



NANYANG
TECHNOLOGICAL
UNIVERSITY
SINGAPORE



ILLUMINATING POSSIBILITIES

Smart Campus, Smarter Thinking

ANNUAL REPORT 2019

VISION & MISSION

A GREAT GLOBAL
UNIVERSITY FOUNDED
ON SCIENCE AND
TECHNOLOGY, NURTURING
LEADERS THROUGH
RESEARCH AND A BROAD
EDUCATION IN DIVERSE
DISCIPLINES



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AT A GLANCE



GLOBAL

569

university partners
in academia
and research

33

joint entities set up with
leading multinationals
on campus

350

partner universities
across 40 countries
offer student attachment
programmes

7 in 10

undergraduates
have an overseas
opportunity during
their studies

30

joint/dual PhD
degree programmes
with overseas
universities



HONOURS

11th

in QS World
University Rankings
2019/20

1st

in QS ranking of
the world's young
universities for 6th
consecutive year

3rd

in Times Higher
Education Young
University Rankings
2019



PEOPLE

23,700

undergraduates

8,000

graduate students

5,100

faculty and researchers
from 81 countries

244,000

alumni representing
155 nationalities

9 in 10

of the Class of 2018
received a job offer
within four months
of graduation



RESEARCH

S\$674m

in competitive
research grants
won in FY2018/19

126

patents granted
in FY2018/19

3,089

technology disclosures
received since FY2007



CAMPUS

Top 10

most photogenic
university in the
world (QS)

3

Singapore
campuses

26

halls of residence
housing more than
14,000 students

758

units of
faculty housing

2

alumni houses
(in one-north and
Marina Square)

CHAIRMAN'S MESSAGE



“ At the heart of it all are the faculty, staff and students. We look to everyone to develop a mindset of change that appreciates how our world and society are evolving, and that can help to unify our strengths and ingrain true excellence in NTU's culture and values.”

We will intensify the pace of digital transformation in order to improve efficiencies and productivity. The University will keep its vision trained on new horizons, and invest in reaching them, whether they are in education, research or innovation.

At the heart of it all are the faculty, staff and students. We look to everyone to develop a mindset of change that appreciates how our world and society are evolving, and that can help to unify our strengths and ingrain true excellence in NTU's culture and values.

In closing, I would like to express the gratitude of the University to its stakeholders and supporters, including the Singapore government, benefactors and collaborators. I put on record the admiration and thanks of the Board of Trustees to all the University's faculty, staff, students and alumni for their inspiring efforts.

From the Board of Trustees, Ms Chan Lai Fung stepped down as a member in March 2019 after more than seven years of dedicated service. We thank her for her many contributions during this time.

We welcomed new Board members Mr Anthony Mallek, Mr Lo Kien Foh, Ms Lai Wei Lin and Ms Goh Swee Chen this year. They bring a wealth of leadership experience from the private and public sectors that will be invaluable in supporting the University through the important challenges ahead.

MR KOH BOON HWEE
Chairman, Board of Trustees

A MINDSET OF CHANGE FOR TRUE EXCELLENCE

We have embarked on NTU 4.0 just as the world transitions into the Fourth Industrial Revolution.

Living in a time where the speed of change is unprecedented, the disruptions brought about by technology are swift. It is exciting but at the same time unsettling as the familiar quickly becomes unfamiliar.

NTU has a big part to play in breaking new ground in understanding. To discover and apply new knowledge to help improve quality of life and the environment. To trial solutions to new and old problems. To develop talent for the country's continued progress. These are all examples of what a great research university should do, and of what NTU excels in.

People now seek out NTU because of this reputation for quality. That is true for talent attraction, be it students, faculty or staff; and it is true for new partnerships, whether with industry, governments or other universities.

The University's achievements are built on the strong foundation laid by previous leadership teams, and much credit for its continuing achievements goes to Prof Subra Suresh, who took the helm as the fourth President of NTU in January 2018, and the leadership team and NTU community for their hard work and dedication to excellence.

But this is not the time to rest on our laurels as there is still so much that NTU needs to do.

NTU's number one priority is to serve Singapore with great distinction and be a pillar of the nation's progress and stability.

IN CONVERSATION WITH THE NTU PRESIDENT



PROF SUBRA SURESH
President and Distinguished
University Professor

ALL THE TALENT FOR NTU'S NEW ERA

What are the headlines for NTU this past year and what are your strategies for continued growth of the University?

NTU Singapore has been enjoying remarkable success. In the past year, it climbed to its highest ever position in every major international league table. In addition to being placed 11th in the latest QS World University Rankings, NTU retained its position as the world's top young university for the sixth consecutive year. NTU also rose noticeably in the world rankings by US News and World Report, Times Higher Education and ShanghaiRankings, which represent perspectives from the US, UK and Asia.

NTU is also among the world's best in specific fields. US News and World Report, for instance, placed NTU in the world's

“ NTU is also among the world's best in specific fields. US News and World Report, for instance, placed NTU in the world's top five in subjects such as engineering, materials science, computer science and chemistry. NTU's leadership positions in these area of critical importance for Industry 4.0, point to our current and future role in impacting society. ”

top five in subjects such as engineering, materials science, computer science and chemistry. NTU's leadership positions in these area of critical importance for Industry 4.0, point to our current and future role in impacting society.

These achievements are possible because of the hard work of everyone in the university community and the support of our stakeholders. They fill us with tremendous confidence that we will achieve our vision of an NTU Singapore Smart Campus that is distinctive among the universities.

Our strategy for continued growth is simple and is people-focused. We strive to attract and retain the most outstanding faculty and staff, recruit the most talented students, and collaborate in research and innovation with leading academic and industry partners. We aim to grow our impact in a wide range of disciplines and areas that are important to society.

In terms of talent attraction, what strides have been made?

A major milestone is the success of the Presidential Postdoctoral Fellowship programme, which was launched during my first year as President of NTU Singapore. This year, it attracted applications from more than 900 young scholars from top

institutions around the world, for only 12 positions, making it the most competitive recruitment programme in NTU's history. The scheme received major support from Sweden's Wallenberg Foundation, with matching funds from Singapore's Ministry of Education.

Recognising and retaining talent are priorities, so over a year ago, we set a bold target to create 100 new named term professorships over five years. I am pleased that we have already met more than 50% of our goal in this short time in creating 50 new named faculty chair professorships earlier this year. By boosting our efforts to raise gifts and matching endowment for named term chair professorships, we have established mechanisms to create another 18 new term professorships to be funded by industry.

We also welcomed four new faculty members to the rank of Distinguished University Professor, which represents the very highest level of scholarly achievement.

What have been the highlights in research and in collaborations with industry?

During the past year, NTU's external research funding surpassed S\$600 million, a 16.5% increase over the previous year. This represents the highest annual research volume in NTU's history. There has also been a 50% year-on-year increase in the number of NTU papers published in high impact journals. This is a remarkable achievement for a young university such as NTU.

One of the core principles of the NTU Smart Campus initiative is developing technologically advanced solutions for a sustainable future, and this is what we are doing with both current and new partners.

We announced a new corporate laboratory in digital manufacturing with HP, with S\$84 million over four years, with strong support from the government. This is NTU's largest corporate laboratory and HP's largest university engagement worldwide. We also launched a \$61 million corporate laboratory with Surbana Jurong to develop next-generation technologies to tackle industrial and urban challenges.



Singapore's first corporate lab in a university, the Rolls-Royce@NTU Corporate Laboratory began its next phase with an S\$88 million joint investment that will lead to new aircraft propulsion technologies.

We renewed our research ties with Rolls-Royce with a second five-year phase of our joint corporate laboratory with an S\$88 million joint investment. This corporate lab is Rolls-Royce's largest university partnership in the world. We worked with Volvo Buses on the world's first full size, autonomous electric bus that was unveiled to huge media interest internationally.

Other global players that started centres with us include WeBank, in fintech; the French Alternative Energies and Atomic Energy Commission, in recycling and recovery of resources from e-waste; and the World Health Organisation, in digital health and education.

Last year, we launched the S\$10 million Accelerating Creativity and Excellence Programme, which provides seed funding for NTU faculty who undertake research in new areas. This programme has catalysed bold and unconventional cross-disciplinary research projects.

How has the University fared in innovation and entrepreneurship?

Twelve spin-offs and 30 start-up companies and teams were formed in the year, while a record follow-on funding of S\$21.8 million

was raised by mature start-ups.

Our licensing revenue for NTU increased 50% over the previous academic year.

The University continues to feature prominently on the national innovation scene and one of the most notable initiatives is the National Additive Manufacturing Innovation Cluster, which has raised more than S\$42 million in joint funding, with matching government contributions, to support 168 projects in sectors such as marine offshore, aerospace and biomedical technologies.

Can you tell us about your motivation behind the establishment of the NTU Institute of Science and Technology for Humanity (NISTH) and how NISTH will engage people on campus and globally?

We are facing a period of profound change for humanity, as technology is significantly impacting traditional roles and structures. NISTH will be an important platform for dialogue and research focusing public attention on the impact of technology on humanity and society. It aims to bring industry, government and academia together to explore key issues at the intersections of technology and human behaviour.

The inaugural NISTH Ideas Challenge received nearly 100 campus-wide entries that mapped out some of the fundamental issues and principles behind the development of artificial intelligence in order to address its effects on society. The first NTU Singapore Global Digital Art Prize drew more than 400 entries exploring the relationship between art and design, and emerging technologies, and the winners will be announced later this year.

Industry 4.0 brings opportunity but also uncertainty. How are NTU students being educated against this backdrop? NTU has to keep pace with the rapid changes and educate students who will be leaders in harnessing technology for the benefit of society.

We have seen a significant increase in student numbers in the fields of computing, data analytics and cybersecurity, and introduced new interdisciplinary double major programmes in several emerging fields.

We have also expanded NTU's suite of work-study opportunities to deepen industry exposure. The seven new work-study degree programmes are supported by partners such as Bosch, GSK and GlobalFoundries.

The presence of leading industry partners on the NTU Smart Campus creates many opportunities for our students. Alibaba, HP and F&N have all recently set up facilities on our campus. With Dyson, we started a joint engineering studio on campus for aspiring technopreneurs. Among the newest of the on-campus collaborations is our joint laboratory with AMD, which complements the University's Data Science and Artificial Intelligence undergraduate programme.

How is NTU helping its alumni to stay relevant in Industry 4.0?

In this new era, learning has to be lifelong. To stay relevant, to be productively employed and to contribute to Singapore and the new world, everyone needs to continuously upgrade and adapt to the changing professional and business environment. Our alumni today have access to more graduate diploma programmes that cater to their needs as working adults. These modular,



NTU's partnership with Volvo Buses resulted in the world's first full size, autonomous electric bus that will be tested on the NTU Smart Campus.

standalone courses can count towards a graduate diploma or a full-fledged Master's degree from NTU. To encourage them, NTU offers each alumnus S\$1,600 worth of course credits that can be used to offset course fees.

What have been the key highlights in graduate education?

In the last academic year, we established the Graduate College. Programmes previously offered by the Interdisciplinary Graduate School have been integrated into the new Graduate College, which has been engaging faculty, students and partners from academia and government to enhance graduate education through new programmes and initiatives. One of the first fruits is our new university-wide PhD programme in neuroscience that will contribute to tackling issues of an ageing society.

We also marked an important milestone through our partnership with the National University of Singapore that allows students to enrol in courses at both universities. A first in Singapore, this doctoral exchange programme has brought a richer spectrum of PhD course offerings to students of both universities. I am heartened that the two largest public universities in Singapore

are collaborating and capitalising on their combined strengths to benefit students and bring greater value to Singapore.

You have put in place a new talent development scheme for faculty, staff and students. Can you tell us more about it?

We have just introduced LEAD@NTU for faculty, staff and students. This programme provides leadership development opportunities and participants will have cross-functional perspectives and opportunities to develop as leaders.

Students can discover and develop their leadership skills and potential according to their interest, learning from accomplished role models from industry, academia and government. Those who demonstrate high leadership potential will be invited to undergo leadership training over an entire academic year. This experience will prepare them for leadership roles in their future careers.

How is NTU's digital transformation faring?

Digital transformation of our administrative processes has continued with the adoption of new cloud-based enterprise technology to streamline processes and create seamless



Loop, featuring 1,200 magenta and purple butterflies on a Möbius loop that move in the breeze, is the latest addition to the Campus Art Trail, a public art initiative of NTU.

services. We have successfully implemented new HR and payroll solutions with IBM and Workday, a procurement system with SAP Ariba, and a new administrative processes platform with ServiceNow. NTU is the first university in Asia to implement Workday and also the first Singapore organisation to adopt a cloud-based procurement solution that meets the compliance requirements of the Government Procurement Act.

Why do you think it is important to have art displayed all over the campus?

Art provides a strong foundation for human creativity and innovation, and is a way of exploring the human condition. We are also very fortunate to have one of the most beautiful university campuses in the world.

We launched the Campus Art Trail that presents numerous artworks of various genres across both the main and Novena campuses. Many of these were created by students and faculty and they include sustainable pieces that demonstrate the possibilities to be found at the confluence of disciplines.

It takes a village to create a thriving arts culture and we are fortunate to be supported by our benefactors, students, faculty, staff and alumni. For example, Loop, opened this year, was made possible by a gift from the estate of two former NTU faculty, Dr John and Mrs Dorothy Cheung, and created by students from our art and design school and their faculty supervisor.

NTU is regularly named among the most beautiful campuses in the world. So what new attractions can we look forward to in the year ahead?

We eagerly anticipate the opening of the rejuvenated Yunnan Garden at the end of 2019. This will be a large, beautiful green lung open to NTU residents and the neighbouring community.

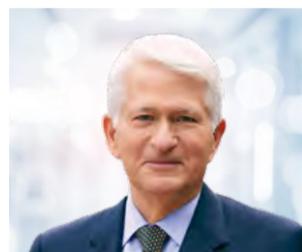
Also, work will start on our new academic complex which will be Asia's largest wooden building. The new home for the Nanyang Business School and several academic programmes from across the University, it will be completed in 2021.

