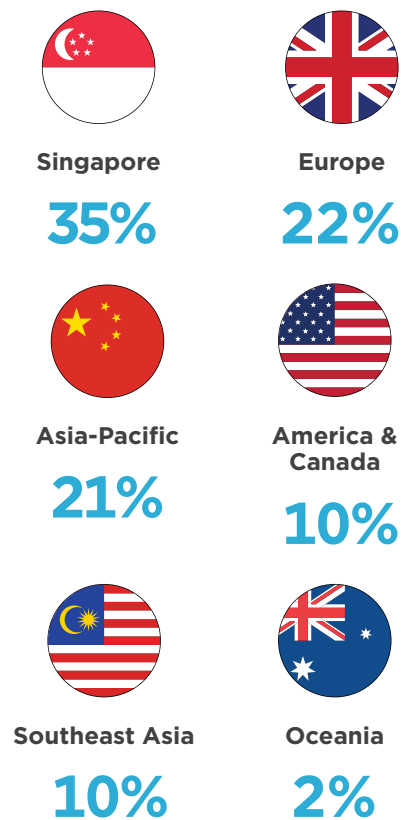
PhD programmes are offered on full-time and part-time with candidature of up to 5 years.

SUTD Academy

The SUTD Academy was launched on 10 January 2018, with a mission to up-skill and re-skill working professionals in emerging areas such as design innovation, data analytics, cybersecurity, artificial intelligence (AI), and other relevant digital skills so they can stay relevant in the fast-evolving working environment despite the advent of new technologies. The Academy adopts the same education philosophy of SUTD, where its training courses and programmes promote a multi-disciplinary approach, design thinking, an entrepreneurial spirit and active learning, among other things. The Academy has been working with partners from the private and public sectors, as well as professional bodies to co-develop customised programmes for industry-specific sectors. SUTD Academy has trained close to 2,000 participants in FY2018 through SkillsFuture-funded courses and tailored programmes.

FACULTY / STAFF PROFILES

Diverse workforce made up of 31 nationalities



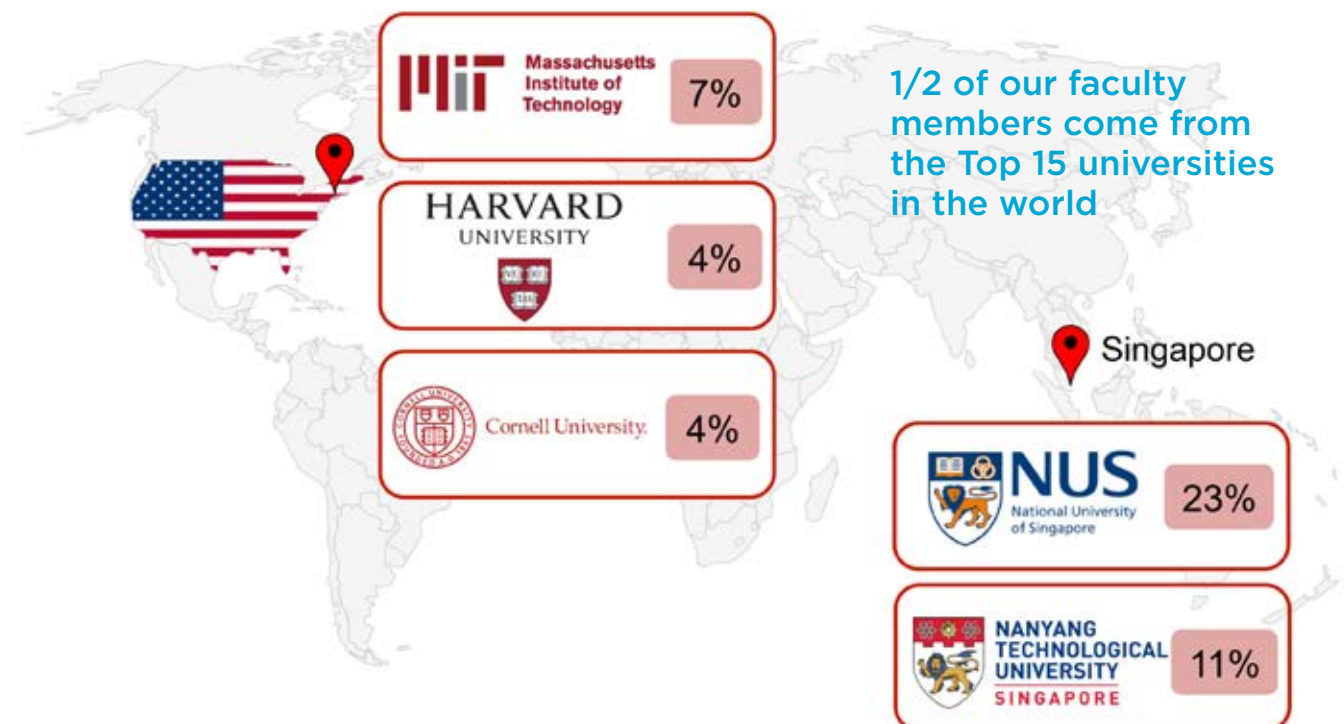
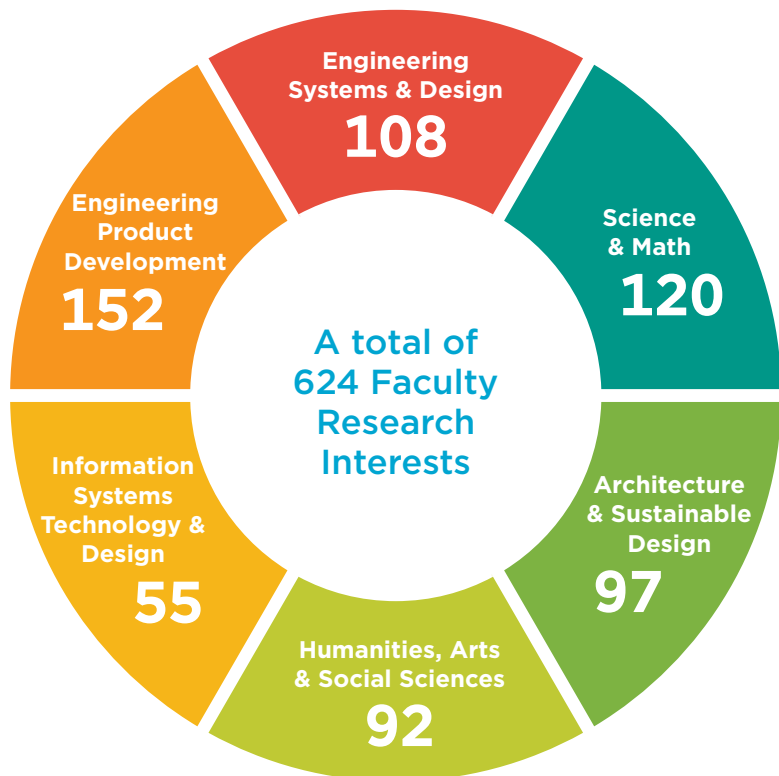
Faculty



Male
77%



Female
23%



RESEARCH ACTIVITIES

To date, SUTD has set up 12 research centres and laboratories that develop multi-disciplinary collaborations and integrate new knowledge, ideas, tools and ways of thinking from diverse disciplines to address complex intellectual, technological and societal challenges.

SUTD-MIT International Design Centre (IDC)

The SUTD-MIT International Design Centre (IDC) is a world premier scholarly hub for technologically-grounded design. IDC faculty, researchers and students focus on advancing design theory and methodology, and developing new tools and methods for design practice and education, to address the strategic needs of Singapore and globally.

Title: Living Forms: Cultivating Building Materials for Sustainable Urban Development

PI: Assistant Prof Christine Yogiama

Co-PIs: Assistant Profs Kenneth Tracy, Ioannis Panageas

Living Forms capitalise on the biological procedures of mycelium cultivation, open-source design and simulation tools, and expertise in digital fabrication of graded knit textiles to create proof-of-concept freeform mycelium-based structures. The research aims to calibrate properties of additively fabricated 3D textile molds to yield predictable results in the cultivation of new mycelium-textile composite building material.

Title: Active Flow Separation Control

PI: Assistant Prof Pablo Valdivia

Co-PIs: Assistant Profs Kenneth Tracy, Christine Yogiama

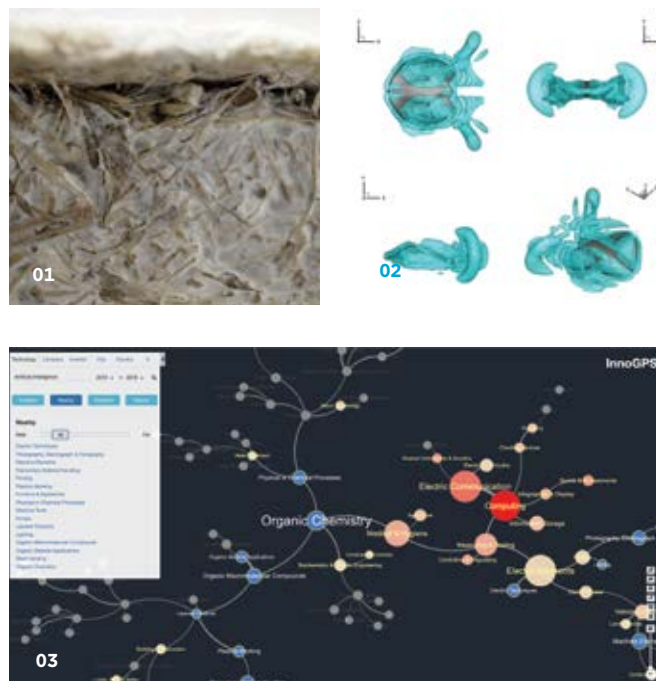
This research aims to better understand flow separation dynamics and use both experimental and numerical analysis results to establish guidelines and propose designs for minimalistic control mechanisms. To target meaningful applications and provide context specific design guidelines, the team has identified key specific scenarios with high impact in engineering and architecture.

Title: InnoGPS: A Data-Driven System for Design Opportunity Conception

PI: Assistant Prof Luo Jianxi

Co-PI: Assistant Prof Subburaj Karupppasamy

InnoGPS is a computational-visual system that provide artificial intelligence to enhance the previously intuitive human process of design ideation and innovation opportunity exploration. For engineers and researchers, InnoGPS empowers the ideation for out-of-the-box innovation opportunities. For start-ups and SMEs, InnoGPS aids in the search for new product lines, talents and partners, for growth and diversification. For large companies, R&D centres and governments, InnoGPS supports technology road-mapping, competitive intelligences, and the search for talents, alliance partners and technologies.



01 Close up view of cross section of mycelium composite (Source: Ecovative)

02 Vortical structures around swimming Stingray

03 InnoGPS interface

RESEARCH ACTIVITIES



01

Title: Empowering Traditional Trades and Forging Sustainable Households with Smart Recycling Platform

PI: Assistant Prof Lyle Fearnley

Co-PI: Mr Poon King Wang

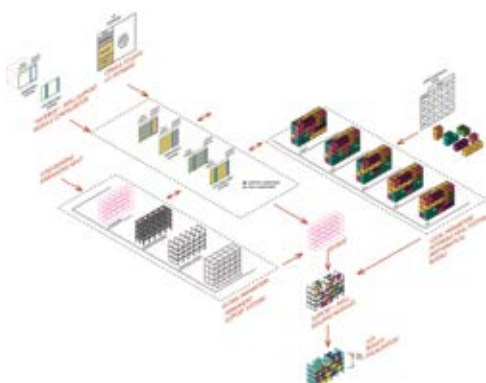
This project set out to reduce Singapore's waste footprint by redesigning widely-used informal reuse and recycling systems, including recycling enterprises known as karung guni and charities. To do so, we developed an award-winning mobile app for smartphones--called Honk!--that creates an innovative cloud-based marketplace for recycling exchanges.

Title: Next Residential High-Rise: Comparative Study and Analytical Modelling for Adaptive Housing Typologies Based on Modularity and Composite Structural Systems

PIs: Assistant Profs Michael Budig, Oliver Heckmann

Team Member: Associate Prof Lynette Cheah Wan Ting

This research project will develop models that measure ecological and social sustainability of residential high-



02

rise projects in tropical cities, and implement them in a software tool for preliminary assessments in early design stages.

Title: Mid-IR On Chip Nanophotonics

PI: Associate Prof Dawn T. H. Tan

This project designs optical nanostructures used to generate light nonlinearly at wavelengths not available through direct lasing. The developed waveguides have the largest nonlinear parameter ever demonstrated without nonlinear losses. Using this platform, the team generated supercontinuum over 0.6 of an octave – the largest achieved to date at 1.55µm on back-end CMOS compatible processing.

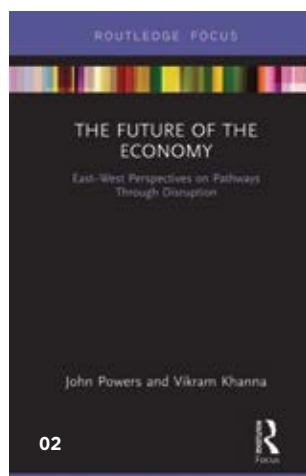
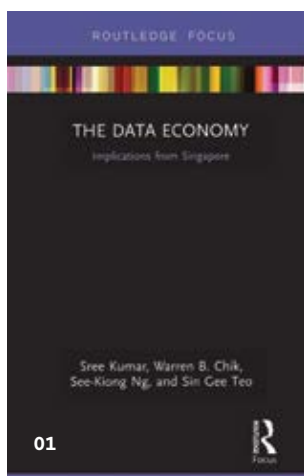


03

01 Empowering Traditional Trades and Forging Sustainable Households with Smart Recycling Platform – Honk! mobile app

02 Next Generation High Rise: methodology for an early stage design Life Cycle Assessment (LCA) of different building systems with demographic evolution and changing occupational patterns over the operational life time

03 Pulses propagating through the highly nonlinear, bandgap engineered waveguide are broadened into a supercontinuum



Lee Kuan Yew Centre for Innovative Cities

Established since 2012, the Lee Kuan Yew Centre for Innovative Cities (LKYCIC) is a university interdisciplinary research centre of excellence to advance understanding of the critical issues facing cities, and leverage on technology, design and policy to identify evidence-based solutions for effective urbanisation. The Centre collaborates with leading experts and academic researchers at SUTD and other institutions across different disciplines in the study of urbanisation and cities. LKYCIC currently has five flagship research programmes – Future of Cities I & II, Chen Tianqiao Programme on Urban Innovation, Lee Li Ming Programme in Ageing Urbanism, Programme on Urban Environmental Sustainability and Programme on Cities and Urban Science.

Together with SUTD Humanities, Arts and Social Sciences Cluster, the Centre offers the Master of Science in Urban Science, Policy and Planning programme to teach and train the next generation of urban researchers, analysts and practitioners.

Future of Cities I

Projects: Future Economy, Future Society, Data Economy, Future Transportation, Future Urban Typologies, Sustainable Futures, Living with Technology

Programme Lead: Prof Chan Heng Chee

Future of Cities examines the breadth of opportunities and challenges for Singapore through 2040. This multi-year research programme investigates questions of how to prepare for the economic transformation of the future, plan for a more sustainable and liveable model of urbanisation, and engage with technology through a deeper understanding of its impact on society and quality of life.

Future of Cities II: Digital Economies and Digital Societies

Projects: Tackling Digital Disruption: Industry Transformations and Workforce Resilience, Polarising of Job Opportunities: Charting New Pathways and Adopting New Technologies, Digital Societies, Digital and Smart Transformation

Programme Lead: Mr Poon King Wang

Emerging from the Future of Cities study, Future Digital Economies and Digital Societies examines how economies and societies can remain resilient, inclusive, and cohesive in the Fourth Industrial Revolution. It explores questions of accessibility, affordability and adoption at multiple scales, and what it means to create the economic and social value needed to improve lives.

Chen Tianqiao Programme on Urban Innovation

Subunit I: Cities and Innovation

Projects: Cities, Innovation and the Knowledge Economy, Innovation in Government, History of Innovation: Building Technology "Innovation" in Singapore Housing & Development Board 1960 - 1995, Innovation in Chinese Cities, Urban Innovation Policy in Asia

Programme Lead: Dr John Powers

The Cities and Innovation Programme has the aim of examining cities and what it means to be innovative in the contemporary period by focusing on the key drivers of innovation and the expected outcomes.

RESEARCH ACTIVITIES

Subunit II: Smart Cities Lab

Projects: Building Democratic and Inclusive Marketplaces of Smart Cities Innovations, Empowering Traditional Trades and Forging Sustainable Households with Smart Recycling Platform, Community Engagement - Voices in the City

Programme Lead: Mr Poon King Wang

Singapore consistently ranks highly as a smart city globally. The Smart Cities Lab explores the intersection between smart cities, people and digital transformation, with specific focus on how innovations scale and their impact on the future of work.

Lee Li Ming Programme in Ageing Urbanism

Projects: MND - NRF L2NIC Innovative Planning and Design of Age-Friendly Neighbourhoods in Singapore, Visual Art Participation and Ageing in Singapore, Dementia Friendly Communities, Design for Active Ageing, Understanding the Changing Needs of Singapore's Older Population, Urban Form and Non-Work Trip Patterns

Programme Lead: Dr Belinda Yuen

The Lee Li Ming Programme in Ageing Urbanism conducts vital research on the dynamics and impacts of population ageing, arguing for a more integrated environmental, social and spatial approach to identify the connection between the built environment, health and quality of life that can inform planning and design of age-friendly neighbourhoods and communities.

Programme on Urban Environmental Sustainability

Projects: Ecological Cities and Urban Sustainability in China, Thermal Comfort in Singapore: Policy and Behavioural Interventions, The Singapore Water Story: Transnationalism, Urban Sustainability and the Making of a Hydraulic Nation

Programme Lead: Dr Harvey Neo

The Programme on Urban Environmental Sustainability adopts social sciences and policy frameworks to study how natural resources, such as energy, are “consumed” in cities and how consumers can adopt sustainable practices through technological/design, policy and behavioural interventions.

Programme on Cities and Urban Science

Projects: Future of Asian Cities - Citizen Urban Science: Policy and Practice

Programme Lead: Dr Harvey Neo

Centred at the LKYCIC, “Cities” is one of the four strategic sectors of research and teaching under the SUTD Growth Plan (SGP). The Programme on Cities and Urban Science is one of three research programmes in the Sector and looks at how digital technologies affects the well-being of citizens and transforms urban governance. The other two research programmes are led by Professor Thomas Schroepfer and Associate Professor Bige Tuncer from Architecture and Sustainable Design Pillar. Through these interrelated research programmes, the Cities Sector SGP will advance theoretical understandings of urban development and governance; formulate technological and design-centric solutions to solve urban problems; and educate students on the opportunities and challenges involved in remaking the future of Southeast Asian cities.



01



02

01 Ageing Urbanism — Social participation can take place anywhere

02 Cities and Urban Science — Photo collage of fieldwork in Jakarta

SUTD-JTC Industrial Infrastructure Innovation (I³) Centre

The SUTD-JTC I³ Centre aims to create a vibrant industrial infrastructure research ecosystem. It brings together JTC Corporation's (JTC) expertise in the development of industrial land and space and SUTD's integrated expertise in architecture, design, engineering, social sciences and humanities. Co-located and managed by the LKYCIC, it spearheads collaborative research efforts in three research thrusts:

1. Urban Innovation,
2. Integrated Architecture and Engineering, and
3. Design and Technology.

Title: CO₂ Membranes for High Performance Low Carbon Footprint Building Materials

PI: Associate Prof Tan Mei Chee

Co-PI: Dr Richard Riman (Rutgers University)

The objective of this project is to develop technologies for the manufacturing of building and infrastructure materials with a low carbon footprint. This programme will focus on the development of ceramic or hybrid membranes to capture and separate carbon dioxide in gas streams emanating from various potential chemical processes.

Title: V-Tetros: Design of Nested Reconfigurable Glass Façade Cleaning Robots for High-Rise Buildings

PI: Assistant Prof Mohan Rajesh Elara

Co-PI: Dr Tan Ning

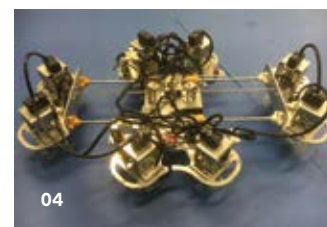
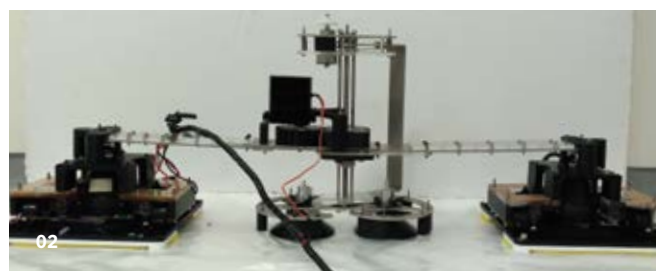
Worldwide, city skylines are increasingly dominated by multi-storey buildings with glass façades. The process of cleaning them have remained more or less the same: they are labour intensive and often dangerous, especially in adverse weather and wind conditions. This project aims to develop a new class of nested reconfigurable glass facade cleaning robots, V-Tetros, for cleaning vertical glass façades in skyscrapers. Our novel design utilises individual robots with distinctive reconfiguration characteristics (intra-reconfigurability) capable of combining with other homogeneous/heterogeneous robots (inter-reconfigurability).

Title: CO₂ Capture Modules – Reduce Carbon Footprint of Underground Spaces

PI: Associate Prof Tan Mei Chee

Co-PI: Associate Prof Low Hong Yee

This project aims to advance the frontiers for product integration of unique carbon capture materials leading to a disruptive technology that will reduce the carbon footprint of products and infrastructure. We will focus



on developing two major areas:

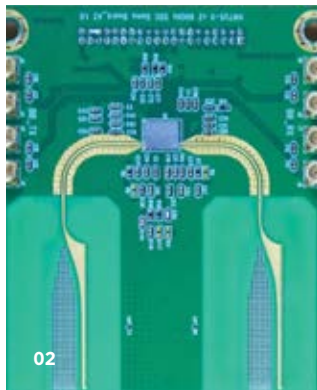
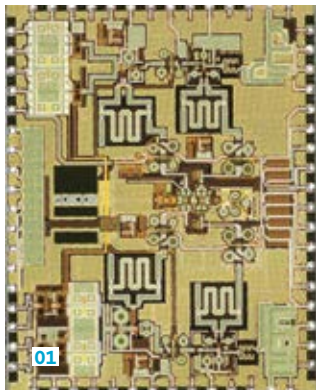
- Scalable fabrication of carbon dioxide (CO₂) capture modules (CCMs),
- Integration of CCMs with the façade of underground parking spaces to sequester the accumulated CO₂ from vehicle exhaust emissions. To circumvent the dependence on efficient CO₂ separators and liquefiers, we seek to create a platform of materials and scalable processing technologies to fabricate CO₂ capture membranes in an adaptive and modular design that can be integrated with new or existing products and infrastructure.

01 V-Tetro Crawler

02 V-Tetro Shifter

03/04 V-Tetro Slider

RESEARCH ACTIVITIES



Title: Gigabit Wireless Wideband Communication System for Smart Cities

PI: Prof Yeo Kiat Seng

Currently, the fibre optic network is the best choice to fulfil long distance and high data rate communications. However, the fibre based network is expensive and difficult to splice. In addition, it requires a big budget to build and maintain and it is hard to upgrade when finished. In this project, a new wireless communication system using 60GHz millimeter-wave band will be designed and implemented for smart cities. The proposed design focuses on the multi-gigabit outdoor building-to-building data transfer applications up to a distance of 1,000m. This will be the first gigabit wireless communication system in the world that can transmit and receive data over a long distance. The proposed system provides an alternative solution to upgrade existing networks without introducing any building renovation or external network laying works.

Temasek Laboratories@SUTD (TL@SUTD)

TL@SUTD is a partnership established between the Ministry of Defence (MINDEF) and SUTD in 2012 to build a centre of excellence in defence-related research, focused on systems design and integration. TL@SUTD undertakes cutting-edge research and development in several systems tracks including Unmanned Systems, Information Systems and Soldier

Systems for defence applications. Through the multi-disciplinary research expertise and design thinking in SUTD, TL@SUTD aims to develop capabilities in the design and integration of systems (ranging from discrete to integrated large scale systems), and to build human capital to serve the needs of the relevant industries.

iTrust, Centre for Research in Cyber Security

As a Centre for Research in Cyber Security, iTrust is at the forefront of cutting edge research in securing critical infrastructures (CI). Mitigating cyber threats require international collaboration and coordination. To this end, iTrust collaborates with government agencies, industry partners and academia in cyber security research.

Supporting the research are iTrust's 'four pillars' of CI and the Internet of Things testbeds. These testbeds afford a safe and realistic environment for researchers to validate their experiments and translate ideas into prototypes and for collaborators to test their products. They are also used for hands-on learning by engineers, plant operators and SUTD's Master of Science in Security by Design students.

Working closely with government agencies and industry, iTrust is plugged into real-world needs. This helps to steer its research towards developing feasible products to protect cyber assets. In this regard, iTrust holds several patents, with two technologies undergoing pilot implementation.

SUTD Game Lab

SUTD Game Lab provides state-of-the-art skills and expertise in game design in the areas of healthcare, education, entertainment and marketing. With its core focus on gamification, augmented reality, virtual reality and artificial intelligence for serious applications, SUTD Game Lab delivers commercially viable software through collaborations with industry and faculty.

01 Layout of microchip

02 Microchip with antenna and PCB

03 Evaluation board

Projects and Games produced by the Game Lab include:

Title: Stranded

The party starts with limited provisions and materials and the player needs to manage the manpower and resources he has at his disposal and lead his party to survival. The different survivors have different personalities and skills. As they are all strangers, players need to learn about them as leaders. Each turn of the game consists of a day and night phase where the player can assign different tasks and responsibilities.

Title: Kinetikos

This is a 3D puzzle platformer made in collaboration with SUTD Office of Marketing and Communications. Exercise your brain muscles by playing a fun and challenging puzzle game by the team that brought you “One Upon Light”!

Step into the shoes of Dan and Rinka, two university students who found themselves trapped when an experiment disrupted the gravitational forces. Experience the adventure through a series of dizzying puzzles as they attempt to restore the laws of physics to their rightful order.



Title: P.E.A.R.

This project is currently in production with MIT International Design Centre.

P.E.A.R. is an augmented reality game that uses geolocation to allow players to traverse their environment while exploring a world impacted by climate change. Guided by the titular friendly robot pet companion, PEAR (a companion robot that will aid the player within the game while giving information about sustainable and ecologically safe practices), players will seek out resources to gather and build sustainable and eco-friendly buildings to clean up pollution and transform the bleak future back into a lush and green paradise.



01/02 Stranded

03 Kinetikos, a 3D puzzle platformer

04 P.E.A.R., an augmented reality game

RESEARCH ACTIVITIES

Digital Manufacturing and Design Centre (DManD)

DManD's vision is to create frontiers in digital design and manufacturing. By bringing together new ideas and multi-disciplinary fields to develop new technologies, catalyse new products, create entire industries centred in Singapore, and provide human capital, DManD aims to help establish Singapore as a world leader in high value-added digital manufacturing.

The overall research goals of DManD are to:

- Develop computational tools that liberate designers from traditional manufacturing constraints and allow them to exploit new design freedom enabled by digital manufacturing technologies, to create unique, optimal and previously unobtainable products, and
- Develop new innovative digital fabrication technologies based on the digital fusion of sensing, additive and subtractive processes as well as multi-material, multi-functional fabrication.

Title: Tunable Resonator-Upconverted Emission (TRUE) colour printing

PI: Associate Prof Joel Yang

This work uses the 3D nano-fabrication capabilities in DManD to create nano-structures that give rise

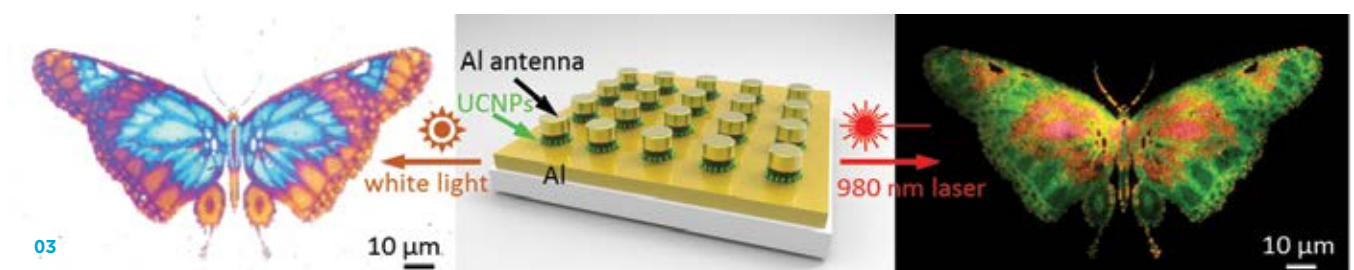
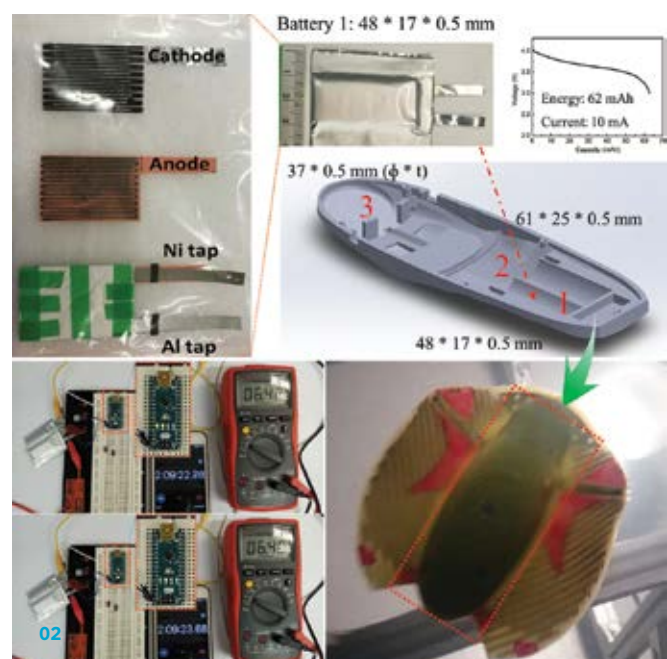
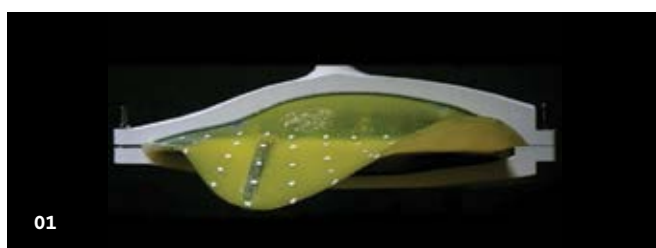
to structural colours. Coupled with upconverting nanoparticles (UCNPs), this creates a dual imagery effect when probed with a laser (980nm). This is applicable for anti-counterfeiting purposes.