BOARD OF TRUSTEES

As at 31 July 2019



Mr KOH Boon Hwee
(Chairman)
Chairman
Credence Partners Pte Ltd
Appointed on 28 March 2006



Prof Gene D BLOCK
Chancellor
University of California, Los Angeles
Appointed on 1 January 2018



Prof Sir Leszek BORYSIEWICZ
Chairman
Cancer Research UK
Appointed on 1 February 2018



Mr GOH Sin Teck
Editor
Lianhe Zaobao & Lianhe Wanbao
Appointed on 1 June 2012



Mr LIM Chuan Poh
Chairman
Singapore Food Agency
Appointed on 28 March 2006



Mr LO Kien Foh
President & CEO
Continental Automotive Singapore Pte Ltd
Appointed on 1 April 2019



Mr LOW Check Kian
Director
Cluny Park Capital Pte Ltd
Appointed on 1 April 2014



Mr Anthony MALLEK
Consultant
Singapore Press Holdings Ltd
Appointed on 1 April 2019



Ms GOH Swee Chen
Non-Executive Director
Capitaland Limited
Singapore Airlines Limited
Appointed on 1 August 2019



Ms LAI Wei Lin
Second Permanent Secretary
(Education)
Ministry of Education
Appointed on 1 April 2019



Dr LEE Shiang Long
President
ST Engineering Land Systems Ltd
Appointed on 15 September 2017



Mrs LEE Suet Fern
Senior Director
Morgan Lewis Stamford LLC
Chair, International Leadership Team
Partner, Morgan, Lewis & Bockius LLP
Appointed on 15 July 2006



Mr Inderjit SINGH Dhaliwal
Chief Executive Officer
Solstar International Pte Ltd
Appointed on 28 March 2006



Mr TAN Chin Hwee
Chief Executive Officer,
Asia Pacific
Trafigura Pte Ltd
Appointed on 1 April 2015



Mr WONG Yew Meng
Appointed on 1 August 2010



Mr ZAINUL ABIDIN Rasheed
Non-Resident Ambassador to Kuwait
Ministry of Foreign Affairs
Appointed on 1 April 2017



Ms LIEN Siau-Sze
Senior Executive Coach
Mobley Group Pacific
(An Associate of RHR International)
Appointed on 28 March 2006



Mr LIM Chow Kiat
Chief Executive Officer
GIC Pte Ltd
Appointed on 1 April 2015



Prof Alexander JB ZEHNDER
Chairman
Triple Z Ltd
Appointed on 25 August 2009



Prof Subra SURESH
President
Nanyang Technological University, Singapore
Appointed on 1 January 2018

UNIVERSITY LEADERSHIP

As at 31 July 2019

PRESIDENT'S COUNCIL



Prof Subra SURESH
President and Distinguished University Professor
Appointed on 1 January 2018



Prof LING San
Provost and Vice President (Academic) and President's Chair in Mathematical Sciences
Appointed on 1 January 2018 and 1 April 2019 respectively

- Dean, College of Science (1 August 2011 – 31 December 2017)
- Chair, School of Physical & Mathematical Sciences (1 April 2008 – 31 December 2010)
- Head, Division of Mathematical Sciences, School of Physical & Mathematical Sciences (1 July 2005 – 31 March 2008)



Prof LAM Khin Yong
Vice President (Research) and President's Chair in Mechanical and Aerospace Engineering
Appointed on 1 May 2014 and 1 April 2019 respectively

- Acting Provost (1 October – 31 December 2017 & 27 October – 5 December 2014)
- Chief of Staff (1 July 2011 – 31 December 2017)
- Chief of Staff-Designate (1 April – 30 June 2011)
- Associate Provost (Graduate Education & Special Projects) (1 April 2008 – 30 June 2011)
- Chair, School of Mechanical & Aerospace Engineering (1 August 2006 – 30 April 2008)



Ms TAN Aik Na
Vice President (Administration)
Appointed on 1 January 2018

- Chief Administration Officer (1 April – 31 December 2017)
- Chief Financial Officer (1 January – 31 December 2017)
- Chief Financial Officer-Designate (3 August – 31 December 2016)



Prof Alan CHAN
Vice President (Alumni & Advancement) and Toh Puan Mahani Daim Chair Professor
Appointed on 1 January 2018 and 1 January 2019 respectively

- Dean, College of Humanities, Arts, & Social Sciences (1 October 2009 – 30 June 2018)

UNIVERSITY LEADERSHIP FORUM

The University Leadership Forum comprises the President's Council and the following members in alphabetical order:

ACADEMIC APPOINTMENTS

Prof James BEST
Dean, Lee Kong Chian School of Medicine, and President's Chair in Medicine
Appointed on 29 July 2014 and 1 April 2019 respectively

Prof Ralf EMMERS
Dean, S Rajaratnam School of International Studies, and President's Chair in International Relations
Appointed on 1 January 2019 and 1 April 2019 respectively

- Associate Dean, S Rajaratnam School of International Studies (1 July 2014 – 31 December 2018)
- Head, Centre for Multilateralism Studies, S Rajaratnam School of International Studies (29 May 2015 – 31 December 2018)
- Acting Head, Centre for Non-Traditional Security Studies, S Rajaratnam School of International Studies (7 February 2011 – 6 February 2012)
- Head, Graduate Studies, S Rajaratnam School of International Studies (1 October 2006 – 5 May 2009)

Prof Christine GOH
Director, National Institute of Education, and President's Chair in Education (Linguistics & Language Education)
Appointed on 1 July 2018 and 1 April 2019 respectively

- Dean, Office of Graduate Studies & Professional Learning, National Institute of Education (1 July 2014 – 30 June 2018)
- Associate Dean, Office of Graduate Studies & Professional Learning, National Institute of Education (1 July 2010 – 30 June 2014)
- Associate Dean, Graduate Programmes & Research Office, National Institute of Education (1 January 2009 – 30 June 2010)
- Deputy Head, English Language & Literature Academic Group, National Institute of Education (1 January – 31 December 2008)

Prof Jimmy HSIA
Dean, Graduate College, and President's Chair in Mechanical Engineering
Appointed on 1 August 2018 and 1 April 2019 respectively

Prof Robert KENNEDY
Dean, College of Business (Nanyang Business School), and Goh Tjoei Kok Professor in Business Management
Appointed on 1 January 2018 and 1 April 2019 respectively

Prof Joseph LIOW
Dean, College of Humanities, Arts, & Social Sciences, and Tan Kah Kee Chair in Comparative and International Politics
Appointed on 1 July 2018 and 1 April 2019 respectively

- Dean, S Rajaratnam School of International Studies (3 November 2014 – 31 December 2018)
- Associate Dean, S Rajaratnam School of International Studies (1 July 2008 – 2 November 2014)

Prof Louis PHEE
Dean, College of Engineering, and Tan Chin Tuan Centennial Professor in Mechanical Engineering
Appointed on 1 June 2018 and 1 April 2019 respectively

- Interim Dean, College of Engineering (16 September 2017 – 31 May 2018)
- Chair, School of Mechanical & Aerospace Engineering (1 July 2014 – 15 September 2017)
- Head, Division of Mechatronics & Design, School of Mechanical & Aerospace Engineering (1 July 2013 – 30 June 2014)

Prof Peter PREISER
Associate Vice President (Biomedical & Life Sciences), Interim Dean, College of Science, and President's Chair in Biological Sciences
Appointed on 1 January 2019, 11 March 2019 and 1 April 2019 respectively

ADMINISTRATIVE APPOINTMENTS

Mr Paul CHAIN
Chief Executive Officer, NTU Development & Facilities Management
Appointed on 1 December 2011

Mr CHAN Kwong Lok
Chief Planning Officer/Registrar
Appointed on 1 July 2010

Mr Gregory CHEW
Chief Legal Officer, Legal & Secretarial Office
Appointed on 2 July 2018

Dr Vivien CHIONG
Chief Communication Officer
Appointed on 1 July 2014

- Director, Corporate Communications Office (4 May 2010 – 30 June 2014)

Dr GOH Chin Foo
Chief Health, Safety, Emergency & Security Officer
Appointed on 1 April 2019

- Chief Health, Safety & Emergency Officer (1 September 2016 – 31 March 2019)

Dr LIM Jui
Chief Executive Officer, NTUitive
Appointed on 1 February 2018

- Chief Executive Officer (NTU Innovation), President's Office (1 February 2013 – 31 January 2018)

Mr Alvin ONG
Chief Information Officer
Appointed on 23 October 2017

Mr ONG Eng Hock
Chief Financial Officer
Appointed on 1 January 2018

- Head, NTU Shared Services (22 March – 31 December 2017)

Ms Esther QUEK
Chief Human Resource Officer
Appointed on 1 August 2018

Ms TAN Sin Mui
Chief Investment Officer
Appointed on 17 September 2018

HEADS OF AUTONOMOUS INSTITUTES

Prof James BEST
Dean, Lee Kong Chian School of Medicine, and President's Chair in Medicine
Appointment details as above

Assoc Prof Fidel COSTA
Interim Director-Designate, Earth Observatory of Singapore, and Provost's Chair in Earth Sciences
Appointed on 1 April 2019

UNIVERSITY LEADERSHIP

As at 31 July 2019

Ms FOO Mee Har
Chief Executive Officer, Wealth Management Institute
Appointed on 1 July 2017

Prof Christine GOH
Director, National Institute of Education, and President's Chair in Education (Linguistics & Language Education)
Appointment details as above

Prof Staffan KJELLEBERG
Director, Singapore Centre for Environmental Life Sciences Engineering, and Distinguished University Professor
Appointed on 1 January 2011 and 1 April 2019 respectively

Ambassador ONG Keng Yong
Executive Deputy Chairman, S Rajaratnam School of International Studies
Appointed on 3 November 2014

- Head, International Centre for Political Violence and Terrorism Research (1 January 2019)
- Director, Institute of Defence & Strategic Studies (from 3 November 2014)

Assoc Prof YOW Cheun Hoe
Head of Chinese, School of Humanities, Director, Centre for Chinese Language & Culture, and Director, Chinese Heritage Centre
Appointed on 1 April 2017, 1 March 2017 and 1 November 2016 respectively

- Head, Division of Chinese, School of Humanities & Social Sciences (1 July 2016 – 31 March 2017)
- Deputy Director, Centre for Chinese Language & Culture (1 March 2013 – 28 February 2017)

OTHER SENIOR ACADEMIC APPOINTMENT HOLDERS

Prof KAM Chan Hin
Deputy Provost (Education)
Appointed on 3 August 2016

- Senior Associate Provost (Undergraduate Education) (1 April 2014 – 2 August 2016)
- Associate Provost (Undergraduate Education) (1 July 2011 – 31 March 2014)
- Associate Provost-Designate (Undergraduate Education) (1 April – 30 June 2011)

Prof KWOK Kian Woon
Associate Provost (Student Life)
Appointed on 1 July 2011

- Associate Provost-Designate (Student Life) (1 April – 30 June 2011)
- Associate Chair (Academic), School of Humanities & Social Sciences (1 August 2006 – 30 June 2011)
- Head, Division of Sociology, School of Humanities & Social Sciences (1 June 2004 – 30 June 2013)

Prof Christina SOH
Associate Provost (Faculty Affairs)
Appointed on 1 January 2018

- Deputy Associate Provost (Faculty Affairs) (1 November 2015 – 31 December 2017)
- Head, Division of Information Technology & Operations Management, Nanyang Business School (1 July 2014 – 22 January 2017)
- Associate Dean, Nanyang Business School (15 August 2009 – 30 June 2012)

Prof TAN Ooi Kiang
Associate Provost (Undergraduate Education)
Appointed on 3 August 2016

- Deputy Associate Provost (Undergraduate Education) (1 November 2015 – 2 August 2016)
- Director, Undergraduate Education (Projects), President's Office (1 October 2014 – 31 October 2015)
- Director of Admissions & Financial Aid, Office of Admissions & Financial Aid (1 July 2012 – 30 September 2014)

Prof TJIN Swee Chuan
Associate Provost (Graduate Education & Lifelong Learning) and Co-Director, The Photonics Institute
Appointed on 1 January 2019 and 30 October 2014 respectively

- Associate Provost (Graduate Education) (1 January – 31 December 2018)
- Executive Director, Office of Research & Technology in Defence & Security (1 April 2015 – 31 March 2018)
- Associate Chair (Research), School of Electrical & Electronic Engineering (1 June 2014 – 31 May 2017)

Prof Subodh MHAISALKAR
Associate Vice President (Strategy & Partnerships), Executive Director, Energy Research Institute, and President's Chair in Energy
Appointed on 1 March 2018, 1 April 2010 and 1 April 2019 respectively

- Associate Chair (Academic), School of Materials Science & Engineering (1 June 2009 – 31 August 2010)

Prof Peter PREISER
Associate Vice President (Biomedical & Life Sciences), Interim Dean, College of Science, and President's Chair in Biological Sciences
Appointment details as above

Prof Timothy John WHITE
Associate Vice President (Infrastructure & Programmes), Research Director (Engineering & Physical Sciences), and President's Chair in Materials Science and Engineering
Appointed on 1 March 2018, 1 December 2013 and 1 April 2019 respectively

- Associate Chair (Research), School of Materials Science & Engineering (1 March 2014 – 28 February 2018)

Assoc Prof Valerie DU TOIT-LOW
Deputy Associate Provost (Residential Education)
Appointed on 1 October 2016

- Associate Dean (Undergraduate Student Life), Nanyang Business School (1 July 2014 – 30 September 2016)
- Associate Dean (Student Development & Outreach), Nanyang Business School (28 February 2011 – 30 June 2014)

Prof Schubert FOO
Deputy Associate Provost (Information & Knowledge)
Appointed on 1 September 2016

- Director, University Scholars Programme (1 April 2012 – 31 March 2015)
- Associate Dean (Academic), College of Humanities, Arts, & Social Sciences (20 August 2007 – 30 September 2012)

Assoc Prof Victor YEO
Deputy Associate Provost (Student Life)
Appointed on 1 January 2018

- Associate Dean (Undergraduate Student Life), Nanyang Business School (1 October 2016 – 14 March 2018)
- Head, Division of Business Law, Nanyang Business School (1 July 2010 – 30 September 2016 & 1 January 2000 – 31 May 2005)

DONORS



GIFTS TO THE UNIVERSITY

Every gift to NTU is vital in shaping our shared future. In FY2018, the ardent support of philanthropists and philanthropic organisations has continued to help the University engage in life-changing education, research and service for the betterment of society.