Title: Improving functionality in Soft Robots

PI: Assistant Prof Pablo Valdivia

Co-PI: Associate Prof Yang Hui Ying

This work combines the effort of two groups, one looking at tuning the dynamics (mechanical, fluid dynamics, etc.) of bio-inspired soft autonomous robots, and the other looking at technologies to enable the direct incorporation of batteries into the soft robots, by 3D printing.



01 Bio-inspired soft autonomous robots

02 Direct incorporation of batteries into the soft robots, by 3D printing

03 3D nano-fabrication capabilities in DManD to create nano-structures that give rise to structural colours (TRUE colour printing)

SUTD-Keysight Measurement Technologies Lab

SUTD and Keysight Technologies, Inc. (Keysight) signed a Memorandum of Understanding for research collaboration and opened a new Measurement Technologies Laboratory in December 2017. The collaboration with Keysight is part of SUTD's strategy to collaborate with industry partners to drive research and innovations that contribute to Singapore's Smart Nation initiatives.

National Additive Manufacturing Innovation Cluster (NAMIC)

The NAMIC was established to generate economic outcome from research and development (R&D) by accelerating technology translation from public sector R&D performers into new products and services for commercialisation by enterprises. NAMIC's aim is to grow an interconnected network of research performers and industry players to actively develop new additive manufacturing technologies for industry adoption.

ST Engineering Electronics – SUTD Cyber Security Laboratory

The STEE-SUTD Cyber Security Laboratory was established in 2016 under NRF's Corp Lab@University scheme, to integrate and advance commercial and academic frontiers of cyber security, with an emphasis on realising solutions that are relevant to the emerging cyber security needs in the market. The lab aims to develop cutting-edge technologies, provide proof of concepts and testbeds for the next generation of cyber security products and solutions. This will support the effective translation of research into solutions to help address Singapore's national needs and meet global challenges, thereby creating value for the industry, as well as developing innovative cyber security solutions and products that can be exported to other countries.

This collaboration taps on the strong in-house cyber security expertise and engineering capabilities, access to operation data and use cases of ST Engineering's Electronics sector, research expertise and available testbeds of SUTD and the support to foster R&D collaborations between companies and universities of the Corp Lab@University Scheme.

SUTD Centre for Smart Systems

Smart cities are a global phenomenon and many opportunities have arisen worldwide for innovative technologies to be implemented into cities to better connect people and devices, optimise resources and further automate daily services and tasks. With the intent to address challenges and meet the needs of growing Smart Cities worldwide, ST Engineering and SUTD have, since December 2015, established the ST Engineering-SUTD Centre for Smart Systems. As a leading centre in translational R&D, the centre researches and develops innovative solutions in the form of frontier Smart System technologies, which aim to improve the quality of life for citizens in Smart Cities and contribute to sustainable living. Since January 2019 the centre continues its operation with no further support from ST Engineering.

Supported by funding from ST Engineering and various agencies, the centre has embarked so far on over 10 research and development projects in its three key innovation focus areas: Smart Cities Technologies and Solutions, Smart Automation, and Smart Digital Manufacturing.

SUTD-LTA Transport Research Centre

SUTD and the Land Transport Authority (LTA) of Singapore signed an MOU in November 2017 to establish an SUTD-LTA Transport Research Centre (TRC) in SUTD to address current and future challenges in the transport sector. The research centre leverages SUTD's expertise to focus on issues pertinent to Singapore, e.g., ageing population, land scarcity and rising travel demand for public transport. Both parties are collaborating in joint research and development as well as capability building and training activities, and projects for the benefit of future land transport in Singapore.

The collaborative research scope of this TRC is broadly focused on Data Analytics, User-Centric Design, Cyber Security, Behavioural Studies and Robotics & Automation.





SHAPING CHANGEMAKERS

“SUTD places a lot of emphasis in design thinking and project collaboration. This is evident right from the start through the multiple design projects that I did as an architecture undergraduate and a master student. The hands-on, interdisciplinary curriculum taught me to approach sustainable architecture design in a more holistic and radical way through the use of technology, such as digital tools for design computation and additive fabrication technologies.”

- Kevin Ignasius,
SUTD Alumnus (Architecture and Sustainable Design)

CORPORATE GOVERNANCE



SUTD is committed to a high standard of corporate governance and has put in place the appropriate governance structures which are critical to the effective performance and operation of the University.

Governance Evaluation Checklist

The University's governance evaluation checklist can be viewed at the charity portal website www.charities.gov.sg.

Board of Trustees

The SUTD Board of Trustees comprises 20 trustees appointed by the Minister for Education. The Board of Trustees is responsible for ensuring that the University acts in accordance with its objects and to ensure that the funds and assets of the University are properly accounted for and safeguarded.

The objects of the University are to:-

- establish, operate, maintain and promote the University as a going concern;
- promote and undertake the advancement of education by providing educational facilities and course of study or instruction; and
- advance and disseminate knowledge and to promote and engage in research and scholarship.

The trustees are not paid any remuneration for services rendered by them as trustees of the University. The Board of Trustees held four (4) meetings during the financial year.

Board of Trustees

Name	Designation	Date of Appointment	Board Meeting Attendance (Percentage)
Mr Lee Tzu Yang	Chairman	1 April 2016	100
Dr Fidah Alsagoff	Member	11 August 2012	25
Mr Robert Chew	Member	11 August 2018	50
Mr Choo Chiau Beng	Member	11 August 2009	50
Ms Cordelia Chung	Member	1 June 2011	100
Mr Patrick Daniel	Member	11 August 2009	75
Mrs Fang Ai Lian	Member	24 July 2009	75
Ms Goh Swee Chen	Member	11 August 2015	100
Mr Sam Goi Seng Hui	Member	11 August 2009	50
Ms Lai Wei Lin	Member	1 January 2017	75
Mr Lim Kang Song	Member	11 August 2018	100
Mr Lim Siong Guan	Member	11 August 2017	75
Ms Low Sin Leng	Member	1 June 2011	75
Prof Lui Pao Chuen	Member	11 August 2009	100
Mr Ong Peng Tsin	Member	24 July 2009	75
Mr Charles Marshall Ormiston	Member	11 August 2009	50
Mr Quek Gim Pew	Member	11 August 2018	100
Mr Tai Lee Siang	Member	11 August 2009	75
Ms Tan Min Lan	Member	11 August 2018	100
Mr Ronny Tan Chong Tee	Member	11 August 2009	100

CORPORATE GOVERNANCE

Board of Trustees Subcommittees

(as at 31 March 2019)

Academic and Research Committee

Prof Lui Pao Chuen	Chairman
Mr Quek Gim Pew	Member
Mr Lim Kang Song	Member

Advancement Committee

Mr Sam Goi Seng Hui	Chairman
Mr Robert Chew	Member
Mr Patrick Daniel	Member

Audit Committee

Mrs Fang Ai Lian	Chairman
Ms Cordelia Chung	Member
Ms Goh Swee Chen	Member

Campus Infrastructure and Facilities Committee

Mr Tai Lee Siang	Chairman
Mr Ronny Tan	Member
Mr Tan Siong Leng*	Member
Mr Fong Kok Wai*	Member
Mr Hoong Bee Lok*	Member

Executive Committee

Mr Lee Tzu Yang	Chairman
Mr Choo Chiau Beng	Member
Ms Lai Wei Lin	Member
Mr Lim Siong Guan	Member
Dr Fidah Alsagoff	Member

Finance Committee

Ms Low Sin Leng	Chairman
Dr Fidah Alsagoff	Member
Mr Ronny Tan	Member
Mr Robert Chew	Member
Mr Nels Friet*	Member
Mr Tan Bien Kiat*	Member
Ms Karen Loon*	Member

Investment Committee

Mr Ong Peng Tsin	Chairman
Mr Charles Marshall Ormiston	Member
Ms Tan Min Lan	Member
Mr Bill Chua*	Member
Ms Celestine Khoo*	Member
Mr Young Lok Kuan*	Member

Promotion and Development Committee

Mr Patrick Daniel	Chairman
Ms Cordelia Chung	Member
Mr Lim Kang Song	Member

*Non Board of Trustee member

SUTD has one paid staff who is a close member of the family of the Chief Executive Officer or a member of the Board of Trustee and who has received remuneration exceeding S\$50,000 during the financial year. The staff's remuneration is in the band of \$50,000 – \$100,000

Board Committees

The Board has established the following board subcommittees to assist the Board to fulfil its fiduciary duties and to oversee key issues of pertinence to the strategic development of the University:

- Executive Committee ensures effective Board of Trustees and Board of Trustees Committees as well as to provide oversight and policy guidance on human resource and enterprise risk management matters.
- Academic & Research Committee provides oversight and policy guidance for the academic concerns of the University.
- Advancement Committee oversees fundraising as well as stakeholder and Alumni relations.
- Audit Committee ensure an effective accountability framework for examining and reviewing all systems and methods of control.
- Infrastructure and Facilities Committee oversees and guides the campus planning of the University and the management, leasing and maintenance of facilities in the University.
- Promotion and Development Committee oversees marketing and communications plans of the University.
- Finance Committee provides oversight and policy guidance on the financial affairs of the University.
- Investment Committee provides oversight and policy guidance on the management of investments to the University.



CORPORATE GOVERNANCE

Key Management

The day to day operations of the University are led by the Senior Management team, headed by President, Professor Chong Tow Chong. The President is appointed by the Board and is the University's Chief Executive Officer. Please refer to page 15 for a full list of SUTD's key management.

Policy on Managing Conflicts of Interest

SUTD employees and members of the SUTD Board of Trustees and its subcommittees are required to act in the best interest of the University at all times. They have the obligation to avoid ethical, legal, financial or other conflicts of interest to ensure that their activities do not conflict with their obligations to the University or its welfare. Clear policies and procedures have been established with measures to be taken to declare, prevent and address conflict of interest. Procedures are put in place for SUTD employees and members of the Board of Trustees and its subcommittees to disclose to SUTD the details of any situation where they may find themselves in a position of potential or actual conflict.

Policy on Whistle-blowing

A culture of good governance, integrity, responsibility and accountability is important to SUTD. The SUTD Whistleblowing Policy provides a formalised, secure and confidential avenue for both employees and external parties to raise concerns about actual or suspected improprieties on the part of Management or fellow employees and in so doing deter wrongdoing and promote standards of ethical behaviour and integrity in the work environment and in our dealings with external parties. The policy can be found on SUTD's website.

Reserve Policy

In general, the use of reserves is subject to the approval of the Board of Trustees except for funds which are governed by terms and conditions. Any need to draw down from funds which require the Trustees' approval should be justified in the plan for the new financial year. Where the need to draw down is due to unforeseen circumstances beyond Management's ability to cope by expenses reduction or use of other available funds, proper justification to the Trustee must be provided and approval obtained.



TRUSTEES' STATEMENT AND FINANCIAL STATEMENTS

Contents

Trustees' Statement	54
Independent Auditor's Report	55 – 56
Statement of Profit or Loss and Other Comprehensive Income	57
Statement of Financial Position	58
Statement of Changes in Funds and Reserves	59
Statement of Cash Flows	60 – 61
Notes to the Financial Statements	62 – 91

TRUSTEES' STATEMENT

The Board of Trustees present their statement to the members together with the audited financial statements of Singapore University of Technology and Design (the "University") for the financial year ended 31 March 2019.

In the opinion of the Trustees:

- (a) the financial statements of the University as set out on pages 57 to 91 are drawn up so as to give a true and fair view of the financial position of the University as at 31 March 2019, and the financial performance, changes in funds and reserves and cash flows of the University for the financial year then ended; and
- (b) at the date of this statement, there are reasonable grounds to believe that the University will be able to pay its debts when they fall due.

Trustees

The Trustees of the University in office at the date of this statement are:

Mr Lee Tzu Yang
(Chairman)
 Dr Syed Fidah Bin Ismail Alsagoff
 Mr Choo Chiau Beng
 Mr Robert Chew
(Appointed on 11 August 2018)
 Ms Cordelia Chung
 Mr Patrick Daniel
 Mrs Fang Ai Lian
 Ms Goh Swee Chen
 Mr Sam Goi Seng Hui
 Ms Lai Wei Lin
 Mr Lim Kang Song
(Appointed on 11 August 2018)
 Mr Lim Siong Guan
 Ms Low Sin Leng
 Professor Lui Pao Chuen
 Mr Ong Peng Tsin
 Mr Charles Marshall Ormiston
 Mr Quek Gim Pew
(Appointed on 11 August 2018)
 Mr Tai Lee Siang
 Ms Tan Min Lan
(Appointed on 11 August 2018)
 Mr Ronny Tan Chong Tee

Arrangements to Enable Trustees to Acquire Shares and Debentures

Neither at the end of the financial year nor at any time during the financial year did there subsist any arrangement whose object is to enable the Trustees of the University to acquire benefits by means of the acquisition of shares or debentures in the University or any other body corporate.

Trustees' Interests in Shares and Debentures

The University is limited by guarantee and does not have a share capital.

The Trustees of the University at the end of the financial year have no financial interest in the share capital (including any share options) and debentures of the University's related corporations as recorded in the register of the directors' shareholdings kept by the University's related corporations under Section 164 of the Singapore Companies Act.

Auditors

The auditors, Deloitte & Touche LLP, have expressed their willingness to accept re-appointment.