The gifts include:

- S\$15 million from the Estate of Irene Tan Liang Kheng for the Irene Tan Liang Kheng Memorial Fund. The Fund enables the Lee Kong Chian School of Medicine and the National Institute of Education to be global and transformative leaders in inspiring brilliant future educators and innovative medical research and education (above).
- Major Gifts from the Estate of Saddique Nasser Omar Hassan for The Nasser Saddique Bursary and The Nasser Saddique Student Travel Award, which enable students to experience various learning opportunities in NTU and abroad.
- More than S\$2.8 million from Temasek Foundation Connects CLG Limited for the Temasek Regional Regulators

Scholarship (TRRS) Programme and Executive Programmes and RSIS Indonesia – Singapore Young Leaders Scenario Planning Workshop. The TRRS Programme nurtures ethical and future-ready graduates in the wealth management industry. The Workshop encourages collaboration and the exchange of ideas that impact the future of policy-making in both Singapore and Indonesia.

- S\$2 million from Mr Kris Gopalakrishnan, Chairman of Axilor Ventures and cofounder and former CEO of Infosys, to establish the Gopalakrishnan-NTU Presidential Postdoctoral Fellowship to attract promising early-career scientists and engineers to NTU, and fund cutting-edge research collaborations between students at NTU and renowned Indian institutes.

- Over S\$1.7 million from AIA Singapore Pte Ltd for the NTU General Endowment Fund that supports the advancement of undergraduate and postgraduate education in areas of greatest need.

- More than S\$1.6 million from the Estate of Mrs Williams Tryntje Dina Margaretha to establish The Margaretha Williams Bursary Education Fund. This supports NTU students in their pursuit of a quality education that includes overseas exchange programmes.

- More than S\$1 million from the late Mr Au Yong Lai Kong to establish the How Yong Yaw Bursary, which will enable the University's students to gain a greater appreciation for ASEAN.

- S\$625,000 from the Materials Research Society of Singapore (MRSS) to establish the MRSS Early-Career and Mid-Career Team Professorships and MRSS Visiting Researchers Fund. This benefaction supports NTU's position as a university that engages with the global industry by recognising talented faculty members and researchers internationally who collaborate on research topics that impact the world.

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CORPORATE GOVERNANCE

INTRODUCTION

In April 2006 under the Nanyang Technological University (Corporatisation) Act (Cap. 192A) ("NTU Act"), NTU was corporatised from a statutory board to a not-for-profit company limited by guarantee (Reg. No. 200604393R) formed under the Companies Act (Cap. 50) of Singapore. The governance of the University takes place within the NTU Act and the University's Constitution.

NTU is committed to high standards of corporate governance, professionalism, integrity, transparency and commitment at all levels, underpinned by strong internal controls and risk management systems.

GOVERNANCE EVALUATION CHECKLIST

In addition to the application of good governance practices as a company and registered charity (Reg. No 01955), we have, as an institution of a public character ("IPC"), adopted best practices in key areas of governance that are closely aligned to the principles and guidelines in the Code of Governance for Charities and Institutions of a Public Character (the "Code"). In line with the disclosure requirement by the Charity Council that all IPCs are required to disclose the extent of their compliance with the Code, NTU's Governance Evaluation Checklist can be found at the Charity Portal website (www.charities.gov.sg).

BOARD OF TRUSTEES

The NTU Board of Trustees is the highest governing organ within the University's governance framework. The Board comprises 20 members appointed by the Minister for Education, and is chaired by Mr Koh Boon Hwee. Our Board of Trustees includes eminent business leaders, academics, alumni, entrepreneurs and professionals from the public service and private sectors. Each member is appointed on the strength of his/her calibre, experience, stature and ability to contribute to NTU, and brings with him/her independent judgment on issues of strategy, performance, resource allocation and risk and compliance, as well as valuable relationships and networks that are essential for the growth of NTU.

The Board of Trustees is responsible for ensuring that the University acts in the furtherance of its objectives in education and research, and properly accounts for and safeguards the funds and assets of the University. The Board of Trustees works closely with the Management and stakeholders of the University to shape the vision, chart the major directions, and develop programmes and initiatives to produce a strong and enduring impact for the University, and for Singapore and beyond. The Board also approves the annual budget, the use of the University's operating reserves and the annual audited financial statements of NTU, among other responsibilities.

The NTU Board of Trustees has in place a framework with systems and processes for an effective Board based on the following governance principles and practices:

1. Effective recruitment and induction of Trustees. The Nominating Committee is delegated the responsibility of recommending suitable candidates and has in place an induction programme comprising interactive briefing sessions. In addition, a Board Manual is available.
2. Board Committees are structured to assist the Board to fulfil its governance role, tapping each Trustee's competencies, skills and experience.
3. The Board works with Management to set the vision, mission and strategy of NTU.
4. The Board has an executive succession plan tailored to reflect NTU's current strategy and organisation.
5. The Board has a system for effective consultation and decision-making with executive sessions and board meetings scheduled in advance, professional expertise advice available, internal guidelines and procedures for conduct of board meetings and obtaining board approvals via circulation, and a Trustees' portal as a secured web-based resource centre for information relevant to the Board.
6. The Board evaluates and reviews its own performance and has appointed an independent third party to collate and analyse the returns of the Trustees.
7. The Board delineates roles and responsibilities between Board and Management. All members of the Board, including the Chairman, are non-executive with the exception of the President of NTU. This ensures Board independence from Management.
8. The Board has a rotation plan for continuous self-renewal, with staggering of Trustees' terms to ensure continuity. There are policies and procedures for nomination and retirement of Trustees to ensure a formal board nomination and election.

CORPORATE GOVERNANCE

BOARD COMMITTEES

Seven Board Committees and one Advisory Committee have been established to support the Board. These are the Academic Affairs Committee, Alumni and Development Committee, Audit and Risk Committee, Finance Committee, Investment Committee, Nominating Committee, Remuneration Committee and Campus Planning Advisory Committee.

The roles of the Board and Advisory Committees are briefly described below:

- The Academic Affairs Committee provides oversight and policy guidance for and directly supports the academic concerns of the University as well as the management of faculty and related matters.
- The Alumni and Development Committee provides oversight of issues relating to the advancement of the University as a great university founded on science and technology and its relationship with its students, alumni and external communities.
- The Audit and Risk Committee oversees the University's internal controls, financial reporting and enterprise risk management.
- The Finance Committee provides oversight of the financial management of the University.
- The Investment Committee oversees the management and investment of the funds of the University.
- The Nominating Committee nominates suitable persons to serve on the Board and committees.
- The Remuneration Committee provides oversight and policy guidance in employee compensation matters.
- The Campus Planning Advisory Committee provides oversight and advice on the implementation of the campus master plan.

The Committees operate based on the principle of delegated authority from the Board and are required to observe their respective Terms of Reference as set by the Board. The Terms of Reference of each of these Committees set out the role, powers and rules applicable to these Committees. Where necessary, non-Board members who have expertise in their respective fields are also co-opted to enhance the deliberations and decision-making process of some of the Board Committees.

CORPORATE GOVERNANCE

BOARD MEMBERS

As at the end of the financial year (31 March 2019), the Board of Trustees had the following 17 members.

No.	Member	Current Board Appointment(s)	Date of Appointment to the Board	Board Meetings	
				Held	Attended
1	Koh Boon Hwee	Board Chairman Chairman, Nominating Committee Chairman, Remuneration Committee Member, Investment Committee	28 Mar 2006	4	4
2	Gene D Block	Member, Academic Affairs Committee	1 Jan 2018	4	3
3	Chan Lai Fung	Member, Academic Affairs Committee Member, Nominating Committee Member, Remuneration Committee	1 Apr 2012	4	3
4	Goh Sin Teck	Member, Alumni & Development Committee Member, Audit & Risk Committee	1 Jun 2012	4	3
5	Lee Shiang Long	Member, Finance Committee	15 Sep 2017	4	1
6	Lee Suet Fern	Member, Nominating Committee Member, Remuneration Committee	15 Jul 2006	4	4
7	Lien Siaou-Sze	Chairman, Finance Committee Member, Alumni & Development Committee	28 Mar 2006	4	4
8	Lim Chow Kiat	Member, Investment Committee	1 Apr 2015	4	3
9	Lim Chuan Poh	Member, Academic Affairs Committee Member, Investment Committee Member, Nominating Committee Member, Remuneration Committee	28 Mar 2006	4	4
10	Low Check Kian	Chairman, Investment Committee	1 Apr 2014	4	4
11	Inderjit Singh Dhaliwal	Chairman, Alumni & Development Committee	28 Mar 2006	4	4
12	Tan Chin Hwee	Chairman, Audit & Risk Committee Member, Alumni & Development Committee Member, Investment Committee	1 Apr 2015	4	3
13	Wong Yew Meng	Board Member	1 Aug 2010	4	4
14	Zainul Abidin Rasheed	Member, Audit & Risk Committee	1 Apr 2017	4	3
15	Alexander JB Zehnder	Chairman, Academic Affairs Committee Member, Audit & Risk Committee Member, Finance Committee	25 Aug 2009	4	4
16	Leszek Borysiewicz	Member, Academic Affairs Committee	1 Feb 2018	4	2
17	Subra Suresh	Member, Academic Affairs Committee Member, Finance Committee Member, Investment Committee	1 Jan 2018	4	4

*Left the Board on 31 March 2019

Remarks:

1. Given the length of student tenure at NTU, and initiatives associated with it, the Board of Trustees comprises long-standing members beyond ten years, eminent leaders in their respective fields who continue to contribute significantly to NTU's strategic direction. The Ministry of Education continues to endorse the appointment and renewal of any Trustee.
2. The Board Committees had, during the year, an aggregate meeting attendance of 83%.

CORPORATE GOVERNANCE

UNIVERSITY LEADERSHIP

The President is the University's Chief Executive Officer. He is accountable to the Board for the conduct, coordination and quality of all of NTU's programmes and for its future development. He has the authority to perform all acts that are necessary to give effect to the policies and statutes of the Board.

Forming the core leadership team of the University together with the President are four vice presidents. The Provost and Vice President (Academic) is the Chief Academic Officer and is responsible for the University's academic endeavours and development. This includes graduate and undergraduate education, faculty development, student life and external academic liaison. The Vice President (Research) guides NTU's university-wide research agenda and its implementation. His responsibilities include research planning and policy development, research funding strategies and research infrastructure development. The Vice President (Administration) leads the staff functions that enable the seamless delivery of the University's academic and research priorities, including key initiatives around customer journeys that improve employee engagement, organisation capabilities and operational effectiveness. The Vice President (Alumni and Advancement) leads the University's alumni engagement and advancement efforts, and develops NTU's global presence.

POLICIES TO MANAGE CONFLICT OF INTEREST

Under the University Code of Conduct, members of the Board of Trustees, faculty and staff are required in their respective capacities to act at all times in the best interest of the University. Clear policies and procedures are designed to prevent and address potential conflict-of-interest situations while promoting ethical business conduct of faculty and staff.

Trustees have a fiduciary duty not to allow themselves to get into a position where there is a conflict between what they ought to do for NTU and what they might do for themselves. They are required to uphold a high standard of integrity and commitment in serving the University and in the event of a conflict of interest, they shall recuse themselves from decisions where such a conflict exists.

In addition, NTU's Constitution contains provisions for the management and avoidance of conflicts of interest by members of its Board of Trustees. Such provisions include (a) permitting a Board member to be interested in any transaction with NTU provided that the member has declared the nature of the interest to the Board of Trustees and abstains from participating in the Board's decision in respect of the transaction concerned, (b) permitting a Board member, or a firm associated with the member, to act in any professional capacity for the University and to be remunerated for professional services as if the Board member was not a Trustee, and (c) permitting a Board member to be reimbursed for out-of-pocket expenses, travelling and other expenses properly incurred by the Board member in attending and returning from meetings of the Board of Trustees, any of its committees, or any general meeting of the University or otherwise in connection with the affairs of the University. NTU's Constitution expressly stipulates that Board members shall not receive any remuneration for services rendered by them as members of the Board of Trustees. The University has no paid staff who are close members of the family of the Board members.

Faculty and staff must also comply with policies on conflict of interest as laid down from time to time. The current policy requires faculty and staff to ensure that their private activities and interests do not conflict with their professional obligations to the University. They should take care to avoid conflict between their own personal interests and the interests of the University and should avoid or withdraw from situations where there may be a perception of such conflict. Where there is potential violation of the policy, the faculty or staff shall fully and frankly disclose the nature and extent of their interest to the University as soon as possible.

TRUSTEES' STATEMENT

TRUSTEES' STATEMENT

The Board of Trustees present their statement to the members together with the audited consolidated financial statements of Nanyang Technological University (the "University Company") and its subsidiaries (collectively the "Group") and statement of financial position and statement of changes in funds and reserves of the University Company for the financial year ended 31 March 2019.

In the opinion of the Trustees:

- (a) the consolidated financial statements of the Group and the statement of financial position and statement of changes in funds and reserves of the University Company as set out on pages 23 to 67 are drawn up so as to give a true and fair view of the financial position of the Group and of the University Company as at 31 March 2019, and the financial performance, changes in funds and reserves and cash flows of the Group and the changes in funds and reserves of the University Company for the financial year then ended; and
- (b) at the date of this statement, there are reasonable grounds to believe that the University Company will be able to pay its debts when they fall due.

TRUSTEES

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

Mr Koh Boon Hwee	(Chairman)
Mrs Lee Suet Fern	
Ms Lien Siauou-Sze	
Mr Lim Chuan Poh	
Mr Inderjit Singh Dhaliwal	
Mr Tan Chin Hwee	
Prof Alexander Jakob Boris Zehnder	
Mr Wong Yew Meng	
Mr Goh Sin Teck	
Mr Low Check Kian	
Mr Lim Chow Kiat	
Mr Zainul Abidin Bin Mohamed Rasheed	
Dr Lee Shiang Long	
Prof Gene David Block	
Prof Leszek Krzysztof Sir Leszek Borysiewicz	
Prof Subra Suresh	
Mr Anthony Mallek	(Appointed on 1 April 2019)
Mr Lo Kien Foh	(Appointed on 1 April 2019)
Ms Lai Wei Lin	(Appointed on 1 April 2019)
Ms Goh Swee Chen	(Appointed on 1 August 2019)

Ms Chan Lai Fung retired as Trustee of the University Company on 31 March 2019.

TRUSTEES' STATEMENT

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 Company to acquire benefits by means of the acquisition of shares or debentures in the University Company or any other body corporate.

TRUSTEES' INTERESTS IN SHARES AND DEBENTURES

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

The Trustees of the University Company at the end of the financial year have no financial interest in the share capital (including any share options) and debentures of the University Company's related corporations as recorded in the register of the directors' shareholdings kept by the University Company'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 Koh Boon Hwee
Chairman of the Board of Trustees
Trustee



Prof Subra Suresh
President of Nanyang Technological University
Trustee

22 August 2019

INDEPENDENT AUDITOR'S REPORT

TO THE BOARD OF TRUSTEES OF NANYANG TECHNOLOGICAL UNIVERSITY

REPORT ON THE AUDIT OF THE FINANCIAL STATEMENTS

OPINION

We have audited the accompanying financial statements of Nanyang Technological University (the "University Company") and its subsidiaries ("the Group") which comprise the consolidated statement of financial position of the Group and the statement of financial position of the University Company as at 31 March 2019, and the consolidated statement of profit or loss and other comprehensive income, statement of changes in funds and reserves and statement of cash flows of the Group and the statement of changes in funds and reserves of the University Company for the financial year then ended, and a summary of significant accounting policies and other explanatory information, as set out on pages 23 to 67.

In our opinion, the accompanying consolidated financial statements of the Group and the statement of financial position and statement of changes in funds and reserves of the University Company 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 consolidated financial position of the Group and the financial position of the University Company as at 31 March 2019 and of the consolidated financial performance, consolidated changes in funds and reserves and consolidated cash flows of the Group and of the changes in funds and reserves of the University Company 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 Group in accordance with the Accounting and Corporate Regulatory Authority ("ACRA") *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 obtained at the date of this auditor's report is the Trustees' Statement but does not include the financial statements and our auditor's report thereon. 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 on the other information obtained prior to the date of this auditor's report, 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 Group'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 Group or to cease operations, or has no realistic alternative but to do so.

The trustees' responsibilities include overseeing the Group's financial reporting process.

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.

INDEPENDENT AUDITOR'S REPORT

TO THE BOARD OF TRUSTEES OF NANYANG TECHNOLOGICAL UNIVERSITY

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 Group'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 Group'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 Group 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.
- (f) Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

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 Company and by those subsidiary corporations incorporated in Singapore of which we are the auditors 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 Company 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 Company has not complied with the requirements of Regulation 15 of the Charities (Institutions of a Public Character) Regulations.

Deloitte & Touche LLP

Public Accountants and
Chartered Accountants
Singapore

22 August 2019

STATEMENTS OF FINANCIAL POSITION

31 MARCH 2019

	Note	Group		University Company	
		2019 \$'000	2018 \$'000	2019 \$'000	2018 \$'000
ASSETS					
Non-current assets					
Property, plant and equipment	3	2,022,596	2,110,704	2,019,029	2,108,453
Intangible assets	4	10,184	9,049	9,763	9,049
Prepaid lease	5	37,077	38,760	37,077	38,760
Subsidiaries	6	-	-	1,912	2,203
Associate and joint venture	7	382	639	16	3
Available-for-sale financial assets	8	-	3,698	-	-
Student loans	9	2,927	2,721	2,927	2,721
Total non-current assets		2,073,166	2,165,571	2,070,724	2,161,189
Current assets					
Derivative financial instruments	10	847	5,213	847	5,213
Student loans	9	1,406	1,465	1,406	1,465
Trade and other receivables	11	326,233	289,721	317,577	278,915
Financial assets at fair value through profit or loss	12	2,700,130	2,642,963	2,692,876	2,642,963
Cash and cash equivalents	13	991,404	1,078,675	956,669	1,050,006
Total current assets		4,020,020	4,018,037	3,969,375	3,978,562
Total assets		6,093,186	6,183,608	6,040,099	6,139,751
LIABILITIES					
Non-current liabilities					
Deferred capital grants	14	1,310,489	1,433,891	1,308,955	1,433,789
Other non-current liabilities		2,937	3,108	2,937	3,108
Sinking fund received in advance	15	269,831	251,075	269,831	251,075
Total non-current liabilities		1,583,257	1,688,074	1,581,723	1,687,972

STATEMENTS OF FINANCIAL POSITION

31 MARCH 2019

	Note	Group		University Company	
		2019 \$'000	2018 \$'000	2019 \$'000	2018 \$'000
Current liabilities					
Derivative financial instruments	10	1,783	6	1,783	6
Other payables and accruals		223,624	210,094	210,969	204,748
Provisions	16	61,792	67,470	60,747	67,030
Grant received in advance					
- Operating grants	17	7,098	7,097	-	-
Grant received in advance					
- Information technology and furniture and equipment ("IT and F&E")	15	45,841	40,937	44,238	40,937
Sinking fund received in advance	15	37,428	48,304	37,428	48,304
Short-term borrowings	18	137,000	245,200	137,000	245,200
Deferred tuition and other fees		94,507	91,888	93,583	91,841
Research grants received in advance	19	87,660	97,292	87,119	92,724
Income tax payable		250	306	-	-
Total current liabilities		696,983	808,594	672,867	790,790
Total liabilities		2,280,240	2,496,668	2,254,590	2,478,762
Net assets		3,812,946	3,686,940	3,785,509	3,660,989
FUNDS AND RESERVES					
Capital account	20	200,858	200,858	200,858	200,858
Endowment fund	21	2,038,964	1,948,290	2,039,467	1,948,793
Accumulated surplus					
- General fund		973,365	955,584	935,269	922,992
- Other restricted fund	21	599,759	579,557	609,915	588,346
Investment revaluation reserves		-	2,651	-	-
Funds and reserves		3,812,946	3,686,940	3,785,509	3,660,989

See Note 22 for funds managed on behalf of the Government Ministry.

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

CONSOLIDATED STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME

YEAR ENDED 31 MARCH 2019

	Note	General fund		Endowment fund		Other restricted fund		Total	
		2019 \$'000	2018 \$'000	2019 \$'000	2018 \$'000	2019 \$'000	2018 \$'000	2019 \$'000	2018 \$'000
Group									
Income									
Tuition and other fees		296,907	286,902	-	-	65,470	63,017	362,377	349,919
Scholarship, bursary and sponsorship expenses		(33,366)	(37,601)	-	-	(62,571)	(54,803)	(95,937)	(92,404)
Net tuition and other fees	2.1(d)	263,541	249,301	-	-	2,899	8,214	266,440	257,515
Rental income		2,043	3,292	-	-	68,537	65,361	70,580	68,653
Research grants (non-ministry)	19	106,969	100,951	-	-	-	-	106,969	100,951
Interest income	23	5,961	3,794	135	428	1,751	1,058	7,847	5,280
Donations and sponsorships		2,389	1,349	-	-	27,162	40,814	29,551	42,163
Other grants		2,521	694	-	-	1,798	1,127	4,319	1,821
Sundry income		60,772	72,611	-	-	31,852	8,588	92,624	81,199
Deferred capital grants amortised (non-ministry)	14	17,298	16,371	-	-	17,823	14,510	35,121	30,881
Total income before profit on investments and share of associate and joint venture's results		461,494	448,363	135	428	151,822	139,672	613,451	588,463
Profit on investments	24	13,899	43,357	50,405	105,445	67	150	64,371	148,952
Share of associate and joint venture's results	7	20	(55)	-	-	-	-	20	(55)
Total income after profit on investments and share of associate and joint venture's results		475,413	491,665	50,540	105,873	151,889	139,822	677,842	737,360
Expenditure									
Expenditure on manpower		792,570	761,015	1,723	1,319	158,361	158,570	952,654	920,904
Teaching/research		178,555	173,334	-	-	53,981	61,239	232,536	234,573
Administration		86,443	93,729	-	-	56,705	60,824	143,148	154,553
Scholarship expenses		50,771	55,486	-	-	26,806	26,345	77,577	81,831
Maintenance		53,969	54,428	-	-	30,881	27,955	84,850	82,383
Depreciation of property, plant and equipment	3	233,476	211,862	-	-	28,694	27,092	262,170	238,954
Amortisation of intangible assets	4	598	1,050	-	-	1,941	1,003	2,539	2,053
Amortisation of prepaid lease	5	1,683	1,683	-	-	-	-	1,683	1,683
Amount carried forward		1,398,065	1,352,587	1,723	1,319	357,369	363,028	1,757,157	1,716,934

CONSOLIDATED STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME

YEAR ENDED 31 MARCH 2019

	Note	General fund		Endowment fund		Other restricted fund		Total	
		2019 \$'000	2018 \$'000	2019 \$'000	2018 \$'000	2019 \$'000	2018 \$'000	2019 \$'000	2018 \$'000
Group (cont'd)									
Amount brought forward		1,398,065	1,352,587	1,723	1,319	357,369	363,028	1,757,157	1,716,934
Capital expenditure not capitalised		15,066	17,965	-	-	1,825	1,553	16,891	19,518
Loss/(Gain) on disposal of property, plant and equipment		1,097	2,142	-	-	22	(27)	1,119	2,115
Other expenses		296	11,214	2,178	2,094	17,697	17,065	20,171	30,373
Total expenses		1,414,524	1,383,908	3,901	3,413	376,913	381,619	1,795,338	1,768,940
(Deficit)/Surplus before grants from ministries	25	(939,111)	(892,243)	46,639	102,460	(225,024)	(241,797)	(1,117,496)	(1,031,580)
Grants from ministries									
Development grants	15	19,082	22,858	-	-	-	-	19,082	22,858
Operating grants	26	517,663	539,755	-	-	-	-	517,663	539,755
Research grants	19	265,024	282,932	-	-	-	-	265,024	282,932
Other grants		8,295	4,067	-	-	149,081	124,722	157,376	128,789
Deferred capital grants amortised	14	186,323	174,472	-	-	2,360	3,265	188,683	177,737
Total grants from ministries		996,387	1,024,084	-	-	151,441	127,987	1,147,828	1,152,071
Surplus/(Deficit) after grants from ministries		57,276	131,841	46,639	102,460	(73,583)	(113,810)	30,332	120,491
Taxation	27	(171)	(259)	-	-	-	-	(171)	(259)
Surplus/(Deficit) for the year		57,105	131,582	46,639	102,460	(73,583)	(113,810)	30,161	120,232
Other comprehensive income									
Items that may be reclassified subsequently to profit or loss		-	1,254	-	-	-	-	-	1,254
Available-for-sale financial assets		-	1,254	-	-	-	-	-	1,254
Other comprehensive income for the year, net of tax		-	1,254	-	-	-	-	-	1,254
Total comprehensive income/(loss) for the year		57,105	132,836	46,639	102,460	(73,583)	(113,810)	30,161	121,486

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

STATEMENT OF CHANGES IN FUNDS AND RESERVES

YEAR ENDED 31 MARCH 2019

	Accumulated surplus					
	Capital account \$'000	Endowment fund \$'000	General fund \$'000	Other restricted fund \$'000	Investment revaluation reserves \$'000	Total \$'000
Group						
At 1 April 2017	200,858	1,872,452	869,547	593,813	1,397	3,538,067
<i>Total comprehensive income/(loss) for the year:</i>						
Surplus/(Deficit) for the year	-	102,460	131,582	(113,810)	-	120,232
Other comprehensive income	-	-	-	-	1,254	1,254
<i>Transactions recognised directly in funds:</i>						
Donations	-	7,671	-	-	-	7,671
Government matching grants	-	19,716	-	-	-	19,716
Transfer from endowment fund	-	(54,009)	26,297	27,712	-	-
Transfer to other restricted fund	-	-	(115,055)	115,055	-	-
Transfer to general fund	-	-	43,213	(43,213)	-	-
At 31 March 2018	200,858	1,948,290	955,584	579,557	2,651	3,686,940
<i>Effects of adoption of FRS 109 (Note 2.1(d))</i>						
At 1 April 2018	200,858	1,948,290	958,002	579,557	-	3,686,707
<i>Total comprehensive income/(loss) for the year:</i>						
Surplus/(Deficit) for the year	-	46,639	57,105	(73,583)	-	30,161
<i>Transactions recognised directly in funds:</i>						
Donations	-	46,959	-	-	-	46,959
Government matching grants	-	49,119	-	-	-	49,119
Transfer from endowment fund	-	(52,043)	26,197	25,846	-	-
Transfer to other restricted fund	-	-	(135,501)	135,501	-	-
Transfer to general fund	-	-	67,562	(67,562)	-	-
At 31 March 2019	200,858	2,038,964	973,365	599,759	-	3,812,946

STATEMENT OF CHANGES IN FUNDS AND RESERVES

YEAR ENDED 31 MARCH 2019

	Accumulated surplus				
	Capital account	Endowment fund	General fund	Other restricted fund	Total
	\$'000	\$'000	\$'000	\$'000	\$'000
University Company					
At 1 April 2017	200,858	1,872,455	842,708	600,942	3,516,963
<i>Total comprehensive income/(loss) for the year:</i>					
Surplus/(Deficit) for the year	-	102,960	125,829	(112,150)	116,639
<i>Transactions recognised directly in funds:</i>					
Donations	-	7,671	-	-	7,671
Government matching grants	-	19,716	-	-	19,716
Transfer from endowment fund	-	(54,009)	26,297	27,712	-
Transfer to other restricted fund	-	-	(115,055)	115,055	-
Transfer to general fund	-	-	43,213	(43,213)	-
At 31 March 2018	200,858	1,948,793	922,992	588,346	3,660,989
<i>Total comprehensive income/(loss) for the year:</i>					
Surplus/(Deficit) for the year	-	46,639	54,019	(72,216)	28,442
<i>Transactions recognised directly in funds:</i>					
Donations	-	46,959	-	-	46,959
Government matching grants	-	49,119	-	-	49,119
Transfer from endowment fund	-	(52,043)	26,197	25,846	-
Transfer to other restricted fund	-	-	(135,501)	135,501	-
Transfer to general fund	-	-	67,562	(67,562)	-
At 31 March 2019	200,858	2,039,467	935,269	609,915	3,785,509