ON BEHALF OF THE BOARD OF TRUSTEES

Mr Lee Tzu Yang
Chairman
Trustee

Mrs Fang Ai Lian
Trustee

25 July 2019

INDEPENDENT AUDITOR'S REPORT TO THE BOARD OF TRUSTEES OF SINGAPORE UNIVERSITY OF TECHNOLOGY AND DESIGN

Report on the Audit of the Financial Statements

Opinion

We have audited the accompanying financial statements of Singapore University of Technology and Design (the "University") which comprise the statement of financial position as at 31 March 2019, and the statement of profit or loss and other comprehensive income, statement of changes in funds and reserves and statement of cash flows for the financial year then ended, and a summary of significant accounting policies and other explanatory information, as set out on pages 57 to 91.

In our opinion, the accompanying financial statements are properly drawn up in accordance with the provisions of the Companies Act, Chapter 50 (the "Act"), the Singapore Charities Act, Chapter 37 and other relevant regulations (the "Charities Act and Regulations") and Financial Reporting Standards in Singapore ("FRSs") so as to give a true and fair view of the financial position of the University as at 31 March 2019 and of the financial performance, changes in funds and reserves and cash flows of the University for the year ended on that date.

Basis for Opinion

We conducted our audit in accordance with Singapore Standards on Auditing ("SSAs"). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of the University in accordance with the Accounting and Corporate Regulatory Authority *Code of Professional Conduct and Ethics for Public Accountants and Accounting Entities* ("ACRA Code") together with the ethical requirements that are relevant to our audit of the financial statements in Singapore, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the ACRA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Information Other than the Financial Statements and Auditor's Report Thereon

Management is responsible for the other information. The other information comprises the information included in the Trustees' Statement set out on page 2. Our opinion on the financial statements does not cover

the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of Management and Trustees for the Financial Statements

Management is responsible for the preparation of financial statements that give a true and fair view in accordance with the provisions of the Act, the Charities Act and FRSs, and for devising and maintaining a system of internal accounting controls sufficient to provide a reasonable assurance that assets are safeguarded against loss from unauthorised use or disposition; and transactions are properly authorised and that they are recorded as necessary to permit the preparation of true and fair financial statements and to maintain accountability of assets.

In preparing the financial statements, management is responsible for assessing the University's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the University or to cease operations, or has no realistic alternative but to do so.

The Trustees' responsibilities include overseeing the University's financial reporting process.

INDEPENDENT AUDITOR'S REPORT TO THE BOARD OF TRUSTEES OF SINGAPORE UNIVERSITY OF TECHNOLOGY AND DESIGN

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with SSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with SSAs, we exercise professional judgement and maintain professional skepticism throughout the audit. We also:

- (a) Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- (b) Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the University's internal control.
- (c) Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- (d) Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the University's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's

report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the University to cease to continue as a going concern.

- (e) Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with the Trustees regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Report on Other Legal and Regulatory Requirements

In our opinion, the accounting and other records required by the Act to be kept by the University have been properly kept in accordance with the provisions of the Companies Act, and the Charities Act and Regulations.

During the course of our audit, nothing has come to our attention that causes us to believe that during the year:

- (a) the University has not used the donation moneys in accordance with its objectives as required under Regulation 11 of the Charities (Institutions of a Public Character) Regulations; and
- (b) The University has not complied with the requirements of Regulation 15 of the Charities (Institutions of a Public Character) Regulations.

Public Accountants and
Chartered Accountants
Singapore

25 July 2019

STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME

Year ended 31 March 2019

	Note	General fund		Non-endowment fund		Endowment fund		Total	
		2019	2018	2019	2018	2019	2018	2019	2018
		\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Income									
Tuition and other fees	3a	37,141	34,493	-	-	-	-	37,141	34,493
Less: Scholarship expenses		(11,872)	(11,680)	(1,375)	(1,301)	(6,186)	(5,949)	(19,433)	(18,930)
Tuition and other fees, net		25,269	22,813	(1,375)	(1,301)	(6,186)	(5,949)	17,708	15,563
Donations and sponsorships		529	7,697	4,171	4,582	-	-	4,700	12,279
Other income	3b	10,951	9,800	14	2	23	-	10,988	9,802
Total income		36,749	40,310	2,810	3,283	(6,163)	(5,949)	33,396	37,644
Expenses									
Employee compensation	4	(93,412)	(92,802)	(782)	(459)	(2,708)	(2,317)	(96,902)	(95,578)
Programme-related expenses		(3,219)	(10,076)	-	-	-	-	(3,219)	(10,076)
Research-related expenses		(18,843)	(16,433)	-	-	-	-	(18,843)	(16,433)
Depreciation	13	(36,915)	(36,527)	(5)	(4)	(1)	(1)	(36,921)	(36,532)
Amortisation	14	(1,280)	(770)	-	-	-	-	(1,280)	(770)
Interest expense		(8,891)	(9,723)	-	-	(162)	-	(9,053)	(9,723)
Other operating expenses	5	(45,041)	(43,090)	(1,899)	(1,465)	(2,767)	(2,818)	(49,707)	(47,373)
Total expenses		(207,601)	(209,421)	(2,686)	(1,928)	(5,638)	(5,136)	(215,925)	(216,485)
(Deficit)/surplus before investment income and government grants		(170,852)	(169,111)	124	1,355	(11,801)	(11,085)	(182,529)	(178,841)
Net investment income	6	928	418	207	117	24,272	65,679	25,407	66,214
(Deficit)/surplus before government grants		(169,924)	(168,693)	331	1,472	12,471	54,594	(157,122)	(112,627)
Government and other grants	7	207,183	191,086	-	-	-	-	207,183	191,086
Net surplus and total comprehensive income		37,259	22,393	331	1,472	12,471	54,594	50,061	78,459

The accompanying notes form an integral part of these financial statements.

STATEMENT OF FINANCIAL POSITION

31 March 2019

	Note	2019 \$'000	2018 \$'000
ASSETS			
Current assets			
Cash and cash equivalents	9	192,068	188,101
Grants and other receivables	10	99,682	72,979
Financial assets at fair value through profit or loss	11	1,068,694	980,160
Other current assets	12	7,231	9,522
		1,367,675	1,250,762
Non-current assets			
Grants and other receivables	10	358,199	364,405
Property, plant and equipment	13	707,157	733,645
Intangible assets	14	2,968	2,169
		1,068,324	1,100,219
Total assets		2,435,999	2,350,981
LIABILITIES			
Current liabilities			
Grants received in advance	15	42,073	33,705
Contract liabilities	16	4,319	3,859
Other payables	17	39,288	37,837
Borrowings	18	16,222	15,210
		101,902	90,611
Non-current liabilities			
Borrowings	18	361,399	368,770
Deferred capital grants	19	703,628	728,478
		1,065,027	1,097,248
Total liabilities		1,166,929	1,187,859
NET ASSETS		1,269,070	1,163,122
FUNDS AND RESERVES			
Endowment fund	21	954,642	898,755
Accumulated surplus			
- General fund		134,847	97,588
- Non-endowment fund	20	12,698	12,367
- Endowment fund	21	166,883	154,412
		1,269,070	1,163,122
Funds' net assets managed on behalf of Ministry of Education ("MOE")	22	11,558	10,172

The accompanying notes form an integral part of these financial statements.

STATEMENT OF CHANGES IN FUNDS AND RESERVES

Year ended 31 March 2019

	Note	Accumulated surplus				Total
		Endowment fund	General fund	Non-endowment fund	Endowment fund	
		\$'000	\$'000	\$'000	\$'000	\$'000
Balance as at 1 April 2018		898,755	97,588	12,367	154,412	1,163,122
Total comprehensive income for the year		-	37,259	331	12,471	50,061
Government grants	21	39,940	-	-	-	39,940
Donations received	21	15,947	-	-	-	15,947
Balance as at 31 March 2019		954,642	134,847	12,698	166,883	1,269,070
Balance as at 1 April 2017		850,142	75,195	10,895	99,818	1,036,050
Total comprehensive income for the year		-	22,393	1,472	54,594	78,459
Government grants	21	26,068	-	-	-	26,068
Donations received	21	22,545	-	-	-	22,545
Balance as at 31 March 2018		898,755	97,588	12,367	154,412	1,163,122

The accompanying notes form an integral part of these financial statements.

STATEMENT OF CASH FLOWS

Year ended 31 March 2019

	Note	2019 \$'000	2018 \$'000
Cash flows from operating activities			
Deficit before government grants		(157,122)	(112,627)
Adjustments for:			
- Depreciation		36,921	36,532
- Amortisation		1,280	770
- Loss allowance		61	-
- Interest expense		9,053	9,723
- Loss on disposal of property, plant and equipment and intangible assets		25	144
- Asset written off		-	282
- Interest income		(5,410)	(4,216)
- Fair value gains on financial assets at fair value through profit or loss		(19,997)	(61,998)
- Donation in kind	13	(529)	(7,697)
Operating cash flow before working capital change		(135,718)	(139,087)
Change in working capital:			
- Other receivables		(6,538)	6,012
- Other current assets		2,291	5,072
- Contract liabilities		460	418
- Other payables		4,078	(2,338)
Net cash used in operating activities		(135,427)	(129,923)
Cash flows from investing activities			
Additions to property, plant and equipment		(11,972)	(18,274)
Additions to intangible assets		(1,730)	(950)
Investments in financial assets at fair value through profit or loss		(66,062)	(104,551)
Derivative financial instruments		-	3,189
Interest received		2,830	6,801
Net cash used in investing activities		(76,934)	(113,785)

The accompanying notes form an integral part of these financial statements.

STATEMENT OF CASH FLOWS

Year ended 31 March 2019

	Note	2019 \$'000	2018 \$'000
Cash flows from financing activities			
Operating grants received		78,116	74,180
Research grants received		71,348	95,811
Debt grants received		29,147	32,176
Other grants received		2,309	1,053
Proceeds from borrowings		9,004	7,873
Repayment of borrowings		(15,363)	(14,987)
Interest paid		(8,954)	(9,918)
Government grants and donations received for endowment fund		50,721	72,275
Net cash from financing activities		216,328	258,463
Net increase in cash and cash equivalents		3,967	14,755
Cash and cash equivalents at beginning of financial year		188,101	173,346
Cash and cash equivalents at end of financial year	9	192,068	188,101

The accompanying notes form an integral part of these financial statements.

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

1. GENERAL

Singapore University of Technology and Design (the "University") is incorporated and domiciled in Singapore as a University limited by guarantee under the provisions of the Companies Act, Chapter 50. The address of its registered office and place of business is located at 8 Somapah Road Singapore 487372.

The principal activities of the University are in the advancement and dissemination of knowledge, the promotion of research and scholarships, and the conferring and awarding of degrees.

Under Clause 9 of the Memorandum of Association of the University, each member of the University undertakes to contribute a sum not exceeding \$1 (2018 : \$1) to the assets of the University in the event of it being wound up. The number of members at the balance sheet date is 4 (2018 : 4).

These financial statements were authorised for issue in accordance with a resolution of the Board of Trustees of Singapore University of Technology and Design on 25 July 2019.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

2.1 Basis of preparation

(a) Basis of accounting

The financial statements have been prepared in accordance with the historical cost basis except otherwise disclosed below, and are drawn up in accordance with the provisions of the Singapore Companies Act, the Charities Act and Financial Reporting Standards in Singapore ("FRSs").

Historical cost is generally based on the fair value of the consideration given in exchange for goods and services.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, regardless of whether that price is directly observable or estimated using another valuation technique. In estimating the fair value of an

asset or a liability, the University takes into account the characteristics of the asset or liability which market participants would take into account when pricing the asset or liability at the measurement date. Fair value for measurement and/or disclosure purposes in these financial statements is determined on such a basis, except for leasing transactions that are within the scope of FRS 17 *Leases*, and measurements that have some similarities to fair value but are not fair value, such as value in use in FRS 36 *Impairment of Assets*.

In addition, for financial reporting purposes, fair value measurements are categorised into Level 1, 2 or 3 based on the degree to which the inputs to the fair value measurements are observable and the significance of the inputs to the fair value measurement in its entirety, which are described as follows:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at the measurement date;
- Level 2 inputs are inputs, other than quoted prices included within Level 1, that are observable for the asset or liability, either directly or indirectly; and
- Level 3 inputs are unobservable inputs for the asset or liability.

(b) Functional and presentation currency

The financial statements of the University are measured and presented in Singapore dollars which is the currency of the primary economic environment in which the University operates (its functional currency).

All financial information presented in Singapore dollars has been rounded to the nearest thousand, unless otherwise stated.

(c) Use of estimates and judgements

The preparation of financial statements in conformity with FRS requires management to make judgements, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities and profit or loss. Actual results may differ from these estimates.

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES *(continued)*

2.1 Basis of preparation *(continued)*

(c) Use of estimates and judgements *(continued)*

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimates are revised and in any future periods affected.

Management is of the opinion that any instances of application of judgements are not expected to have a significant effect on the amounts recognised in the financial statements.

Key sources of estimation uncertainty

The key assumptions concerning the future, and other key sources of estimation uncertainty at the end of the reporting period, that have a significant risk of causing a material adjustment to the carrying amount of assets and liabilities within the next financial year, are discussed below.

(a) Fair value estimation on other investments

The University holds other investments that are not traded in an active market. The University has used the net asset values provided by fund managers and fund administrators. The carrying amount of these other investments at the end of the reporting period was \$222,909,000 (2018 : \$229,947,000) (Note 11).

(b) Property, plant and equipment

The University reviews the residual values and useful lives of property, plant and equipment at each reporting date in accordance with the accounting policy in Note 2.8. The estimation of the residual values and useful lives involves significant judgement. The net book value of property, plant and equipment at 31 March 2019 is \$707,157,000 (2018 : \$733,645,000) (Note 13) and the annual depreciation charge for the financial year ended 31 March 2019 is \$36,921,000 (2018 : \$36,532,000) (Note 13). If the actual useful lives of the property,

plant and equipment are longer or shorter than the management's estimate, the University annual depreciation charge will be decreased or increased accordingly.

2.2 Funds

(a) General fund

General fund comprise surpluses from operational activities, commitments, planned expenditure and self-financing activities. It also includes funds set aside for specific purposes such as staff and student housing. The use of the reserves generated from surpluses from operational activities and those funds set aside for specific purposes is subject to the approval of the Board of Trustees.

Income and expenses related to the general fund are accounted for under the general fund in profit or loss.

(b) Non-endowment fund

Donations and sponsorships from individuals and external bodies which are to be put to use for specific purposes specified by the donors are taken to non-endowment fund in profit or loss.

Income and expenses relating to the fund are accounted for under non-endowment fund in profit or loss.

(c) Endowment fund

Donations and government matching grants, which are kept intact as capital, are directly taken to the endowment fund in the year in which such donations are received and government grants are granted.

Income and expenses relating to the endowment fund are accounted for under endowment fund in profit or loss.

2.3 Revenue recognition

Revenue is measured based on the consideration specified in a contract with a customer and excludes amounts collected on behalf of third parties. The University recognises income when it transfers control of a product or when services is rendered to a customer.