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

CONSOLIDATED STATEMENT OF CASH FLOWS

YEAR ENDED 31 MARCH 2019

	Note	2019 \$'000	2018 \$'000
Group			
Operating activities			
Deficit before grants from ministries		(1,117,496)	(1,031,580)
Adjustments for:			
Research grant income		(106,969)	(100,951)
Depreciation of property, plant and equipment		262,170	238,954
Amortisation of intangible assets		2,539	2,053
Amortisation of prepaid lease		1,683	1,683
Loss on disposal of property, plant and equipment		1,119	2,115
Profit on investments		(64,371)	(148,952)
Deferred capital grants amortised (non-ministry)		(35,121)	(30,881)
Interest income		(7,847)	(5,280)
Share of associate and joint venture's results		(20)	55
Impairment loss of an associate		49	116
		(1,064,264)	(1,072,668)
Changes in working capital:			
Other payables		71,212	61,849
Trade and other receivables		(45,624)	(29,752)
Deferred tuition and other fees		2,619	(579)
Loans extended to students		(147)	(83)
Cash used in operations		(1,036,204)	(1,041,233)
Donations received for Endowment Fund		46,959	7,671
Income taxes paid		(227)	(166)
Cash flows used in operating activities		(989,472)	(1,033,728)
Investing activities			
Acquisition of property, plant and equipment		(178,898)	(303,762)
Acquisition of intangible assets		(3,674)	(4,912)
Purchase of financial assets		(760,687)	(276,981)
Proceeds from disposal of property, plant and equipment		297	583
Proceeds from sale of financial assets		653,889	129,461
Investment in associate/joint venture		(120)	(50)
Loan to associate		-	(19)
Increase in money market funds and cash held by custodian banks	13	127,711	59,989
Interest received		7,225	5,590
Cash flows used in investing activities		(154,257)	(390,101)

CONSOLIDATED STATEMENT OF CASH FLOWS

YEAR ENDED 31 MARCH 2019

	Note	2019 \$'000	2018 \$'000
Financing activities			
Sinking fund received, net of refund		45,769	31,832
IT and F&E grant received		29,318	30,574
Research grants received		357,392	386,740
Operating grants received, net of payment of goods and service tax expense on tuition fees and tuition grants		520,949	505,985
Development grants and related income received, net of refund		4,735	196,322
Government ministry grants received		206,495	148,505
Proceeds from borrowings		86,700	97,300
Repayment of borrowings		(194,900)	(202,300)
Cash flows from financing activities		1,056,458	1,194,958
Net decrease in cash and cash equivalents		(87,271)	(228,871)
Cash and cash equivalents at beginning of the year		1,078,675	1,307,546
Cash and cash equivalents at end of the year	13	991,404	1,078,675

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

1 GENERAL

Nanyang Technological University ("NTU" or the "University Company") is incorporated and domiciled in Singapore as a Company limited by guarantee under the Singapore Companies Act, Chapter 50. The University Company's registered office and place of business is located at 50 Nanyang Avenue Singapore 639798. The financial statements are expressed in Singapore dollars.

The University Company is principally engaged in the advancement and dissemination of knowledge, the promotion of research and scholarships and the conferring and awarding of degrees, diplomas and certificates.

The principal activities of the subsidiaries are set out in Note 6.

As the operations of the University Company is substantially funded by the Ministry of Education ("MOE" or the "Government Ministry") through government grants, with MOE having the power to appoint and remove members to the Board of Trustees of the University Company, MOE is regarded as the parent entity.

The consolidated financial statements relate to the University Company and its subsidiaries (referred to as the "Group"). The consolidated financial statements of the Group and statement of financial position and statement of changes in funds and reserves of the University Company for the year ended 31 March 2019 were authorised for issue by the Board of Trustees on 22 August 2019.

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

2.1 Basis of preparation

(a) Basis of measurement

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 ("FRS").

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 Group 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 consolidated 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:* quoted prices (unadjusted) in active markets for identical assets or liabilities
- *Level 2:* inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e., as prices) or indirectly (i.e., derived from prices)
- *Level 3:* inputs for the asset or liability that are not based on observable market data (unobservable inputs)

(b) Functional and presentation currency

The individual financial statements of each group entity are measured and presented in the currency of the primary economic environment in which the entity operates (its functional currency). The consolidated financial statements of the Group and the statement of financial position of the University Company are presented in Singapore dollars, which is the functional currency of the University Company and the presentation currency for the consolidated financial statements.

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, income and expenditure. Actual results may differ from these estimates.

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

2.1 Basis of preparation (cont'd)

(c) Use of estimates and judgements (cont'd)

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.

- Notes 2.9, 10 and 12 - valuation of financial instruments

Fair value measurements and valuation processes

In estimating the fair value of an asset or a liability, the Group obtains valuations from third party fund managers/fund administrators/custodian banks. The valuations are determined using market-observable data to the extent it is available. Where Level 1 inputs are not available, the fund managers/fund administrators/custodian banks establish the fair value of the investments using the net asset value at the end of the reporting period.

Derivative financial instruments

The fair value of derivatives (foreign currency forwards) is estimated by discounting the difference between the contractual forward price and the current forward price for the residual period to maturity of the contract.

Financial assets at fair value through profit or loss

The fair values of financial instruments traded in active markets are based on quoted market prices at the end of the reporting period. The Group and University Company also holds unquoted investments, of which the valuation methodologies are set out in Note 12.

(d) Adoption of new and revised standards

On 1 April 2018, the Group 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 does not result in changes to the Group's and University Company's accounting policies and has no material effect on the amounts reported for the current or prior years except as disclosed below:

FRS 109 Financial Instruments

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

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

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

The Group 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 Group's model for managing the assets and whether the instruments' contractual cash flows represent 'solely payments of principal and interest' on the principal amount outstanding.

As a result of the above, the Group has reclassified certain available-for-sale investments of \$3,698,000 and convertible notes classified under "Trade and other receivables" in 2018 of \$3,754,000 to financial assets at fair value through profit or loss (FVTPL) in 2019 based on its nature of cash flows and business model.

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

2.1 Basis of preparation (cont'd)

(d) Adoption of new and revised standards (cont'd)

(ii) 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 Group 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.

FRS 115 Revenue from Contracts with Customers

FRS 115 supersedes FRS 11 *Construction Contracts*, 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.

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.

Upon adoption of FRS 115, the Group restated the consolidated statement of profit or loss and other comprehensive income for the year ended 31 March 2018 to present scholarship, bursary and sponsorship expenses of \$92,404,000 attributable to gross tuition fees of \$349,919,000 to show the net tuition fees of \$257,515,000. As there is no impact to the statement of financial position in prior year, management is of the view that the third statement of financial position is not required. Accordingly, third statement of financial position is not presented.

The Group's significant accounting policies for its revenue streams are disclosed in Note 2.13.

2.2 Consolidation

Basis of consolidation

The consolidated financial statements incorporate the financial statements of the University Company and entities controlled by the University Company and its subsidiaries. Control is achieved when the University Company:

- (i) Has power over the investee;
- (ii) Is exposed, or has rights, to variable returns from its involvement with the investee; and
- (iii) Has the ability to use its power to affect its returns.

The University Company reassesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more of the three elements of control listed above.

Consolidation of a subsidiary begins when the University Company obtains control over the subsidiary and ceases when the University Company loses control of the subsidiary. Specifically, income and expenses of a subsidiary acquired or disposed of during the year are included in the consolidated statement of profit or loss and other comprehensive income from the date the University Company gains control until the date when the University Company ceases to control the subsidiary.

The accounting policies of subsidiaries have been changed where necessary to align them with the policies adopted by the Group.

Intra-group balances and transactions, and any unrealised income or expenses arising from intra-group transactions, are eliminated in preparing the consolidated financial statements.

Investments in subsidiaries are carried at cost less any impairment in net recoverable value that has been recognised in profit or loss.

Business combinations

Business combinations are accounted for using the acquisition method as at the acquisition date, which is the date on which control is transferred to the Group. The consideration for each acquisition is measured at the aggregate of the acquisition date fair values of assets given, liabilities incurred by the Group to the former owners of the acquiree, and equity interests issued by the Group in exchange for control of the acquiree.

The consideration transferred does not include amounts related to the settlement of pre-existing relationships. Such amounts are generally recognised in profit or loss.

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

2.2 Consolidation (cont'd)

Business combinations (cont'd)

Costs related to the acquisition, other than those associated with the issue of debt or equity securities, that the Group incurs in connection with a business combination are expensed as incurred.

Any contingent consideration payable is recognised at fair value at the acquisition date. If the contingent consideration is classified as funds and reserves, it is not remeasured and settlement is accounted for within funds and reserves. Otherwise, subsequent changes to the fair value of the contingent consideration are recognised in the statement of profit or loss and other comprehensive income.

Associate and Joint venture

An associate is an entity over which the group has significant influence. Significant influence is the power to participate in the financial and operating policy decisions of the investee but is not control or joint control over those policies.

A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the joint arrangement. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control.

The results and assets and liabilities of joint ventures and associate are incorporated in these consolidated financial statements using the equity method of accounting. Under the equity method, an investment in joint venture or an associate is initially recognised in the consolidated statement of financial position at cost and adjusted thereafter to recognise the Group's share of the profit or loss and other comprehensive income of the joint venture or associate. When the Group's share of losses of a joint venture or associate exceeds the Group's interest in that joint venture, the Group discontinues recognising its share of further losses. Additional losses are recognised only to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of the joint venture or associate.

An investment in a joint venture or an associate is accounted for using the equity method from the date on which the investee becomes a joint venture or an associate. On acquisition of the investment in a joint venture or an associate, any excess of the cost of investment over the Group's share of the net fair value of the identifiable assets and liabilities of the investee is recognised as goodwill, which is included within the carrying amount of the investment. Any excess of the Group's share of the net fair value of the identifiable assets and liabilities over the cost of investment, after reassessment, is recognised immediately in profit or loss in the period in which the investment is acquired.

When a Group entity transacts with a joint venture or an associate of the Group, profits and losses resulting from the transactions with the joint venture or associate are recognised in the Group's consolidated financial statements only to the extent of interests in the joint venture or associate that are not related to the Group.

2.3 Foreign currencies

Foreign currency transactions

Transactions in foreign currencies are translated to the respective functional currencies of Group entities at the exchange rate prevailing on the date of the transaction. At the end of each reporting period, monetary items denominated in foreign currencies are retranslated to the functional currency at the rates prevailing at the end of the reporting period. Non-monetary items carried at fair value that are denominated in foreign currencies are retranslated to the functional currency at the rates prevailing on the date that the fair value is determined. Non-monetary items that are measured in terms of historical cost in foreign currency are not retranslated.

Foreign currency differences arising on retranslation are recognised in profit or loss.

Foreign operations

The assets and liabilities of foreign operations are translated to the functional currency of the University Company and the presentation currency for the consolidated financial statements at exchange rates prevailing at the reporting date. The income and expenses of foreign operations are translated to Singapore dollars at exchange rates ruling at the dates of the transactions.

Foreign currency differences are recognised in other comprehensive income and accumulated in a separate component of equity under the header of foreign currency translation reserve. When a foreign operation is disposed of, in part or in full, the relevant amount in the foreign exchange translation reserves is transferred to profit or loss as part of the gain or loss on disposal.

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

2.4 Funds

Assets and liabilities of all funds are pooled in the statements of financial position.

General and other restricted funds

Income and expenditure are generally accounted for under the "General Fund" in the statement of profit or loss and other comprehensive income. The use of these reserves is subject to the approval of the Board of Trustees.

The income and expenditure relating to funds that are set up for specific purposes are accounted for under "Other Restricted Fund" in the statement of profit or loss and other comprehensive income.

The following funds termed as "Other Restricted Fund" are set up and disclosed separately from the University Company's general fund:

- (i) funds created from donations from external bodies for special purposes;
- (ii) funds created from grants received for carrying out activities under special arrangements; and
- (iii) funds maintained separately and are ring-fenced to support centres and autonomous institutes towards specific and defined objectives.

The use of these funds are governed by the terms and conditions set out by the respective funds.

The income and expenditure of General Fund and Other Restricted Fund are included in the consolidated statement of profit or loss and other comprehensive income.

Endowment fund

Donations received and Government matching grants received/receivable during the year are taken directly to the statement of changes in funds and reserves. Income and expenditure arising from the management of the Endowment Fund are taken to the statement of profit or loss and other comprehensive income of the Endowment Fund.

2.5 Grants and sinking fund

Grants and sinking fund from the Government Ministry, other ministries and statutory boards and contributions received/receivable from other organisations for the purchase of depreciable assets or to finance research or capital projects are taken to the grants received in advance account in the first instance. They are taken to the deferred capital grants account upon the utilisation of the grants for purchase of assets, which are capitalised, or to profit or loss for purchase of assets which are written off in the year of purchase.

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

Development grant is recognised when there is reasonable assurance that the University Company will comply with the conditions attach to them and that the grants will be received.

Information Technology and Furniture and Equipment ("IT and F&E") grants received from the Government Ministry are for the purchase of information technology appliances and furniture and equipment to support teaching and administrative function of the University Company. These grants are taken to the grants received in advance account in the first instance. They are taken to deferred capital grants account upon the utilisation of the grants for purchase of assets, which are capitalised, or to the profit or loss for purchase of assets which are written off in the year of purchase.

Grants from the Government Ministry and other ministries to meet the current year's operating expenses are recognised as income in the same year these operating expenses were incurred.

All grants and contributions are accounted for on the accrual basis.

Wage Credit scheme, Special Employment Credit scheme and Temporary Employment Credit scheme

Cash grants received from the government in relation to the Wage Credit scheme, Special Employment Credit scheme and Temporary Employment Credit scheme are recognised upon receipt. Such grants are provided to defray the wage costs incurred and are offset against manpower costs in the financial statements.

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

2.6 Property, plant and equipment

Recognition and measurement

Property, plant and equipment are stated at cost less accumulated depreciation and impairment losses except for land alienated to the Group and University Company which are stated at values provided by the Government. Donated assets are stated at valuation at initial recognition.

The freehold land of the Group and the University Company were stated at valuation carried out in December 1987 based on values in a valuation report from the Commissioner of Lands. The revaluation was done on a one-off basis and accordingly, the transitional provision in FRS 16 - *Property, Plant and Equipment* was adopted to continue with its existing policy of stating the freehold land at deemed cost. This revaluation surplus was credited directly to the Capital Account. Upon disposal, any related revaluation surplus is transferred from the Capital Account to accumulated surplus and is not taken into account in arriving at the gain or loss on disposal.