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES *(continued)*

2.3 Revenue recognition *(continued)*

(a) Tuition and other fees

Revenue from tuition and other fees comes from the provision of tuition services to undergraduate and postgraduate students over the academic period. It includes the provision of course and compulsory miscellaneous fee. Tuition and other fees are recognised as the courses are rendered as the performance obligation is satisfied over time. Payments received from students for tuition and other fees in which the courses have not been rendered is recognised as a contract liability until the courses have been rendered to the students.

(b) Donations and sponsorships

Donations (in cash or in-kind) and sponsorships are recognised at the point in time when they are received/receivable.

(c) Housing income

Housing income is recognised on a straight-line basis over the housing lease period.

(d) Rental income

Rental income from operating leases (net of any incentives given to the lessees) is recognised on a straight-line basis over the lease term.

(e) Interest income

Interest income is recognised on a time proportion basis using the effective interest method.

(f) Events and facilities income

Revenue from the usage of facilities, utilities, carpark and events management are recognised over the usage period.

2.4 Grants

Government grants in respect of the current year's operating expenses are recognised as income in the same year.

Other government grants are recognised as income over the period necessary to match the intended costs. Such grants which are received but not utilised are included in the grants received in advance account.

Debt grant receivable is recognised for the purchase of property, plant and equipment when there is reasonable assurance that the University will comply with the government's debt grant framework conditions and that the grants will be received.

Government grants received or receivable for the purchase of property, plant and equipment and intangible assets are taken to the grants received in advance account. Upon utilisation of the grants for the purchase of assets, they are taken to the deferred capital grants account for the assets which are capitalised, or to profit or loss for the assets which are written off.

Deferred capital grants are recognised in profit or loss over the periods necessary to match the depreciation or amortisation of the related assets purchased with the grants. Upon the disposal of the assets, the balance of the related deferred capital grants is recognised in profit or loss to match the net book value of the assets written off.

2.5 Grants disbursed to Massachusetts Institute of Technology ("MIT")

Grants disbursed in advance to MIT are initially taken to the prepayment account. Upon the utilisation of the grants, they are taken to profit or loss as programme-related or research-related expenses.

Grants disbursed for the MIT endowment fund are taken to the prepayment account and subsequently to profit or loss as programme-related expenses on a straight-line basis over the endowment period.

Interest income earned from the MIT endowment fund are taken to the prepayment account and subsequently charged to profit or loss over the periods necessary to match them with the intended costs.

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

2.6 Employee compensation

(a) Defined contribution plans

The University's contributions to defined contribution plans are recognised as employee compensation expense when the contributions are due, unless they can be capitalised as an asset.

(b) Employee leave entitlement

Employee entitlements to annual leave are recognised when they accrue to employees. A provision is made for the estimated liability for annual leave as a result of services rendered by employees up to the balance sheet date.

2.7 Operating leases

Lessee

Rental payments made under operating leases (net of any incentives received from the lessors) are recognised in profit or loss on a straight-line basis over the period of the lease.

Lessor

Leases of properties where the University retains substantially all risks and rewards incidental to ownership are classified as operating leases. Rental income from operating leases (net of any incentives given to the lessees) is recognised in profit or loss on a straight-line basis over the lease term.

2.8 Property, plant and equipment

Property, plant and equipment are recognised at cost less accumulated depreciation and accumulated impairment losses. Donated assets are recognised at the valuation determined by valuers at the time of receipt of the assets. The cost of an item of property, plant and equipment is recognised as an asset if, and only if, it is probable that future economic benefits associated with the item will flow to the University and the cost of the item can be measured reliably.

The cost of an item of property, plant and equipment includes its purchase price and any cost that is directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management.

The construction-in-progress consists of construction costs and related expenses incurred during the period of construction.

Subsequent expenditure relating to property, plant and equipment that has already been recognised is added to the carrying amount of the asset only when it is probable that future economic benefits associated with the item will flow to the University and the cost of the item can be measured reliably. All other repair and maintenance expenses are recognised in profit or loss when incurred.

Except for construction-in-progress which is not depreciated, depreciation on other property, plant and equipment is calculated using the straight-line method to allocate their depreciable amounts over their estimated useful lives as follows:

	Estimated useful lives
Leasehold land	99 years
Buildings	30 years
Plant and machinery	10 years
Computer systems, communications and laboratory equipment	5 to 6 years
Personal computers and equipment	3 years
Furniture and fittings	7 years
Audio visual and office equipment	5 to 8 years
Motor vehicle	10 years

Property, plant and equipment costing less than \$2,000 (2018 : \$2,000) each are taken to profit or loss when purchased.

The residual values, estimated useful lives and depreciation method of property, plant and equipment are reviewed, and adjusted as appropriate, at each balance sheet date. The effects of any revision are recognised in profit or loss when the changes arise.

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES *(continued)*

2.8 Property, plant and equipment *(continued)*

On disposal of an item of property, plant and equipment, the difference between the disposal proceeds and its carrying amount is included in profit or loss.

2.9 Intangible assets

Computer software licences costs

Acquired computer software licences are initially capitalised at cost which includes the purchase price (net of any discounts and rebates) and any other directly attributed cost of preparing the asset for its intended use. Direct expenditure, which enhances or extends the performance of computer software beyond its specifications and which can be reliably measured, is recognised as a capital improvement and added to the original cost of the software. Costs associated with maintaining the computer software are expensed off.

Capitalised computer software licences are subsequently carried at cost less accumulated amortisation and accumulated impairment losses. These costs are amortised to profit or loss using the straight-line method over their estimated useful lives of three to five years.

The amortisation period and amortisation method are reviewed at least at each balance sheet date. The effects of any revision are recognised in profit or loss when the changes arise.

2.10 Impairment of non-financial assets

Property, plant and equipment and intangible assets are tested for impairment whenever there is any objective evidence or indication that these assets may be impaired.

If the recoverable amount of the asset is estimated to be less than its carrying amount, the carrying amount of the asset is reduced to its recoverable amount. The difference between the carrying amount and recoverable amount is recognised as an impairment loss in profit or loss.

An impairment loss for an asset is reversed if, and only if, there has been a change in the estimates used to determine the asset's recoverable amount since the last impairment loss was recognised. The carrying amount of this asset is increased to its revised recoverable amount, provided that this amount does not exceed the carrying amount that would have been determined (net of accumulated depreciation and amortisation) had no impairment loss been recognised for the asset in prior years. A reversal of impairment loss for an asset is recognised in profit or loss.

2.11 Financial assets

Before 1 April 2018

(a) Classification

The University classifies its financial assets in the following categories: loans and receivables, and at fair value through profit or loss. The classification depends on the nature of the asset and the purpose for which the assets were acquired. Management determines the classification of its financial assets at initial recognition and re-evaluates this designation at each balance sheet date.

(i) Loans and receivables

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They are presented as current assets, except for those expected to be realised later than 12 months after the balance sheet date which are presented as non-current assets. Loans and receivables are presented as "cash and cash equivalents" (Note 9), "grants and other receivables" (Note 10), "deposits" under "other current assets" (Note 12) and "student loans" (Note 22) on the balance sheet.

(ii) Financial assets at fair value through profit or loss

This category has two sub-categories: financial assets held for trading, and those designated at fair value through profit or loss at inception. A financial asset is classified as held for trading if it is acquired principally for the purpose of selling in the short term.

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES *(continued)*

2.11 Financial assets *(continued)*

(a) Classification *(continued)*

(ii) Financial assets at fair value through profit or loss *(continued)*

Financial assets designated as at fair value through profit or loss at inception are those that are managed and their performances are evaluated on a fair value basis, in accordance with a documented University investment strategy. Assets in this category are presented as current assets if they are either held for trading or are expected to be realised within 12 months after the balance sheet date.

(b) Recognition and derecognition

Regular way purchases and sales of financial assets are recognised on trade date - the date on which the University commits to purchase or sell the asset.

Financial assets are derecognised when the rights to receive cash flows from the financial assets have expired or have been transferred and the University has transferred substantially all risks and rewards of ownership. On disposal of a financial asset, the difference between the carrying amount and the sale proceeds is recognised in profit or loss.

(c) Initial measurement

Financial assets are initially recognised at fair value plus transaction costs except for financial assets at fair value through profit or loss, which are recognised at fair value. Transaction costs for financial assets at fair value through profit or loss are recognised immediately as expenses.

(d) Subsequent measurement

Loans and receivables are subsequently carried at amortised cost using the effective interest method.

Changes in the fair values of financial assets at fair value through profit or loss including the effects of currency

translation, interest and dividends, are recognised in profit or loss when the changes arise.

(e) Impairment

The University assesses at each balance sheet date whether there is objective evidence that these financial assets are impaired and recognises an allowance for impairment when such evidence exists.

Loans and receivables

Significant financial difficulties of the debtor, probability that the debtor will enter bankruptcy, and default or significant delay in payments are objective evidence that these financial assets are impaired.

The carrying amount of these assets is reduced through the use of an impairment allowance account which is calculated as the difference between the carrying amount and the present value of estimated future cash flows, discounted at the original effective interest rate.

When the asset becomes uncollectible, it is written off against the allowance account. Subsequent recoveries of amounts previously written off are recognised against the same line item in profit or loss. The impairment allowance is reduced through profit or loss in a subsequent period when the amount of impairment loss decreases and the related decrease can be objectively measured. The carrying amount of the asset previously impaired is increased to the extent that the new carrying amount does not exceed the amortised cost had no impairment been recognised in prior periods.

After 1 April 2018

All financial assets are recognised and de-recognised on a trade date basis where the purchase or sale of financial assets is under a contract whose terms require delivery of assets within the time frame established by the market concerned.

All recognised financial assets are subsequently measured in their entirety at either amortised cost or fair value, depending on the classification of the financial assets.

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

2.11 Financial assets (continued)

(a) Classification of financial assets

Debt instruments mainly comprise cash and bank balances and trade and other receivables that meet the following conditions and are subsequently measured at amortised cost:

- the financial asset is held within a business model whose objective is to hold financial assets in order to collect contractual cash flows; and
- the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Debt instruments that meet the following conditions are subsequently measured at fair value through other comprehensive income ("FVTOCI"):

- the financial asset is held within a business model whose objective is achieved by both collecting contractual cash flows and selling the financial assets; and
- the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

By default, all other financial assets are subsequently measured at fair value through profit or loss ("FVTPL").

Despite the foregoing, the University may make the following irrevocable election/ designation at initial recognition of a financial asset:

- the University may irrevocably elect to present subsequent changes in fair value of an equity investment in other comprehensive income if certain criteria are met; and
- the University may irrevocably designate a debt investment that meets the amortised cost or FVTOCI criteria as measured at FVTPL if doing so

eliminates or significantly reduces an accounting mismatch.

Amortised cost and effective interest method

The effective interest method is a method of calculating the amortised cost of a debt instrument and of allocating interest income over the relevant period.

The effective interest rate is the rate that exactly discounts estimated future cash receipts (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) excluding expected credit losses, through the expected life of the debt instrument, or, where appropriate, a shorter period, to the gross carrying amount of the debt instrument on initial recognition.

The amortised cost of a financial asset is the amount at which the financial asset is measured at initial recognition minus the principal repayments, plus the cumulative amortisation using the effective interest method of any difference between that initial amount and the maturity amount, adjusted for any loss allowance. On the other hand, the gross carrying amount of a financial asset is the amortised cost of a financial asset before adjusting for any loss allowance.

Interest is recognised using the effective interest method for debt instruments measured subsequently at amortised cost, except for short-term balances when the effect of discounting is immaterial. For financial instruments other than purchased or originated credit-impaired financial assets, interest income is calculated by applying the effective interest rate to the gross carrying amount of a financial asset, except for financial assets that have subsequently become credit-impaired. For financial assets that have subsequently become credit-impaired, interest income is recognised by applying the effective interest rate to the amortised cost of the financial asset. If, in subsequent reporting periods, the credit risk on the credit-impaired financial instrument improves so that the financial asset is no longer credit-impaired, interest income is recognised by applying the effective interest rate to the gross carrying amount of the financial asset.

Interest income is recognised in profit or loss and is included in the "net investment income" line item.

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES *(continued)*

2.11 Financial assets *(continued)*

(a) Classification of financial assets *(continued)*

Financial assets at FVTPL

Financial assets that do not meet the criteria for being measured at amortised cost or FVTOCI are measured at FVTPL. Specifically:

- investments in equity instruments are classified as at FVTPL, unless the University designates an equity investment that is neither held for trading nor a contingent consideration arising from a business combination as at FVTOCI on initial recognition.
- debt instruments that do not meet the amortised cost criteria or the FVTOCI criteria are classified as at FVTPL. In addition, debt instruments that meet either the amortised cost criteria or the FVTOCI criteria may be designated as at FVTPL upon initial recognition if such designation eliminates or significantly reduces a measurement or recognition inconsistency that would arise from measuring assets or liabilities or recognising the gains and losses on them on different bases. The University has designated their quoted debt instruments as at FVTPL.

Financial assets at FVTPL are measured at fair value as at each reporting date, with any fair value gains or losses recognised in profit or loss to the extent they are not part of a designated hedging relationship. The net gain or loss recognised in profit or loss includes any dividend or interest earned on the financial asset and is included in the “net investment income” line item (Note 6). Fair value is determined in the manner described in Note 2.17.

(b) Foreign exchange gains and losses

The carrying amount of financial assets that are denominated in a foreign currency is determined in that foreign currency and translated at the spot rate as at each reporting date. Specifically,

- for financial assets measured at amortised cost that are not part of a designated hedging relationship, exchange differences are recognised in profit or loss in the “other operating expenses” line item; and
- for financial assets measured at FVTPL that are not part of a designated hedging relationship, exchange differences are recognised in profit or loss as part of the “net investment income” line item.

(c) Impairment of financial assets

The University recognises a loss allowance for expected credit losses (“ECL”) on grants and other receivables and deposits. The amount of expected credit losses is updated at each reporting date to reflect changes in credit risk since initial recognition of the respective financial instrument.

The University always recognises lifetime ECL for grants and other receivables. The expected credit losses on these financial assets are estimated using a provision matrix based on the University’s historical credit loss experience, adjusted for factors that are specific to the debtors, general economic conditions and an assessment of both the current as well as the forecast direction of conditions at the reporting date, including time value of money where appropriate.

For all other financial instruments, the University recognises lifetime ECL when there has been a significant increase in credit risk since initial recognition. If, on the other hand, the credit risk on the financial instrument has not increased significantly since initial recognition, the University measures the loss allowance for that financial instrument at an amount equal to 12-month ECL. The assessment of whether lifetime ECL should be recognised is based on significant increases in the likelihood or risk of a default occurring since initial recognition instead of on evidence of a financial asset being credit-impaired at the reporting date or an actual default occurring.

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES *(continued)*

2.11 Financial assets *(continued)*

(c) Impairment of financial assets *(continued)*

Lifetime ECL represents the expected credit losses that will result from all possible default events over the expected life of a financial instrument. In contrast, 12-month ECL represents the portion of lifetime ECL that is expected to result from default events on a financial instrument that are possible within 12 months after the reporting date.

Significant increase in credit risk

In assessing whether the credit risk on a financial instrument has increased significantly since initial recognition, the University compares the risk of a default occurring on the financial instrument as at the reporting date with the risk of a default occurring on the financial instrument as at the date of initial recognition. In making this assessment, the University considers historical loss rates for each category of customers and adjusts to reflect current and forward-looking macroeconomic factors affecting the ability of the customers to settle the receivables.

The University presumes that the credit risk on a financial asset has increased significantly since initial recognition when contractual payments are more than 30 days past due, unless the University has reasonable and supportable information that demonstrates otherwise.

The University assumes that the credit risk on a financial instrument has not increased significantly since initial recognition if the financial instrument is determined to have low credit risk at the reporting date. A financial instrument is determined to have low credit risk if i) the financial instrument has a low risk of default, ii) the borrower has a strong capacity to meet its contractual cash flow obligations in the near term and iii) adverse changes in economic and business conditions in the longer term may, but will not necessarily, reduce the ability of the borrower to fulfil its contractual cash flow obligations.

The University regularly monitors the effectiveness of the criteria used to identify whether there has been a

significant increase in credit risk and revises them as appropriate to ensure that the criteria are capable of identifying significant increase in credit risk before the amount becomes past due.

Definition of default

The University considers that default has occurred when a financial asset is more than 90 days past due unless the University has reasonable and supportable information to demonstrate that a more lagging default criterion is more appropriate.

Credit-impaired financial assets

A financial asset is credit-impaired when one or more events that have a detrimental impact on the estimated future cash flows of that financial asset have occurred.

Write-off policy

The University writes off a financial asset when there is information indicating that the counterparty is in severe financial difficulty and there is no realistic prospect of recovery, e.g. when the counterparty has been placed under liquidation or has entered into bankruptcy proceedings. Financial assets written off may still be subject to enforcement activities under the University's recovery procedures, taking into account legal advice where appropriate. Any recoveries made are recognised in profit or loss.

Measurement and recognition of expected credit losses

For financial assets, the expected credit loss is estimated as the difference between all contractual cash flows that are due to the University in accordance with the contract and all the cash flows that the University expects to receive, discounted at the original effective interest rate.

If the University has measured the loss allowance for a financial instrument at an amount equal to lifetime ECL in the previous reporting period, but determines at the current reporting date that the conditions for lifetime ECL are no longer met, the University measures the loss allowance at an amount equal to 12-month ECL at the current reporting date.

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES *(continued)*

2.11 Financial assets *(continued)*

(d) Derecognition of financial assets

The University derecognises a financial asset only when the contractual rights to the cash flows from the asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another party. If the University neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the University recognises its retained interest in the asset and an associated liability for amounts it may have to pay. If the University retains substantially all the risks and rewards of ownership of a transferred financial asset, the University continues to recognise the financial asset and also recognises a collateralised borrowing for the proceeds received.

2.12 Contract liabilities

Contract liabilities represents tuition and housing fees received in advance for the next financial year (See Note 16). Payments received from students for tuition and housing fees in which the tuition and housing services have not been rendered are recognised as contract liabilities until the courses and housing services have been rendered to the students.

2.13 Other payables

Other payables represent liabilities for goods and services provided to the University prior to the end of financial year which are unpaid. They are classified as current liabilities if payment is due within one year or less (or in the normal operating cycle of the business, if longer). If not, they are presented as non-current liabilities.

Other payables are initially recognised at fair value, and subsequently carried at amortised cost using the effective interest method.

The University derecognises other payables when its contractual obligations are discharged or cancelled or expired.

2.14 Borrowings

Borrowings are presented as current liabilities unless the University has an unconditional right to defer settlement for at least 12 months after the balance sheet date, in which case they are presented as non-current liabilities.

Borrowings are initially recognised at fair value (net of transaction costs) and subsequently carried at amortised cost. Any difference between the proceeds (net of transaction costs) and the redemption value is recognised in profit or loss over the period of the borrowings using the effective interest method.

2.15 Cash and cash equivalents

For the purpose of presentation in the statement of cash flows, cash and cash equivalents include cash on hand and deposits with financial institutions which are subject to an insignificant risk of change in value.

2.16 Borrowing costs

Borrowing costs are recognised in profit or loss using the effective interest method except for those costs that are directly attributable to assets under construction. This includes those costs on borrowings acquired specifically for assets under construction, as well as those in relation to general borrowings used to assets under construction.

The actual borrowing costs incurred during the period up to the issuance of the temporary occupation permit are capitalised in the cost of the assets under construction.

2.17 Fair value estimation of financial assets and liabilities

The fair values of financial instruments traded in active markets (such as exchange-traded and over-the-counter securities) are based on quoted market prices at the balance sheet date. The quoted market prices used for financial assets are the current bid prices.

The fair values of financial instruments that are not traded in an active market are determined with reference to the net asset value statements provided by the custodian/fund managers at each balance sheet date.

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

2.17 Fair value estimation of financial assets and liabilities (continued)

The fair values of current financial assets and liabilities carried at amortised cost approximate their carrying amounts.

Estimates, assumptions and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

2.18 Provision

Provisions are recognised when the University has a present obligation (legal or constructive) as a result of a past event, it is probable that the University will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation.

The amount recognised as a provision is the best estimate of the consideration required to settle the present obligation at the end of the reporting period, taking into account the risks and uncertainties surrounding the obligation. Where a provision is measured using the cash flows estimated to settle the present obligation, its carrying amount is the present value of those cash flows.

When some or all of the economic benefits required to settle a provision are expected to be recovered from a third party, the receivable is recognised as an asset if it is virtually certain that reimbursement will be received and the amount of the receivable can be measured reliably.

3a. INCOME

	2019 \$'000	2018 \$'000
<u>Tuition and other fees</u>		
Tuition fees	36,429	33,834
Other student related fees	712	659
	37,141	34,493
Less: Scholarship expenses	(19,433)	(18,930)
	17,708	15,563

Timing of revenue recognition

Over time	17,708	15,563
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The aggregate amount of the transaction price allocated to performance obligations that are unsatisfied (or partially unsatisfied) for services as at the end of the reporting period is \$4,319,000 (2018 : \$3,859,000). Management expects that full amount will be recognised as revenue during the next reporting period.

3b. OTHER INCOME

	2019 \$'000	2018 \$'000
Housing income	6,251	6,088
Rental income	630	687
Conference and short courses	842	247
Wage credit	228	308
Events and facilities	1,524	1,365
Others	1,513	1,107
	10,988	9,802

Timing of revenue recognition

At point in time	582	607
Over time	10,406	9,195

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

4. EMPLOYEE COMPENSATION

	2019 \$'000	2018 \$'000
Wages and salaries	88,681	86,751
Employer's contribution to Central Provident Fund	7,738	7,588
Other benefits	483	1,239
	96,902	95,578

Key management personnel compensation is as follows:

	2019 \$'000	2018 \$'000
Wages and salaries	7,014	8,802
Employer's contribution to Central Provident Fund	182	154
Other benefits	-	881
	7,196	9,837

Key management personnel comprises the President, Provost, Vice President, Administration, Associate Provosts, Head of Pillars and key administrative Directors.

5. OTHER OPERATING EXPENSES

	2019 \$'000	2018 \$'000
Rental expense on operating leases	111	129
Utilities and facility management	14,618	15,079
Marketing and advertising expenses	3,335	3,356
Information technology expenses	6,197	4,001
Travelling expenses	2,404	1,696
Library books, periodicals and databases	2,301	3,370
Scholarship and awards	13,024	11,957
Loss on disposal of property, plant and equipment and intangible assets	25	144
Others	7,692	7,641
	49,707	47,373

6. NET INVESTMENT INCOME

	2019 \$'000	2018 \$'000
Interest income	5,410	4,216
Fair value gains on financial assets at fair value through profit or loss	19,997	61,998
	25,407	66,214

7. GOVERNMENT AND OTHER GRANTS

	2019 \$'000	2018 \$'000
Operating grants (Note 10(ii))	84,604	76,931
Research grants utilised (Note 10(iii))	69,566	62,583
Debt grants utilised (Note 10(iv))	13,909	13,638
Deferred capital grants amortised (Note 19)	36,795	36,881
Other grants	2,309	1,053
	207,183	191,086

8. INCOME TAXES

The University obtained Charity and Institution of Public Character ("IPC") status on 21 July 2009 under the Charities Act and Charities (Institutions of a Public Character) Regulations 2008. With effect from the Year of Assessment 2009, all registered charities will enjoy automatic income tax exemption. The University is exempted from filing income tax returns.

9. CASH AND CASH EQUIVALENTS

	2019 \$'000	2018 \$'000
Cash at bank and on hand	54,397	71,049
Short-term bank deposits	137,671	117,052
	192,068	188,101

The short-term bank deposits at balance sheet date have a weighted average effective interest rate of 1.91% (2018 : 1.27%) per annum.

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

10. GRANTS AND OTHER RECEIVABLES

	2019 \$'000	2018 \$'000
<u>Current</u>		
Fee and other receivables (Note (i))	1,376	1,155
Loss allowance (Note (i))	(61)	-
	1,315	1,155
Operating grants receivable (Note (ii))	16,650	7,651
Research grants receivable (Note (iii))	25,733	19,035
Debt grant receivable (Note (iv))	21,893	22,635
Matching endowment grant receivable	24,527	19,361
Other receivables from MOE	9,388	3,071
Interest receivable	176	71
	99,682	72,979
<u>Non-current</u>		
Debt grant receivable (Note (iv))	358,199	364,405
Total grants and other receivables	457,881	437,384

(i) Fee and other receivables

The average credit period of fee and other receivables is 30 days (2018 : 30 days). No interest is charged on the outstanding balance.

Loss allowance for fee and other receivables has been measured at an amount equal to lifetime expected credit losses ("ECL"). The ECL on fee and other receivables are estimated by reference to past default experience of the debtor and an analysis of the debtor's current financial position, adjusted for factors that are specific to the debtors, general economic conditions of the industry in which the debtors operate. The University has recognised a loss allowance of S\$61,000 which is due to specific

credit-impaired factors arising on the debtor. The University has assessed and noted immaterial loss allowance required for the remaining balances as historical experience has indicated that these receivables are generally recoverable.

There has been no change in the estimation techniques or significant assumptions made during the current reporting period.

The table below is an analysis of fee and other receivables as at 31 March

	2019 \$'000
Not past due and not impaired	355
Past due and not impaired	960
	1,315

The movement in the credit loss allowance in respect of fee and other receivables is as follows:

	2019 \$'000
Balance as at 1 April 2018	-
Loss allowance recognised in profit or loss during the year due to - changes in credit risk	61
Balance as at 31 March 2019	61

Previous accounting policy for impairment of fee and other receivables.

In 2018, the University's fee and other receivables balance which are past due but not impaired at the end of the reporting period amounted to \$770,000 for which the University has not recognised an allowance for doubtful debts as there has not been a significant change in credit quality and the amounts are still considered recoverable. The University does not hold any collateral over these balances.

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

10. GRANTS AND OTHER RECEIVABLES

(continued)

(ii) Movement in operating grants receivable

	2019	2018
	\$'000	\$'000
Balance as at 1 April	5,431	2,145
Operating grants received during the year	(78,116)	(74,180)
Transferred to deferred capital grants (Note 19)	286	535
Transferred to profit or loss (Note 7)	84,604	76,931
Balance as at 31 March	12,205	5,431
Comprising:		
Operating grants receivable (as above)	16,650	7,651
Operating grants received in advance from Government - MIT Education Component (Note 15)	(1,278)	(2,043)
Other operating grant received in advance - Government (Note 15)	(3,167)	(177)
	12,205	5,431

(iii) Movement in research grants (received in advance)/receivable

	2019	2018
	\$'000	\$'000
Balance as at 1 April	(8,786)	18,609
Research grants received during the year	(71,348)	(95,811)
Transferred to deferred capital grants (Note 19)	3,369	5,833
Transferred to profit or loss (Note 7)	69,566	62,583
Balance as at 31 March	(7,199)	(8,786)
Comprising:		
Research grants receivable (as above)	25,733	19,035
Research grants received in advance from Government - MIT Research Component (Note 15)	(3,684)	(5,504)
Other research grants received in advance - Government (Note 15)	(20,129)	(14,793)
Research grants received in advance - Government agencies and others (Note 15)	(9,119)	(7,524)
	(7,199)	(8,786)

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

10. GRANTS AND OTHER RECEIVABLES (continued)

(iv) Movement in debt grant receivable

	2019 \$'000	2018 \$'000
Balance as at 1 April	387,040	394,037
Debt grant received during the year	(29,147)	(32,176)
Transferred to deferred capital grants (Note 19)	8,290	11,541
Transferred to profit or loss (Note 7)	13,909	13,638
Balance as at 31 March	380,092	387,040
Current	21,893	22,635
Non-current	358,199	364,405
	380,092	387,040

The debt grant receivable relates to funding from the Government to finance the bank loans utilised for land premium, construction cost of the East Coast Campus and the purchase of furniture and equipment, information technology equipment and systems that falls under the debt-grant framework initiated by the Government. The debt grant receivable earns additional grants at variable rates determined by Ministry of Education based on Ministry of Finance's preferential rate, and the carrying value approximates to its fair value at the balance sheet date.

11. FINANCIAL ASSETS AT FAIR VALUE THROUGH PROFIT OR LOSS

	2019 \$'000	2018 \$'000
<i>Designated at fair value on initial recognition</i>		
Quoted debt securities	274,909	196,041
Quoted unit trusts	533,532	521,076
Quoted equity securities	37,344	33,096
Other investments	222,909	229,947
	1,068,694	980,160

The Board of Trustees has an Investment Committee to assist in the oversight of the University's investments. The Investment Committee approves the asset allocation, selection of fund managers and all other investment activities. The selected fund managers and internal investment office have to manage the investment portfolio within the prescribed individual mandates and investment guidelines.

The fair values of quoted debt securities, quoted unit trusts and quoted equity securities are based on quoted market prices at the balance sheet date. The other investments represent investments in hedge funds, multi-asset fund and limited partnership. The fair values of these unquoted investments are based on net asset values provided by fund managers and fund administrators.

12. OTHER CURRENT ASSETS

	2019 \$'000	2018 \$'000
Prepayments		
- Education Component	497	1,976
- Research Component	3,694	5,504
- Others	2,879	1,966
Deposits	161	76
	7,231	9,522

Prepayments comprise primarily of advance payments made to the Massachusetts Institute of Technology ("MIT") in accordance with the SUTD-MIT Collaboration Agreement for education and research purposes (Note 23(c)).