Cost includes expenditures that are directly attributable to the acquisition of the asset. The cost of self-constructed assets includes the cost of materials and direct labour, any other costs directly attributable to bringing the asset to a working condition for its intended use, and the costs of dismantling and removing the items and restoring the site on which they are located. Purchased software that is integral to the functionality of the related equipment is capitalised as part of that equipment.

When parts of an item of property, plant and equipment have different useful lives, they are accounted for as separate items (major components) of property, plant and equipment.

Property, plant and equipment costing less than \$2,000 each, renovation costing \$100,000 and below and library books are generally charged to profit or loss in the year of purchase.

The gain or loss on disposal of an item of property, plant and equipment recognised in profit or loss is derived from the proceeds from disposal and the carrying amount of property, plant and equipment.

Subsequent cost

The cost of replacing part of an item of property, plant and equipment is recognised in the carrying amount of the item if it is probable that the future economic benefits embodied within the part will flow to the Group and its cost can be measured reliably. The costs of the day-to-day servicing of property, plant and equipment are recognised in the profit or loss as incurred.

Depreciation

Depreciation is based on the cost of an asset less its residual value. Significant components of individual assets are assessed and if a component has a useful life that is different from the remainder of that asset, that component is depreciated separately.

Depreciation is recognised in the profit or loss on a straight-line basis over the estimated useful lives of each component of an item of property, plant and equipment.

Except for freehold land and buildings under construction which are not depreciated, depreciation on other property, plant and equipment is recognised in the statement of profit or loss and other comprehensive income on a straight-line basis over the estimated useful lives (or lease term, if shorter) of each part of an item of property, plant and equipment.

The estimated useful lives are as follows:

Buildings and infrastructure	3 to 30 years
Improvement works	5 years
Machinery, laboratory and workshop equipment	6 years
Furniture and office equipment	3 to 5 years
Transportation equipment	8 years
Others	8 years

The estimated useful lives, residual values and depreciation method are reviewed at each year end, with the effect of any changes in estimate accounted for on a prospective basis.

Buildings under construction are stated at cost, less any recognised impairment loss, if any. Expenditure relating to the construction of projects are capitalised when incurred. No depreciation is charged on building under construction until the building under construction is completed and the related property, plant and equipment are transferred to the respective property, plant and equipment categories and depreciated accordingly.

Assets held under finance leases are depreciated over their expected useful lives on the same basis as owned assets or, if there is no certainty that the lessee will obtain ownership by the end of the lease term, the assets shall be fully depreciated over the shorter of the lease term and their useful lives.

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

2.7 Intangible assets

Intangible assets acquired separately are reported at cost less accumulated amortisation (where they have finite useful lives) and accumulated impairment losses. Intangible assets with finite useful lives are amortised on a straight-line basis over their estimated useful lives, on the following base:

Application Software	-	3 years
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The estimated useful life and amortisation method are reviewed at the end of each annual reporting period, with the effect of any changes in estimate being accounted for on a prospective basis. Intangible assets with indefinite useful lives are not amortised. Each period, the useful lives of such assets are reviewed to determine whether events and circumstances continue to support an indefinite useful life assessment for the asset. Such assets are tested for impairment annually and whenever there is an indication that the asset may be impaired.

2.8 Impairment - non-financial assets

The carrying amounts of the Group's non-financial assets are reviewed at each reporting date to determine whether there is any indication of impairment. If any such indication exists, the asset's recoverable amounts are estimated. Where it is not possible to estimate the recoverable amount of an individual asset, the Group estimates the recoverable amount of the cash-generating unit to which the asset belongs. Where a reasonable and consistent basis of allocation can be identified, corporate assets are also allocated to individual cash-generating units, or otherwise they are allocated to the smallest group of cash-generating units for which a reasonable and consistent allocation basis can be identified.

An impairment loss is recognised if the carrying amount of an asset or its cash-generating unit exceeds its recoverable amount. A cash-generating unit is the smallest identifiable asset group that generates cash flows that largely are independent from other assets and groups. Impairment losses are recognised in the statement of profit or loss and other comprehensive income unless it reverses a previous revaluation, credited to equity, in which case it is charged to equity. Impairment losses recognised in respect of cash-generating units are allocated first to reduce the carrying amount of any goodwill allocated to the units and then to reduce the carrying amount of the other assets in the unit (group of units) on a pro rata basis.

The recoverable amount of an asset or cash-generating unit is the greater of its value in use and its fair value less costs to sell. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or cash-generating unit. For the purpose of impairment testing, assets that cannot be tested individually are grouped together into the smallest group of assets that generates cash inflows from continuing use that are largely independent of the cash inflows of other assets or cash generating unit.

Impairment losses recognised in prior periods are assessed at each reporting date for any indications that the loss has decreased or no longer exists. An impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

2.9 Financial instruments

Non-derivative financial assets - Policy applicable from 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.

Classification of financial assets

Debt instruments that meet the following conditions 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.

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

2.9 Financial instruments (cont'd)

Non-derivative financial assets – Policy applicable from 1 April 2018 (cont'd)

(a) *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.

For financial instruments other than purchased or originated credit-impaired financial assets, 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.

(b) *Financial assets at FVTPL*

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.

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. Fair value is determined in the manner described in Note 30.

Impairment of financial assets

The Group recognises a loss allowance for expected credit losses ("ECL") on financial assets which are subject to impairment under FRS 109. The amount of ECL is updated at each reporting date to reflect changes in credit risk since initial recognition of the respective financial instrument.

The Group recognises 12-month ECL for all financial assets as the credit risk on the financial asset has not increased significantly since initial recognition. If subsequently, there has been a significant increase in credit risk since initial recognition, the Group will recognise lifetime 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 since initial recognition.

The 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. In contrast, lifetime ECL represents the ECL that will result from all possible default events over the expected life of the relevant instrument. The expected credit losses on these financial assets are estimated using the Group'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.

Significant increase in credit risk

In assessing whether the credit risk on a financial instrument has increased significantly since initial recognition, the Group 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 Group 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 Group presumes that the credit risk on a financial asset has increased significantly since initial recognition when contractual payments are significantly past due, unless the Group has reasonable and supportable information that demonstrates otherwise.

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

2.9 Financial instruments (cont'd)

Non-derivative financial assets – Policy applicable from 1 April 2018 (cont'd)

(b) *Financial assets at FVTPL (cont'd)*

The Group 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 Group 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.

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 Group in accordance with the contract and all the cash flows that the Group expects to receive, discounted at the original effective interest rate.

If the Group 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 Group measures the loss allowance at an amount equal to 12-month ECL at the current reporting date.

Derecognition of financial assets

The Group 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 Group neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the Group recognises its retained interest in the asset and an associated liability for amounts it may have to pay. If the Group retains substantially all the risks and rewards of ownership of a transferred financial asset, the Group continues to recognise the financial asset and also recognises a collateralised borrowing for the proceeds received.

On derecognition of a financial asset measured at amortised cost, the difference between the asset's carrying amount and the sum of the consideration received and receivable is recognised in profit or loss.

Non-derivative financial assets – Policy applicable before 1 April 2018

The Group initially recognises loans and receivables and deposits on the date that they originated. All other financial assets (including assets designated at fair value through profit or loss) are recognised initially on the trade date, which is the date that the Group becomes a party to the contractual provisions of the instrument.

The Group derecognises a financial asset when the contractual rights to the cash flows from the asset expire, or it transfers the rights to receive the contractual cash flows on the financial asset in a transaction in which substantially all the risks and rewards of ownership of the financial assets are transferred. Any interest in transferred financial assets that is created or retained by the Group is recognised as a separate asset or liability.

Financial assets and financial liabilities are offset and the net amount presented in the statement of financial position when the company and the group has a legally enforceable right to set off the recognised amounts; and intends either to settle on a net basis, or to realise the asset and settle the liability simultaneously.

The Group classifies non-derivative assets into the following categories: financial assets at fair value through profit or loss, available-for-sale financial assets and loans and receivables.

Financial assets at fair value through profit or loss

An instrument is classified at fair value through profit or loss if it is acquired principally for the purpose of selling in the short term or is designated as such upon initial recognition. Financial instruments are designated at fair value through profit or loss if the Group manages such investments and makes purchase and sale decisions based on their fair value in accordance with the Group's documented risk management and investment strategies. Upon initial recognition, attributable transaction costs are recognised in the profit or loss when incurred. Financial instruments at fair value through profit or loss are measured at fair value, and changes therein are recognised in the profit or loss.

Financial assets designated at fair value through profit or loss comprise fixed income, quoted equity, unquoted investments and other investments.

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

2.9 Financial instruments (cont'd)

Non-derivative financial assets – Policy applicable before 1 April 2018 (cont'd)

Available-for-sale financial assets

Certain shares held by the Group are classified as being available for sale and are stated at fair value. Gains and losses arising from changes in fair value are recognised in other comprehensive income with the exception of impairment losses, interest calculated using the effective interest method and foreign exchange gains and losses on monetary assets which are recognised directly in profit or loss. Where the investment is disposed of or is determined to be impaired, the cumulative gain or loss previously recognised in other comprehensive income and accumulated in revaluation reserve is reclassified to profit or loss. Dividends on available-for-sale equity instruments are recognised in profit or loss when the Group's right to receive payments is established.

Available-for-sale financial assets comprise quoted equity investments and unquoted investments.

Loans and receivables

Loans and receivables are financial assets with fixed or determinable payments that are not quoted in an active market. Such assets are recognised initially at fair value plus any directly attributable transaction costs. Subsequent to initial recognition, loans and receivables are measured at amortised cost using the effective interest method, less any impairment losses.

Loans and receivables comprise trade and other receivables, student loans, grant receivables and cash and cash equivalents.

Cash and cash equivalents comprise cash balances and bank deposits.

Impairment of financial assets

A financial asset is assessed at each reporting date to determine whether there is any objective evidence that it is impaired. A financial asset is considered to be impaired if objective evidence indicates that one or more events have had a negative effect on the estimated future cash flows of that asset.

An impairment loss in respect of a financial asset measured at amortised cost is calculated as the difference between its carrying amount, and the present value of the estimated future cash flows discounted at the original effective interest rate.

Individually significant financial assets are tested for impairment on an individual basis. The remaining financial assets are assessed collectively in groups that share similar credit risk characteristics. All impairment losses are recognised in the profit or loss.

For available-for-sale financial assets, a significant or prolonged decline in the fair value of the investment below its cost is considered to be objective evidence of impairment. When an available-for-sale financial asset is considered to be impaired, cumulative gains or losses previously recognised in other comprehensive income are reclassified to profit or loss. Any subsequent increase in fair value after an impairment loss is recognised in other comprehensive income and accumulated under the heading of investment revaluation reserves.

Non-derivative financial liabilities

The Group recognises financial liabilities when the Group becomes a party to the contractual provisions of the instrument.

The Group derecognises a financial liability when its contractual obligations are discharged or cancelled or expired.

Financial assets and liabilities are offset and the net amount presented in the statement of financial position when, and only when, the Group has a legal right to offset the amounts and intends either to settle on a net basis or to realise the asset and settle the liability simultaneously.

The Group classifies non-derivative financial liabilities into the other financial liabilities category. Such financial liabilities are recognised initially at fair value plus any directly attributable transaction costs. Subsequent to initial recognition, these financial liabilities are measured at amortised cost using the effective interest method.

Non-derivative financial liabilities comprise loans and borrowings and other payables and accruals.

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

2.9 Financial instruments (cont'd)

Derivative financial instruments and hedging instruments

The Group holds derivative financial instruments, through its external fund managers, to hedge its foreign currency exposure. Further details of derivative financial instruments are disclosed in Note 10 to the financial statements.

Embedded derivatives are separated from the host contract and accounted for separately if the economic characteristics and risks of the host contract and the embedded derivative are not closely related, a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative, and the combined instrument is not measured at fair value through profit or loss.

Derivatives are recognised initially at fair value; any attributable transaction costs are recognised in the profit or loss when incurred. Subsequent to initial recognition, derivatives are measured at fair value, and changes therein accounted for in the profit or loss.

Investment revaluation reserves

The investment revaluation reserves arises on the revaluation of quoted equity investments classified as available-for-sale financial assets. Where a revalued financial asset is sold, the portion of the reserve that relates to that financial asset, and is effectively realised, is recognised in profit or loss. Where a revalued financial asset is impaired, the portion of the reserve that relates to that financial asset is recognised in profit or loss.

2.10 Employee benefits

Defined contribution plans

A defined contribution plan is a post-employment benefit plan under which an entity pays fixed contributions to a separate entity and will have no legal or constructive obligation to pay further amounts. Obligations for contributions to defined contribution plans are recognised as an employee benefit expense in the profit or loss in the periods during which services are rendered by employees.

Short-term employee benefits

Short-term employee benefit obligations, including accumulated compensated absences, are measured on an undiscounted basis and are expensed as the related services are provided.

2.11 Provisions

Provisions are recognised when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that the Group 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.

2.12 Income tax

Income tax expense comprises current and deferred tax. Income tax expense is recognised in the profit or loss except to the extent that it relates to items recognised directly in equity or in other comprehensive income, in which case it is recognised in equity or in other comprehensive income.

Current tax is the expected tax payable on the taxable income for the year, using tax rates enacted or substantively enacted at the reporting date, and any adjustment to tax payable in respect of previous years.

Deferred tax is recognised in respect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Deferred tax is not recognised for temporary differences on the initial recognition of assets or liabilities in a transaction that is not a business combination and that affects neither accounting nor taxable income and expenditure; temporary differences related to investments in subsidiaries and jointly controlled entities to the extent that it is probable that they will not reverse in the foreseeable future; and taxable temporary differences arising on the initial recognition of goodwill.

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

2.12 Income tax (cont'd)

Deferred tax is measured at the tax rates that are expected to be applied to the temporary differences when they reverse, based on the laws that have been enacted or substantively enacted by the reporting date.

Deferred tax assets and liabilities are offset if there is a legally enforceable right to offset current tax liabilities and assets, and they relate to income taxes levied by the same tax authority on the same taxable entity, or on different tax entities, but they intend to settle current tax liabilities and assets on a net basis or their tax assets and liabilities will be realised simultaneously.