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

13. PROPERTY, PLANT AND EQUIPMENT

	Construction-in-progress	Leasehold land	Buildings and plant and machinery	Computer systems, communications and laboratory equipment	Personal computers and equipment	Furniture and fittings	Audio visual and office equipment	Motor vehicle	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
<i>Cost</i>									
Balance as at 1 April 2018	911	209,718	563,844	61,755	4,076	7,544	9,774	195	857,817
Additions	427	-	6,325	3,020	449	230	356	-	10,807
Transfer	(431)	-	65	356	-	-	10	-	-
Reclassified to intangible assets (Note 14)	(358)	-	-	-	-	-	-	-	(358)
Disposals	-	-	-	(31)	(66)	(1)	(8)	-	(106)
Balance as at 31 March 2019	549	209,718	570,234	65,100	4,459	7,773	10,132	195	868,160
<i>Accumulated depreciation</i>									
Balance as at 1 April 2018	-	13,593	71,462	25,665	2,859	3,846	6,740	7	124,172
Depreciation charge	-	2,118	21,712	10,006	745	1,045	1,276	19	36,921
Disposals	-	-	-	(17)	(66)	(1)	(6)	-	(90)
Balance as at 31 March 2019	-	15,711	93,174	35,654	3,538	4,890	8,010	26	161,003
Net book value									
Balance as at 31 March 2019	549	194,007	477,060	29,446	921	2,883	2,122	169	707,157

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

13. PROPERTY, PLANT AND EQUIPMENT (continued)

	Construction-in-progress	Leasehold land	Buildings and plant and machinery	Computer systems, communications and laboratory equipment	Personal computers and equipment	Furniture and fittings	Audio visual and office equipment	Motor vehicle	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
<i>Cost</i>									
Balance as at 1 April 2017	1,955	209,718	554,280	45,189	3,423	7,328	11,681	218	833,792
Additions	665	-	7,749	15,082	656	215	436	186	24,989
Transfer	(1,621)	-	90	1,528	2	1	-	-	-
Reclassified to intangible assets (Note 14)	(88)	-	-	-	-	-	-	-	(88)
Reclassification between categories	-	-	1,785	-	-	-	(1,785)	-	-
Asset written off	-	-	(3)	-	-	-	(279)	-	(282)
Disposals	-	-	(57)	(44)	(5)	-	(279)	(209)	(594)
Balance as at 31 March 2018	911	209,718	563,844	61,755	4,076	7,544	9,774	195	857,817
<i>Accumulated depreciation</i>									
Balance as at 1 April 2017	-	11,474	48,662	16,534	1,987	2,785	6,525	123	88,090
Depreciation charge	-	2,119	22,857	9,159	877	1,061	614	22	36,709
Asset written off	-	-	-	-	-	-	(177)	-	(177)
Disposals	-	-	(57)	(28)	(5)	-	(222)	(138)	(450)
Balance as at 31 March 2018	-	13,593	71,462	25,665	2,859	3,846	6,740	7	124,172
Net book value									
Balance as at 31 March 2018	911	196,125	492,382	36,090	1,217	3,698	3,034	188	733,645

During the year, the University received donated assets included as part of computer systems, communications and laboratory equipment amounting to \$529,000 (2018 : \$7,697,000). These assets are not eligible for the deferred capital grant.

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

14. INTANGIBLE ASSETS

	2019	2018
	\$'000	\$'000
Computer software licenses costs		
<i>Cost</i>		
Balance as at 1 April	9,064	8,054
Additions	1,730	950
Reclassified from property, plant and equipment (Note 13)	358	88
Disposals	(530)	(28)
Balance as at 31 March	10,622	9,064
<i>Accumulated amortisation</i>		
Balance as at 1 April	6,895	6,153
Amortisation	1,280	770
Disposals	(521)	(28)
Balance as at 31 March	7,654	6,895
Net book value	2,968	2,169

15. GRANTS RECEIVED IN ADVANCE

	2019	2018
	\$'000	\$'000
Operating grants received in advance from Government - MIT Education Component (Note 10(ii))	1,278	2,043
Other operating grants received in advance - Government (Note 10(ii))	3,167	177
Research grants received in advance from Government - MIT Research Component (Note 10(iii))	3,684	5,504
Other research grants received in advance - Government (Note 10(iii))	20,129	14,793
Research grants received in advance - Government agencies and others (Note 10(iii))	9,119	7,524
Matching grants payable	3,826	3,664
Other grants received in advance	870	-
	42,073	33,705

The balances in these accounts represent grants received but not utilised at the end of the financial year.

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

16. CONTRACT LIABILITIES

This relates to the consideration received in advance for tuition and housing services.

Services are paid upfront as part of the initial sales transaction whereas revenue is recognised over the period when services are provided to the customer. A contract liability is recognised for revenue relating to tuition and housing services at the time of the initial sales transaction and is released over the service period.

There were no significant changes in the contract liability balances during the reporting period.

The amount of revenue recognised in the current reporting period which relates to brought forward contract liabilities is \$3,859,000 (2018 : \$3,441,000).

17. OTHER PAYABLES

	2019	2018
	\$'000	\$'000
Other payables	7,252	6,870
Payables for capital expenditure	315	1,083
Accruals for		
- Operating expenses	22,320	18,789
- Capital expenditure	9,401	11,095
	39,288	37,837

18. BORROWINGS

	2019	2018
	\$'000	\$'000
Bank borrowings		
Current	16,222	15,210
Non-current	361,399	368,770
	377,621	383,980

The profile of the bank borrowings at the balance sheet date are as follows:

	2019	2018
	\$'000	\$'000
Fixed rate - unsecured	376,526	377,538
Variable rate - unsecured	1,095	6,442
	377,621	383,980

Under the debt-grant framework initiated by the Government, the University has drawn down bank loans to finance the land premium, construction of the East Coast Campus and the purchase of furniture and equipment, information technology equipment and systems.

As at 31 March 2019, the fair value of the non-current borrowings is \$351,524,000 (2018 : \$356,508,000). The fair value is determined from the cash flow analysis, discounted at market borrowing rates of 2.45% (2018 : 2.67%) per annum, which management expects to be available to the University at the balance sheet date.

19. DEFERRED CAPITAL GRANTS

	2019	2018
	\$'000	\$'000
Balance as at 1 April	728,478	747,450
Transferred from		
- Operating grants (Note 10(ii))	286	535
- Research grants (Note 10(iii))	3,369	5,833
- Debt grant (Note 10(iv))	8,290	11,541
Amortisation of deferred capital grants (Note 7)	(36,795)	(36,881)
Balance as at 31 March	703,628	728,478

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

20. NON-ENDOWMENT FUND

	2019 \$'000	2018 \$'000
Non-endowment fund		
Accumulated surplus	12,698	12,367
Represented by:		
Cash and cash equivalents	14,334	13,159
Grants and other receivables	210	56
Property, plant and equipment	33	38
Other payables	(1,879)	(886)
	12,698	12,367

21. ENDOWMENT FUND

	2019 \$'000	2018 \$'000
Endowment fund		
Capital		
- Government grants	787,199	747,259
- Donations	167,443	151,496
	954,642	898,755
Accumulated surplus	166,883	154,412
	1,121,525	1,053,167
Represented by:		
Cash and cash equivalents	32,184	57,946
Grants and other receivables	25,072	12,089
Property, plant and equipment	24	25
Financial assets at fair value through profit or loss	1,068,694	980,160
Other payables	(623)	(717)
Grants (received in advance)/receivable	(3,826)	3,664
	1,121,525	1,053,167

The objectives of this fund include the advancement and dissemination of knowledge, the promotion of research and awarding of scholarships.

Donations from external parties and government matching grants which are to be kept intact as capital of \$15,947,000 (2018 : \$22,545,000) and \$39,940,000 (2018 : \$26,068,000) respectively, are taken directly to endowment fund - capital during the current financial year.

22. FUNDS' NET ASSETS MANAGED ON BEHALF OF MINISTRY OF EDUCATION ("MOE")

Pursuant to the MOE Tuition Fee Loan ("TFL") and Study Loan ("SL") schemes, the University acts as agent for these loans schemes and the MOE is the financier providing the advances.

	2019 \$'000	2018 \$'000
Balance as at 1 April	10,172	8,450
Student loan granted to students	3,668	3,536
Repayments received from students	(2,282)	(1,814)
Balance as at 31 March	11,558	10,172
Represented by:		
TFL receivables	10,249	8,833
SL receivables	1,309	1,339
Net assets	11,558	10,172

Student tuition fee and study loans are unsecured, interest-free during the course of study and are repayable by monthly instalments over period of up to 20 years after the students' graduation. Interest is charged based on the average of the prevailing prime rates of the 3 local banks. The interest rate as at the end of reporting period is 4.75% (2018 : 4.75%) per annum.

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

23. COMMITMENTS

(a) Lessee - Operating lease commitments

The University leases plant and machinery under a non-cancellable operating lease agreement.

The lease expenditure during the financial year is as follows:

	2019 \$'000	2018 \$'000
Minimum lease payments under operating leases	111	129

The future minimum lease payable under a non-cancellable operating lease contracted for at the balance sheet date but not recognised as liabilities is as follows:

	2019 \$'000	2018 \$'000
Within one year	120	118
Within 2 to 5 years	277	95
	397	213

(b) Lessor - Operating lease commitments

The University leases campus space to non-related parties under non-cancellable operating lease agreements.

The future minimum lease receivables under non-cancellable operating leases contracted for at the balance sheet date but not recognised as receivables are as follows:

	2019 \$'000	2018 \$'000
Within one year	415	725
Within 2 to 5 years	221	383
	636	1,108

(c) Collaboration agreement with Massachusetts Institute of Technology

The University has entered into a collaboration agreement with the Massachusetts Institute of Technology ("MIT") on 25 January 2010 to establish a deep and extensive relationship between MIT and the University for the furtherance of the highest international standards and innovation in education and research. The SUTD-MIT Collaboration Agreement comprises two components, an Education Component and a Research Component.

Under the Education Component, MIT will provide its assistance, advice and sharing of its academic and administrative expertise to help shape the University into a world class educational institution. In addition, MIT will establish an endowment fund for which income generated will be used for the furtherance of the objective of the education component. The Education collaboration has been successfully completed on 30 June 2017.

The Research Component involves a collaborative effort between MIT and the University to establish and develop the SUTD-MIT International Design Centre, which will be a Centre comprising one primary physical location sited within the University campus and one secondary physical location sited within MIT's campus, for the MIT and University faculties to conduct research and other research related activities in furtherance of the educational and research objectives of the University.

Under the SUTD-MIT Collaboration Agreement, the University is required to make payments relating to the Education Undergraduate and Graduate Component up to 30 June 2017 and 28 February 2018 respectively. For Research Component, payment will be made up to 30 June 2020.

During the year, the education expenses and research expenses incurred and taken up by SUTD are \$Nil (2018 : \$3,792,000) and \$4,814,000 (2018 : \$3,608,000) respectively.

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

23. COMMITMENTS (continued)

(d) Collaboration agreement with Zhejiang University

The University has entered into a collaboration agreement with Zhejiang University ("ZJU") since 26 August 2010 with the intention to develop and offer courses at the University and to jointly undertake research activities and other collaborative activities.

Under the SUTD-ZJU Collaboration Agreement, the University is required to contribute to the collaboration up to December 2023.

As at 31 March 2019, SUTD's outstanding commitment under the collaboration is estimated at \$368,000 (2018 : \$373,000).

During the year, the operating expenses incurred and taken up by SUTD are \$489,000 (2018 : \$1,120,000).

(e) Capital commitments

Capital expenditures contracted for the balance sheet date but not recognised in the financial statements are as follows:

	2019	2018
	\$'000	\$'000
Property, plant and equipment	21,842	7,504

24. RELATED PARTIES TRANSACTIONS

Parties are considered to be related if one party has the ability to control the other party or exercise significant influence over the other party in making financial and operating decisions.

The University receives grants from the Ministry of Education ("MOE") to fund its operations and is subject to certain controls set by MOE and considers MOE a related party. Hence, other government-controlled entities are considered related parties of the University. The University has applied the exemption from

disclosure requirements of FRS 24 in relation to related party transactions and outstanding balances (including commitments) with MOE and other government-controlled entities.

The University has significant transactions with MOE and other government-controlled entities in the form of purchase of goods and services and rendering of services. Such purchases and sales are collectively approximate to \$240,000 (2018 : \$181,000) and \$83,000 (2018 : \$138,000).

25. FINANCIAL RISK MANAGEMENT

Financial risk factors

The University's activities expose it to market risk (including currency risk, interest rate risk and price risk), liquidity risk and credit risk.

The Board of Trustees has the Finance and Investment Committees to assist the Board in setting the objectives and underlying principles of financial risk management for the University. Financial risk is reviewed by the Finance and Investment Committees. The Investment Office assists in the implementation and management of the investment portfolio within the prescribed investment guidelines and mandates. The information presented below is based on information received by the Finance and Investment Committees.

(a) Market risk

(i) Currency risk

The University's operations are not exposed to significant currency risk as most of its transactions are transacted or invested in Singapore Dollar ("SGD") except for its investment portfolio. The currency risk related to the United States Dollar payments to MIT under the SUTD-MIT Collaboration Agreement is borne by MOE.

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

25. FINANCIAL RISK MANAGEMENT (continued)

(a) Market risk (continued)

(i) Currency risk (continued)

The University's currency profile from its investment portfolio is as follows:

	2019	2018
	\$'000	\$'000
Financial assets at fair value through profit or loss		
- SGD	572,587	486,887
- Non-SGD	496,107	493,273
Total	1,068,694	980,160

Currency derivatives are entered into by the fund manager to manage the foreign currency risk exposure of the University's investment portfolio. The currency profile above has taken into consideration the effects of currency forwards.

At 31 March 2019, if foreign currencies (i.e. currencies other than those denominated in SGD) had strengthened/weakened by 3% (2018 : 3%) against the SGD with all other variables being held constant, it will result in a \$14,883,000 increase/decrease in the net surplus (2018 : \$14,798,000 increase/decrease in the net surplus).

(ii) Interest rate risk

The University has interest-bearing assets in cash and cash equivalents. These financial assets are short-term in nature, therefore, any future variations in interest rates will not have a material impact on the income of the University.

The University's borrowings as at 31 March 2019 include non-fixed rates loans amounting to \$1,095,000 (2018 : \$6,442,000), which are exposed to interest rate risk. If interest rate had increased/decreased by 50 basis points, it will result in a \$5,472 decrease/increase in the net surplus (2018 : \$32,210 decrease/increase in the net surplus). The

University's investments in financial assets at fair value through profit or loss as at 31 March 2019 include interest-bearing debt instruments amounting to \$351,287,000 (2018 : \$325,606,000) which are exposed to interest rate risk. Changes in interest rates will have impact on the fair values of these investments. With all other variables held constant, 50 (2018 : 50) basis points increase/decrease in interest rates will result in approximately \$8,487,000 (2018 : \$7,582,000) decrease/increase in the fair value of financial assets at fair value through profit or loss and the net surplus.

(iii) Price risk

The University is exposed to price risk arising from the investments, invested either directly or through externally managed funds. To manage this risk, the University diversifies its investment portfolio across different markets in accordance with the investment guidelines set by the Investment Committee.

The University is exposed to price risk arising from the financial assets at fair value through profit or loss. The geographical information of the investment portfolio comprising quoted debt securities, quoted unit trusts (based on geographical area of underlying securities), quoted equity securities and other investments provided to key management is as follows:

	Financial assets at fair value through profit or loss	
	2019	2018
	%	%
By geographical area		
Singapore	43	37
Asia Pacific (excluding Singapore)	19	22
Europe	10	12
United States and Latin America	27	27
Middle East and Africa	1	2
Total	100	100

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

25. FINANCIAL RISK MANAGEMENT (continued)

(a) Market risk (continued)

(iii) Price risk (continued)

If prices for quoted unit trusts, quoted equity securities and other investments had increased/decreased by 5% (2018 : 5%), with all other variables held constant, it will result in a \$29,133,000 increase/decrease (2018 : \$28,595,000) in the fair value of financial assets at fair value through profit or loss and the net surplus.

(b) Liquidity risk

There is minimal liquidity risk as the University maintains an adequate level of highly liquid assets in the form of cash and short-term bank deposits.

The table below analyses non-derivative financial liabilities of the University into relevant maturity groupings based on the remaining period from the balance sheet date to the contractual maturity date. The amounts disclosed in the table are the contractual undiscounted cash flows. Balances due within 12 months equal their carrying amounts as the impact of discounting is not significant.

	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
	\$'000	\$'000	\$'000	\$'000

At 31 March 2019

Other payables	39,288	-	-	-
Borrowings	25,124	22,721	362,718	-

At 31 March 2018

Other payables	37,837	-	-	-
Borrowings	24,157	23,818	144,682	233,397

(c) Credit risk

Credit risk refers to the risk that a counterparty will default on its obligations resulting in financial loss to the University. The University places its cash and short-term bank deposits with reputable financial institutions. The investment portfolio is managed by a professional fund manager and in-house investment team.

The maximum exposure to credit risk in the event that the counterparties fail to perform their obligations in relation to each class of recognised financial asset is the carrying amount of those assets as stated in the balance sheet.

The University's current credit risk grading framework comprises the following categories:

Category	Description	Basis for recognising expected credit losses ("ECL")
Performing	The counterparty has low risk of default and does not have any past-due amounts	12-month ECL
Doubtful	Amount is > 30 days past due or there has been a significant increase in credit risk since initial recognition	Lifetime ECL - not credit-impaired
In default	Amount is > 90 days past due or there is evidence indicating the asset is credit-impaired	Lifetime ECL - credit-impaired
Write-off	There is evidence indicating that the debtor is in severe financial difficulty and the University has no realistic prospect of recovery	Amount is written off

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

25. FINANCIAL RISK MANAGEMENT (continued)

(c) Credit risk (continued)

The table below details the credit quality of the University's financial assets as well as maximum exposure to credit risk by credit risk rating grades:

	Note	Internal credit rating	12-month or lifetime ECL	Gross carrying amount	Loss allowance	Net carrying amount
				\$'000	\$'000	\$'000
<u>2019</u>						
Fees and other receivables	10	(i)	Lifetime ECL (simplified approach)	1,376	(61)	1,315
Grants and other receivables (excluding fees and other receivables)	10	(ii)	Lifetime ECL (simplified approach)	456,566	-	456,566
Deposits	12	Performing	12-month ECL	161	-	161

(i) The University determines the expected credit losses on these items by estimating based on historical credit loss experience based on the past due status of the debtors, adjusted as appropriate to reflect current conditions and estimates of future economic conditions.

(ii) Grant and other receivables (excluding fees and other receivables) are mainly due from the Singapore Government and other Singapore Government agencies which are of good credit rating standing. Therefore, the credit risk exposure of these grants and other receivables (excluding fee and other receivables) is insignificant and is subject to immaterial credit loss.

The credit risk on liquid funds is limited because the counterparties are banks with high credit-ratings assigned by international credit-rating agencies and is subject to immaterial credit loss.

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

25. FINANCIAL RISK MANAGEMENT (continued)

(d) Capital risk

The University is limited by guarantee with no share capital and is funded mainly by grants received from the Ministry of Education.

The University is in compliance with all externally imposed capital requirements for the financial years ended 31 March 2019 and 2018.

(e) Fair value measurement

The University classifies fair value measurements using a fair value hierarchy that reflects the significance of the inputs used in making the measurements. The fair value hierarchy has the following levels:

(i) quoted prices (unadjusted) from active markets for identical assets (Level 1);

(ii) inputs other than quoted prices in active markets included within Level 1 that are observable for the asset, either directly (i.e. as prices) or indirectly (i.e. derived from prices) (Level 2); and

(iii) inputs for the asset that are not based on observable market data (unobservable inputs) (Level 3).

The following table shows an analysis of financial instruments measured and carried at fair value and classified by level of fair value measurement hierarchy:

	Level 1	Level 2	Level 3	Total
	\$'000	\$'000	\$'000	\$'000
At 31 March 2019				
Assets				
Financial assets at fair value through profit or loss				
- Quoted debt securities	274,909	-	-	274,909
- Quoted unit trusts	91,434	442,098	-	533,532
- Quoted equity securities	37,344	-	-	37,344
- Other investments	-	164,242	58,667	222,909
Total assets	403,687	606,340	58,667	1,068,694
	Level 1	Level 2	Level 3	Total
	\$'000	\$'000	\$'000	\$'000

At 31 March 2018

Assets

Financial assets at fair value through profit or loss				
- Quoted debt securities	196,041	-	-	196,041
- Quoted unit trusts	89,662	431,414	-	521,076
- Quoted equity securities	33,096	-	-	33,096
- Other investments	-	164,649	65,298	229,947
Total assets	318,799	596,063	65,298	980,160

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

25. FINANCIAL RISK MANAGEMENT (continued)

(e) Fair value measurement (continued)

The fair value of financial instruments traded in active markets is based on quoted market prices at the balance sheet date. The quoted market price used for financial assets held by the University is the current bid price. These instruments are included in Level 1.

The fair value of financial instruments that are not traded in an active market (unlisted unit trusts and other investments) is based on price quotes by the brokers. These instruments are classified as Level 2. In infrequent circumstances, where a valuation technique for these instruments is based on significant unobservable inputs, such instruments are classified as Level 3.

There were no significant transfers between Level 1 and Level 2 of the fair value hierarchy in the period.

The following table presents the changes in Level 3 instruments:

	2019 \$'000	2018 \$'000
Financial assets at fair value through profit or loss		
Balance as at 1 April	65,298	64,169
Purchases	7,113	2,110
Redemptions	(15,359)	-
Fair value gains/(losses) recognised in profit or loss	1,615	(981)
Balance as at 31 March	58,667	65,298
Total gains/(losses) recognised in profit or loss for assets held at the end of financial year	1,615	(981)

The carrying amount of current grants and other receivables, deposits and other payables approximate their fair value. The fair values of non-current grant receivable and borrowings are disclosed in Notes 10(iv) and 18 respectively.

(f) Financial instruments by category

The carrying amounts of the different categories of financial instruments are as follows:

	2019 \$'000	2018 \$'000
Financial assets at amortised cost	650,110	625,561
Financial assets at fair value through profit or loss	1,068,694	980,160
Financial liabilities at amortised cost	416,909	421,817

26. CHARITY ACT AND REGULATIONS

As required for disclosure under Regulation 17 of the Charities (Institutions of a Public Character) Regulations, the University has received total tax deductible donations of \$19,401,473 (2018 : \$24,117,052) in the current financial year.

27. ADOPTION OF NEW AND REVISED STANDARDS

On 1 April 2018, the University has adopted all the new and revised FRSs and Interpretations of FRS ("INT FRS") that are effective from that date and are relevant to its operations. The adoption of these new/revised FRSs and INT FRSs does not result in changes to the University's accounting policies and has no material effects on the amounts reported for the current or prior years except as disclosed below:

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

27. ADOPTION OF NEW AND REVISED STANDARDS

(continued)

FRS 109 *Financial Instruments*

FRS 109 introduces new requirements for 1) the classification and measurement of financial assets and financial liabilities, 2) impairment of financial assets and 3) general hedge accounting. Details of these new requirements as well as their impact on the financial statements are described below.

The University applied FRS 109 with an initial application date of 1 April 2018. The University has not restated the comparative information, which continues to be reported under FRS 39.

The significant accounting policies for financial instruments under FRS 109 is as disclosed in Note 2.11.

(a) Classification and measurement of financial assets and financial liabilities

The University has applied the requirements of FRS 109 to instruments that have not been derecognised as at 1 April 2018 and has not applied the requirements to instruments that have already been derecognised as at 1 April 2018. The classification of financial assets is based on two criteria: the University's business model for managing the assets and whether the instruments' contractual cash flows represent 'solely payments of principal and interest' on the principal amount outstanding. There are no changes in classification and measurement of the University's financial assets and financial liabilities.

(b) Impairment of financial assets

FRS 109 requires an expected credit loss model as opposed to an incurred credit loss model under FRS 39. The expected credit loss model requires the University to account for expected credit losses and changes in those expected credit losses at each reporting date to reflect changes in credit risk since initial recognition of the financial assets. It is no longer necessary for a credit event to have occurred before credit losses are recognised.

Specifically, FRS 109 requires the University to recognise a loss allowance for expected credit losses on i) debt investments subsequently measured at amortised cost or at FVTOCI, ii) lease receivables, iii) contract assets and iv) loan commitments and financial guarantee contracts to which the impairment requirements of FRS 109 apply.

There are no impact on the opening retained earnings and financial statements arising from the adoption of FRS 109 at the date of initial application (1 April 2018).

FRS 115 *Revenue from Contracts with Customers*

FRS 115 supersedes FRS 18 *Revenue* and the related Interpretations. FRS 115 introduces a 5-step approach to revenue recognition. Far more prescriptive guidance has been added in FRS 115 to deal with specific scenarios. Details of these new requirements as well as their impact on the financial statements are described below.

The University has applied FRS 115 using the full retrospective method.

FRS 115 uses the terms 'contract asset' and 'contract liability' to describe what might more commonly be known as 'accrued revenue' and 'deferred revenue', however the Standard does not prohibit an entity from using alternative descriptions in the statement of financial position. The University has adopted the terminology used in FRS 115 to describe such balances.

The University's significant accounting policies for its revenue streams are disclosed in Note 2.3. Apart from providing more extensive disclosures on the University's revenue transactions, the amount of adjustment for each financial statement line item affected by the application of FRS 115 for the current year is illustrated below.

The effects of adopting FRS 115 under the full retrospective approach are presented and explained below:

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

27. ADOPTION OF NEW AND REVISED STANDARDS

(continued)

FRS 115 Revenue from Contracts with Customers

(continued)

(A) Impact on the Statement of Financial Position as at 1 April 2017 (date of initial application)

The impact of FRS 115 on the Statement of Financial Position is as follows:

	Previously reported as at 1 April 2017 \$'000	Adoption of FRS 115 \$'000	(Note)	Adjusted as at 1 April 2017 \$'000
Current liabilities				
Fee received in advance	3,441	(3,441)	(a)	-
Contract liabilities	-	3,441	(a)	3,441

As there is no material impact to the Statement of Financial Position as at 1 April 2017 (date of initial application) except for the reclassification as disclosed above, management is of the view that the Statement of Financial Position as at 1 April 2017 is not required and accordingly, it is not presented.

(B) Impact on the Statement of Financial Position as at 31 March 2018 (end of last period reported under FRS 18)

The impact of FRS 115 on the Statement of Financial Position is as follows:

	As previously reported under FRS 18 \$'000	Adoption of FRS 115 \$'000	(Note)	As adjusted under FRS 115 \$'000
Current liabilities				
Fee received in advance	3,859	(3,859)	(a)	-
Contract liabilities	-	3,859	(a)	3,859

(C) Impact on the Statement of Profit or Loss and Other Comprehensive Income for the financial year ended 31 March 2018 (last financial year reported under FRS 18).

The impact of FRS 115 on the Statement of Profit or Loss and Other Comprehensive Income is as follows:

	As previously reported under FRS 18 \$'000	Adoption of FRS 115 \$'000	(Note)	As adjusted under FRS 115 \$'000
Income				
Tuition and other fees	34,493	-	(b)	34,493
Less: Scholarship expenses	-	(18,930)	(b)	(18,930)
Tuition and other fees, net	34,493	(18,930)		15,563
Other income	9,585	217	(b)	9,802
Expenses				
Other operating expenses	(44,860)	(2,513)	(b)	(47,373)
Government and other grants	169,860	21,226	(b)	191,086

NOTES TO THE FINANCIAL STATEMENTS

31 March 2019

27. ADOPTION OF NEW AND REVISED STANDARDS

(continued)

FRS 115 Revenue from Contracts with Customers

(continued)

(D) Impact on the Statement of Cash Flows for the financial year ended 31 March 2018 (last financial year reported under FRS 18)

	As previously reported under FRS 18	Adoption of FRS 115	(Note)	As adjusted under FRS 115
	\$'000	\$'000		\$'000
Cash flows from operating activities				
Deficit before government Grants	(91,267)	(21,360)	(c)	(112,627)
Change in working capital:				
- Other receivables	18,499	(12,487)	(c)	6,012
Cash flows from financing activities				
Operating grants received	68,367	5,813	(c)	74,180
Research grants received	68,830	26,981	(c)	95,811
Other grants received	-	1,053	(c)	1,053

Explanatory notes:

(a) Under FRS 115, tuition fees are paid upfront as part of the initial sales transaction at the start of the academic term whereas revenue is recognised when tuition services are provided to the customer over time. There has been an adjustment to revenue to reflect the timing differences which was previously presented as fee received in advance and has been reclassified as a contract liability. There is no impact on the statement of profit or loss and other comprehensive income as a result of this reclassification.

(b) Under FRS 115, revenue recognised on tuition and other fees is decreased as a result of recognising only the net consideration received from students who are under scholarships. The amount of scholarship expenses that was previously accounted for in other operating expenses and other receivables have been reclassified to offset against the tuition and other fees. The corresponding Government grant and other income received from private institution are also recognised on the statement of profit or loss and other comprehensive income.

(c) Due to the movements as disclosed in item (b) above, related reclassifications has been made in the statement of cash flows in relation to movements in grants and other receivables, other receivables from MOE, operating grants receivable, research grants receivable and other grants receivable.

At the date of authorisation of these financial statements, the following new/revised FRSs and amendments to FRSs that are relevant to the University were issued but not effective:

- FRS 116 *Leases* ⁽¹⁾
- Amendments to FRS 109: *Prepayment Features with Negative Compensation* ⁽¹⁾
- Improvements to FRSs (March 2018) ⁽¹⁾

⁽¹⁾ Effective for annual periods beginning on or after 1 January 2019

The University anticipates that the adoption of the above FRSs and amendments to FRSs in future periods will not have a material impact on the financial statements of the University in the period of their initial adoption.

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