A deferred tax asset is recognised for unused tax losses, tax credits and deductible temporary differences, to the extent that it is probable that future taxable profits will be available against which they can be utilised. Deferred tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the related tax benefit will be realised.

2.13 Income recognition

Student fees

Income from tuition and other fees are recognised over time in the period in which the services are rendered.

Tuition fees are deferred as the billing for tuition fees cover the academic year, which does not coincide with the financial year of the Group. The aggregate amount of the tuition fees allocated to performance obligations that have yet been satisfied for services as at the end of the reporting period is \$94,507,000 (2018 : \$91,888,000). Management expects that full amount will be recognised as revenue during the next reporting period.

Management fees

Management fees are recognised at point in time upon services rendered.

Donations and sponsorships

Unconditional donations and sponsorships are recognised at point in time upon receipt.

Licence fees

Licence fees are recognised at point in time in accordance with terms of licensing agreement.

Royalties

Royalties are recognised at point in time on sale, by licensor, of products using the technology granted.

Dividends

Dividends are recognised in the financial year in which the right to receive payment is established.

Rental income

Rental income receivable under operating leases is recognised in the profit or loss on a straight-line basis over the term of the lease.

2.14 Finance income and finance costs

Finance income comprises interest income generated from fixed deposits, bank deposits and finance leases. Interest income is recognised as it accrues in the profit or loss, using the effective interest method. Interest income on the finance lease is recognised in the profit or loss over the period of the lease so as to earn an approximately constant periodic rate of return on the remaining balance of the finance lease receivables for each reporting period.

Finance costs comprise interest expense on borrowings. Borrowing costs that are not directly attributable to the acquisition, construction or production of a qualifying asset are recognised in the profit or loss using the effective interest method.

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

2.15 Lease payments

Payments made under operating leases are recognised in the profit or loss on a straight-line basis over the term of the lease. Lease incentives received are recognised as an integral part of the total lease expense, over the term of the lease.

Determining whether an arrangement contains a lease

At inception of an arrangement, the Group determines whether such an arrangement is or contains a lease. A specific asset is the subject of a lease if fulfilment of the arrangement is dependent on the use of that specified asset. An arrangement conveys the right to use the asset if the arrangement conveys to the Group the right to control the use of the underlying asset.

At inception or upon reassessment of the arrangement, the Group separates payments and other consideration required by such an arrangement into those for the lease and those for other elements on the basis of their relative fair values. If the Group concludes for a finance lease that it is impracticable to separate the payments reliably, then an asset and a liability are recognised at an amount equal to the fair value of the underlying asset. Subsequently, the liability is reduced as payments are made and an imputed finance charge on the liability is recognised using the Group's incremental borrowing rate.

2.16 Prepaid lease

Prepaid lease is recognised in the statement of financial position and amortised to profit or loss on a straight-line basis over the term of the lease.

2.17 Key management personnel

Key management personnel of the Group are those persons having the authority and responsibility for planning, directing and controlling the activities of the entity. The Board of Trustees and senior management team are considered as key management personnel of the Group.

2.18 New standards and on interpretations not yet adopted

At the date of authorisation of these financial statements, the following FRS that is relevant to the Group and the University Company was issued but not effective:

FRS 116 Leases (Applies to annual periods beginning on or after 1 January 2019)

FRS 116 Leases

The Standard provides a comprehensive model for the identification of lease arrangements and their treatment in the financial statements of both lessees and lessors. The identification of leases, distinguishing between leases and service contracts, are determined on the basis of whether there is an identified asset controlled by the customer.

Significant changes to lessee accounting are introduced, with the distinction between operating and finance leases removed and assets and liabilities are recognised in respect of all leases (subject to limited exemptions for short-term leases and leases of low value assets). The Standard maintains substantially the lessor accounting approach under the existing framework.

As at 31 March 2019, the Group's commitments are disclosed in Note 28. FRS 17 does not require the recognition of any right-of-use asset or liability for future payments for these leases. Management anticipates that the initial application of the new FRS 116 may result in operating leases to be recognised as right-of-use assets with corresponding lease liabilities, unless they qualify for low value or short-term leases. The new requirement to recognise a right-of-use asset and a related lease liability is expected to have an impact to the amounts recognised in the Group's financial statements and management is currently assessing its potential impact including the transition options and practical expedients. Management does not plan to early adopt FRS 116.

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

3 PROPERTY, PLANT AND EQUIPMENT

	Freehold land \$'000	Buildings and infrastructure \$'000	Buildings under construction \$'000	Improvement works \$'000	Machinery, laboratory and workshop equipment \$'000	Furniture and office equipment \$'000	Transportation equipment \$'000	Others \$'000	Total \$'000
Group									
Cost or valuation									
At 1 April 2017	200,858	2,446,893	217,627	238,815	1,278,820	268,045	8,756	8,061	4,667,875
Additions	-	34,103	163,451	7,176	72,555	25,098	296	1,083	303,762
Disposals	-	(21,196)	-	(2,871)	(29,759)	(13,680)	(856)	(170)	(68,532)
Reclassifications	-	167,988	(298,885)	20,319	88,470	21,475	415	218	-
At 31 March 2018	200,858	2,627,788	82,193	263,439	1,410,086	300,938	8,611	9,192	4,903,105
Additions	-	1,229	95,591	6,863	60,750	12,485	1,633	347	178,898
Disposals	-	(17,262)	-	(2,191)	(34,527)	(13,970)	(260)	(101)	(68,311)
Reclassifications	-	14,443	(106,797)	24,793	57,100	8,235	2,245	(19)	-
At 31 March 2019	200,858	2,626,198	70,987	292,904	1,493,409	307,688	12,229	9,419	5,013,692
Comprising									
31 March 2018									
At cost	-	2,627,788	82,193	263,439	1,410,086	300,938	8,611	9,192	4,702,247
At valuation	200,858	-	-	-	-	-	-	-	200,858
	200,858	2,627,788	82,193	263,439	1,410,086	300,938	8,611	9,192	4,903,105
31 March 2019									
At cost	-	2,626,198	70,987	292,904	1,493,409	307,688	12,229	9,419	4,812,834
At valuation	200,858	-	-	-	-	-	-	-	200,858
	200,858	2,626,198	70,987	292,904	1,493,409	307,688	12,229	9,419	5,013,692
Accumulated depreciation									
At 1 April 2017	-	1,421,887	-	169,951	810,846	207,537	6,035	3,370	2,619,626
Depreciation for the year	-	54,274	-	27,779	130,999	24,992	474	436	238,954
Disposals	-	(19,955)	-	(2,704)	(28,706)	(13,673)	(831)	(310)	(66,179)
At 31 March 2018	-	1,456,206	-	195,026	913,139	218,856	5,678	3,496	2,792,401
Depreciation for the year	-	56,279	-	31,487	142,983	30,100	842	479	262,170
Disposals	-	(13,533)	-	(2,103)	(33,599)	(13,894)	(260)	(86)	(63,475)
At 31 March 2019	-	1,498,952	-	224,410	1,022,523	235,062	6,260	3,889	2,991,096
Carrying amount									
At 31 March 2018	200,858	1,171,582	82,193	68,413	496,947	82,082	2,933	5,696	2,110,704
At 31 March 2019	200,858	1,127,246	70,987	68,494	470,886	72,626	5,969	5,530	2,022,596

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

3 PROPERTY, PLANT AND EQUIPMENT (CONT'D)

	Freehold land \$'000	Buildings and infrastructure \$'000	Buildings under construction \$'000	Improvement works \$'000	Machinery, laboratory and workshop equipment \$'000	Furniture and office equipment \$'000	Transportation equipment \$'000	Others \$'000	Total \$'000
University Company									
Cost or valuation									
At 1 April 2017	200,858	2,446,893	217,627	237,077	1,278,381	266,576	8,756	8,061	4,664,229
Additions	-	34,103	163,451	6,938	71,126	24,795	296	1,083	301,792
Disposals	-	(21,196)	-	(2,871)	(29,759)	(13,667)	(856)	(170)	(68,519)
Reclassifications	-	167,988	(298,885)	20,355	88,470	21,439	415	218	-
At 31 March 2018	200,858	2,627,788	82,193	261,499	1,408,218	299,143	8,611	9,192	4,897,502
Additions	-	1,229	95,591	5,561	60,605	11,746	1,633	347	176,712
Disposals	-	(17,262)	-	(2,191)	(34,507)	(13,811)	(260)	(101)	(68,132)
Reclassifications	-	14,443	(106,797)	24,793	57,100	8,235	2,245	(19)	-
At 31 March 2019	200,858	2,626,198	70,987	289,662	1,491,416	305,313	12,229	9,419	5,006,082
Comprising									
31 March 2018									
At cost	-	2,627,788	82,193	261,499	1,408,218	299,143	8,611	9,192	4,696,644
At valuation	200,858	-	-	-	-	-	-	-	200,858
	200,858	2,627,788	82,193	261,499	1,408,218	299,143	8,611	9,192	4,897,502
31 March 2019									
At cost	-	2,626,198	70,987	289,662	1,491,416	305,313	12,229	9,419	4,805,224
At valuation	200,858	-	-	-	-	-	-	-	200,858
	200,858	2,626,198	70,987	289,662	1,491,416	305,313	12,229	9,419	5,006,082
Accumulated depreciation									
At 1 April 2017	-	1,421,887	-	168,499	810,576	206,279	6,035	3,370	2,616,646
Depreciation for the year	-	54,274	-	27,687	130,778	24,920	474	436	238,569
Disposals	-	(19,955)	-	(2,704)	(28,706)	(13,660)	(831)	(310)	(66,166)
At 31 March 2018	-	1,456,206	-	193,482	912,648	217,539	5,678	3,496	2,789,049
Depreciation for the year	-	56,279	-	31,209	142,650	29,869	842	479	261,328
Disposals	-	(13,533)	-	(2,103)	(33,580)	(13,762)	(260)	(86)	(63,324)
At 31 March 2019	-	1,498,952	-	222,588	1,021,718	233,646	6,260	3,889	2,987,053
Carrying amount									
At 31 March 2018	200,858	1,171,582	82,193	68,017	495,570	81,604	2,933	5,696	2,108,453
At 31 March 2019	200,858	1,127,246	70,987	67,074	469,698	71,667	5,969	5,530	2,019,029

The freehold land of the Group and the University Company were stated at valuation carried out in December 1987 based on values in a valuation report from the Commissioner of Lands. The revaluation was recorded under "Capital Account" (Note 20) on a one-off basis and accordingly, the transitional provision in FRS 16 - *Property, Plant and Equipment* was adopted to continue with its existing policy of stating the freehold land at deemed cost.

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

4 INTANGIBLE ASSETS

	Group		University Company	
	2019	2018	2019	2018
	\$'000	\$'000	\$'000	\$'000
Cost				
At 1 April	11,823	7,580	11,823	7,580
Additions	3,674	4,912	3,253	4,912
Disposals	(33)	(669)	(33)	(669)
At 31 March	15,464	11,823	15,043	11,823
Accumulated amortisation				
At 1 April	2,774	1,045	2,774	1,045
Amortisation charge for the year	2,539	2,053	2,539	2,053
Disposals	(33)	(324)	(33)	(324)
At 31 March	5,280	2,774	5,280	2,774
Carrying amount				
At 31 March	10,184	9,049	9,763	9,049

5 PREPAID LEASE

	Group and University Company	
	2019	2018
	\$'000	\$'000
Cost		
At 1 April and 31 March	47,660	47,660
Accumulated amortisation		
At 1 April	8,900	7,217
Amortisation charge for the year	1,683	1,683
At 31 March	10,583	8,900
Carrying amount		
At 31 March	37,077	38,760

The prepaid lease relates to the lease of land from JTC and Singapore Land Authority at One-North and at Mandalay Road (for Novena Campus) respectively. The prepaid lease is capitalised and amortised over the tenure period of the land lease of 30 years.

NOTES TO FINANCIAL STATEMENTS

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6 SUBSIDIARIES

	University Company	
	2019	2018
	\$'000	\$'000
Equity investments at cost	1,912	1,912
Loans to subsidiaries	-	291
	1,912	2,203

The loans to subsidiaries were unsecured and interest-free. The settlements of the amounts were neither planned nor likely to occur in the foreseeable future. As the amounts were, in substance, a part of the University Company's net investment in the subsidiaries, they were stated at cost less impairment losses.

Details of subsidiaries are as follows:

Name of subsidiary	Country of incorporation	Ownership interest		Principal activities
		2019	2018	
		%	%	
Held by the University Company				
@ Nanyang Technological University - NTUitive Pte Ltd	Singapore	100	100	Innovation and enterprise company of NTU
@ NTU Holdings Pte Ltd	Singapore	100	100	Investment holding
@ Singapore Centre for Chinese Language Limited	Singapore	100	100	Provision of training/ professional development courses for Chinese language teachers and conduct of educational research and activities
@ NIE International Private Limited	Singapore	100	100	Provision of training programs in teacher education and school leadership
@ Wealth Management Institute Pte Ltd	Singapore	100	100	Provision of education and training services for professional and management development
@ National Institute of Early Childhood Development	Singapore	100	100	Provision of pre-service and continuing education and training for professionals in early childhood development

NOTES TO FINANCIAL STATEMENTS

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6 SUBSIDIARIES (CONT'D)

Details of subsidiaries are as follows:

Name of subsidiary	Country of incorporation	Ownership interest		Principal activities
		2019 %	2018 %	
Held by Nanyang Technological University - NTUitive Pte Ltd				
@ Code Farm Pte Ltd	Singapore	100	100	Research and development of other software and programming activities
@ TechXcel Pte Ltd ⁽ⁱ⁾	Singapore	-	100	Research and experimental development on natural sciences
@ Systemed Pte Ltd	Singapore	100	100	Development and commercialisation in medical technology
@ Techbridge Ventures Pte Ltd	Singapore	100	100	Engineering activities, research and experimental development on engineering
Held by NTU Holdings Pte Ltd				
* Nanyang Venture Consulting (Shanghai) Co., Ltd	China	100	100	Consultant for enterprise management, technology and education
@ Confucius Institute, NTU Pte Ltd	Singapore	100	100	Promotion of Chinese language, culture and support of local Chinese teaching
# NTU (London) Limited ⁽ⁱⁱ⁾	United Kingdom	100	100	Promote the advancement of NTU in United Kingdom
Held by Nanyang Venture Consulting (Shanghai) Co., Ltd				
* Nanyang Venture Consulting (Beijing) Co., Ltd	China	100	100	Consultant for enterprise management, technology and education

* Audited by overseas practices of Deloitte Touche Tohmatsu Limited.

@ Audited by Deloitte & Touche LLP, Singapore.

Not required to be audited in the country of incorporation.

(i) The subsidiary was dissolved on 7 January 2019.

(ii) The subsidiary was dissolved on 16 April 2019.

NOTES TO FINANCIAL STATEMENTS

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7 ASSOCIATE AND JOINT VENTURE

	Group		University Company	
	2019 \$'000	2018 \$'000	2019 \$'000	2018 \$'000
Cost of investment	421	350	-	-
Loan to associate	-	417	-	-
Share of post-acquisition loss	(39)	(128)	16	3
	<u>382</u>	<u>639</u>	<u>16</u>	<u>3</u>

The loan to associate bore interest at 4% per annum, unsecured and matured in 2019.

Details of the associates are as follows:

Name of associate	Country of incorporation	Group's proportion of ownership interest/ voting power held		Principal activities
		2019 %	2018 %	
Kuprion Inc ⁽ⁱ⁾	United States	-	53.7	Development and commercialisation in NanoCopper technology
InnoPartner Pte Ltd	Singapore	20	20	Engineering activities, research and experimental development on engineering
Friends of NTU	United States	40	40	Promote the advancement of NTU in United States
GenomeAsia 100k Ltd ⁽ⁱⁱ⁾	Singapore	33.3	33.3	Data Processing and related activities

Details of the joint ventures are as follows:

Name of joint venturer	Country of incorporation	Group's proportion of ownership interest/ voting power held		Principal activities
		2019 %	2018 %	
Lushang (Nanyang) Pte Ltd ⁽ⁱⁱⁱ⁾	Singapore	30	30	Other information technology and computer service activities
Secur3DP+ Pte Ltd ^(iv)	Singapore	47.5	-	To develop and monetise certain IP assets relating to 3D printing in Singapore

(i) Restructuring exercises resulted in changes in the Group's proportion of ownership interest/voting power held in Kuprion Inc.

(ii) Upon dissolution of the associate and settlement of all debts and liabilities, the remaining residual investment will be transferred to NTU as the preferred charitable organisation.

(iii) The Group has joint control over Lushang (Nanyang) Pte Ltd by virtue that all significant matters requiring unanimous approval by all the directors and shareholders.

(iv) The Group determined that it has joint control over Secur3DP+ Pte Ltd based on the joint venture agreement.

NOTES TO FINANCIAL STATEMENTS

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8 AVAILABLE-FOR-SALE FINANCIAL ASSETS

	Group	
	2019	2018
	\$'000	\$'000
Quoted equity investments, at fair value	-	900
Unquoted equity investments, at fair value	-	2,798
	-	3,698

The equity investments were classified as available-for-sale investments in accordance with FRS 39 as at 31 March 2018. Upon the application of FRS 109 on 1 April 2018, the Group has classified the equity investments as financial assets at fair value through profit or loss accordingly.

9 STUDENT LOANS

	Group and University Company	
	2019	2018
	\$'000	\$'000
Student loans	4,333	4,186
Represented by:		
Amount repayable within 12 months	1,406	1,465
Amount repayable after 12 months	2,927	2,721
	4,333	4,186

The student loans are unsecured, interest-free and repayable over a period of 2 to 5 years.

10 DERIVATIVE FINANCIAL INSTRUMENTS

The table below sets out the notional principal amounts and the positive and negative fair values of the Group's and University Company's outstanding derivative financial instruments at the end of the reporting period (comprising foreign currency forwards denominated in United States dollar). Positive and negative fair values represent the mark-to-market values of the derivative contracts and are termed as derivative assets and derivative liabilities respectively. Notional principal amounts are the amount of principal underlying the contract at the end of reporting date.

	Contractual maturity		Fair value	
	Within 1 year	Total	Derivative assets	Derivative liabilities
	\$'000	\$'000	\$'000	\$'000
Group and University Company				
2019				
Foreign currency forwards	856,243	856,243	847	1,783
2018				
Foreign currency forwards	696,432	696,432	5,213	6

Changes in the fair value of the foreign currency forwards are included as part of the fair value (loss)/gain on derivative financial instruments in Note 24.

NOTES TO FINANCIAL STATEMENTS

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11 TRADE AND OTHER RECEIVABLES

	Note	Group		University Company	
		2019	2018	2019	2018
		\$'000	\$'000	\$'000	\$'000
Trade receivables		53,193	37,083	50,366	31,761
Interest receivables		2,323	1,701	2,287	1,689
Operating grant receivables		4,066	11,383	3,122	11,034
Research grant receivables		173,555	121,444	173,555	121,444
Grants receivables	15	1,353	11,055	1,353	11,055
Other receivables		71,448	85,071	66,600	79,407
Loss allowance for doubtful receivables		(3,347)	(3,357)	(3,251)	(3,357)
		68,101	81,714	63,349	76,050
Amounts due from subsidiaries (trade)		-	-	366	690
Loss allowance for doubtful receivables		-	-	(168)	(168)
		-	-	198	522
Amounts due from subsidiaries (non-trade)		-	-	1,183	1,570
Loss allowance for doubtful receivables		-	-	(1,015)	(1,015)
		-	-	168	555
Amounts due from joint venture		26	-	26	-
Financial assets at amortised cost		302,617	264,380	294,424	254,110
Prepayments		23,616	25,341	23,153	24,805
		326,233	289,721	317,577	278,915

The amounts due from subsidiaries are unsecured, interest-free and repayable on demand.

Credit risk relating to trade receivables is minimal as these receivables are from statutory boards, ministries and companies who provided funding for research activities. The Group's historical experience in the collection of accounts receivables falls within the recorded allowances.

Credit risk for other grant receivables is limited as these relate mainly to receivables from the Government Ministry.

Loss allowance for trade and other receivables has been measured at an amount equal to lifetime expected credit losses ("ECL"). The ECL on trade 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.

NOTES TO FINANCIAL STATEMENTS

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14 DEFERRED CAPITAL GRANTS (CONT'D)

	Government ministries		Statutory boards		Others		Total	
	2019	2018	2019	2018	2019	2018	2019	2018
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
University Company								
At 1 April	1,317,277	1,215,836	78,549	81,111	37,963	30,242	1,433,789	1,327,189
Add:								
Grants received for capital expenditure and development project transferred from								
- Operating grants	3,869	17,821	-	-	-	-	3,869	17,821
- Research grants (Note 19)	24,589	28,411	19,723	10,966	2,830	2,155	47,142	41,532
- Development grants (Note 15)	36,651	230,752	-	-	-	-	36,651	230,752
- Other grants	1,827	2,174	5,546	9,531	3,447	13,046	10,820	24,751
Assets donated by various organisations	-	-	-	33	218	309	218	342
	66,936	279,158	25,269	20,530	6,495	15,510	98,700	315,198
Less:								
Grants taken to profit or loss								
Amortisation charge for the year	187,805	176,002	23,125	22,205	11,438	7,781	222,368	205,988
On disposal of fixed assets	608	1,715	477	887	81	8	1,166	2,610
	188,413	177,717	23,602	23,092	11,519	7,789	223,534	208,598
At 31 March	1,195,800	1,317,277	80,216	78,549	32,939	37,963	1,308,955	1,433,789

15 GRANTS RECEIVABLE/IT AND F&E GRANTS/SINKING FUND RECEIVED IN ADVANCE

	Note	Group		University Company	
		2019	2018	2019	2018
		\$'000	\$'000	\$'000	\$'000
Grants receivable within 12 months					
- Development grant		1,353	2,109	1,353	2,109
- Sinking fund		-	8,946	-	8,946
Subtotal	11	1,353	11,055	1,353	11,055
Grants received in advance					
- IT and F&E	(a)	(45,841)	(40,937)	(44,238)	(40,937)
- Sinking fund	(b)	(307,259)	(299,379)	(307,259)	(299,379)
Subtotal		(353,100)	(340,316)	(351,497)	(340,316)
Total		(351,747)	(329,261)	(350,144)	(329,261)
Grants received in advance represented as:					
Current portion					
- IT and F&E		(45,841)	(40,937)	(44,238)	(40,937)
- Sinking fund		(37,428)	(48,304)	(37,428)	(48,304)
		(83,269)	(89,241)	(81,666)	(89,241)
Non-current portion					
- Sinking fund		(269,831)	(251,075)	(269,831)	(251,075)
		(353,100)	(340,316)	(351,497)	(340,316)

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

15 GRANTS RECEIVABLE/IT AND F&E GRANTS/SINKING FUND RECEIVED IN ADVANCE (CONT'D)

Movements in grants (received in advance)/receivable:

	Note	Group		University Company	
		2019	2018	2019	2018
		\$'000	\$'000	\$'000	\$'000
At 1 April		(329,261)	(324,143)	(329,261)	(324,143)
Grants received during the year		(168,624)	(258,728)	(165,418)	(258,728)
		(497,885)	(582,871)	(494,679)	(582,871)
Less:					
Amounts transferred to deferred capital grants	14	38,254	230,752	36,651	230,752
Amount refunded to the Government Ministry		88,802	-	88,802	-
Amounts taken to profit or loss		19,082	22,858	19,082	22,858
At 31 March		(351,747)	(329,261)	(350,144)	(329,261)

These are grants from the Government Ministry and statutory boards for financing development projects.

- (a) This amount relates to grants received in advance for the purchase of IT and F&E items to support teaching and administrative functions.
- (b) This amount relates to sinking fund received in advance from the Government Ministry for the purpose of maintenance and replacement of property, plant and equipment.

16 PROVISIONS

	Note	Group		University Company	
		2019	2018	2019	2018
		\$'000	\$'000	\$'000	\$'000
Provision for unutilised compensated leave	(a)	61,792	59,470	60,747	59,030
Provision for undergraduate funding	(b)	-	-	-	-
Provision for MOE budget adjustment	(c)	-	8,000	-	8,000
		61,792	67,470	60,747	67,030

NOTES TO FINANCIAL STATEMENTS

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16 PROVISIONS (CONT'D)

(a) The movement in the provision for unutilised compensated leave is as follows:

	Group		University Company	
	2019	2018	2019	2018
	\$'000	\$'000	\$'000	\$'000
At 1 April	59,470	57,549	59,030	57,231
Provision made during the year	2,322	1,921	1,717	1,799
At 31 March	61,792	59,470	60,747	59,030

(b) The movement in the provision for undergraduate funding is as follows:

	Group		University Company	
	2019	2018	2019	2018
	\$'000	\$'000	\$'000	\$'000
At 1 April	-	27,252	-	27,252
Provision reversed during the year	-	(18,412)	-	(18,412)
Amount paid	-	(8,840)	-	(8,840)
At 31 March	-	-	-	-

Provision for undergraduate funding relates to the adjustment to the undergraduate output funding from MOE in the event the University Company achieves fewer undergraduates than MOE's output target. The provision is based on the University Company's actual and projected number of undergraduates. Due to a change in MOE's undergraduate funding model from output-based to enrolment-based with effect from 2019 for both new and existing cohorts, the provision previously set aside was no longer required and had been written back.

(c) The movement in the provision for MOE budget adjustment is as follows:

	Group		University Company	
	2019	2018	2019	2018
	\$'000	\$'000	\$'000	\$'000
At 1 April	8,000	23,100	8,000	23,100
Provision reversed during the year	-	(15,100)	-	(15,100)
Amount paid	(8,000)	-	(8,000)	-
At 31 March	-	8,000	-	8,000

Provision for MOE budget adjustment relates to the utilisation of budget allocation from MOE. The University Company, as an MOE-funded institution, is subject to the budget utilisation framework. Under this framework, on a yearly basis, NTU is required to submit its projections for grants from MOE for the operations of the University. MOE will allocate the required grants to NTU based on the projections submitted and should the projections fall below the 95% rate of the original and/or revised grant allocation, NTU is subjected to an utilisation adjustment by MOE.

NOTES TO FINANCIAL STATEMENTS

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17 GRANT RECEIVED IN ADVANCE - OPERATING GRANTS

	Group	
	2019	2018
	\$'000	\$'000
At 1 April	7,097	6,406
Grants received during the year	4,141	4,290
	11,238	10,696
Less:		
Amounts taken to profit or loss	4,041	3,524
Amounts transferred to deferred capital grants	99	75
At 31 March	7,098	7,097

This relates to grants received from the Government Ministry to finance the subsidiary's operations. The balance in this account represents grant received but not utilised at the end of the financial year.

18 SHORT-TERM BORROWINGS

The borrowings are unsecured, bear interest at 2.23% (2018 : 1.54%) per annum and are repayable within the next twelve months from the financial year end.

19 RESEARCH GRANTS RECEIVED IN ADVANCE

	Note	Group		University Company	
		2019	2018	2019	2018
		\$'000	\$'000	\$'000	\$'000
At 1 April		97,292	98,636	92,724	91,836
Grants received during the year		357,392	386,740	354,121	384,502
		454,684	485,376	446,845	476,338
Less:					
Amounts transferred to deferred capital grants	14	(47,142)	(41,532)	(47,142)	(41,532)
Amounts taken to profit or loss		(371,993)	(383,883)	(364,695)	(379,413)
Amounts transferred to grant receivables		52,111	37,331	52,111	37,331
At 31 March		87,660	97,292	87,119	92,724

These are grants received from the Government Ministry, other ministries, statutory boards and other sources for research activities. The balance in this account represents grants received but not utilised at the end of the financial year.

Research grants awarded to the Group from the Government Ministry, other ministries, statutory boards and other sources in 2019 amounted to \$673,677,000 (2018 : \$578,004,000).

Research grants awarded to the Group from the Government Ministry, other ministries, statutory boards and other sources but not yet disbursed as at end of the financial year amounted to \$1,297,168,000 (2018 : \$1,003,285,000).

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

20 CAPITAL ACCOUNT

The capital account represents the revaluation of the freehold land alienated to Nanyang Technological University (details are set out in Note 3).

21 ENDOWMENT FUND AND OTHER RESTRICTED FUND

The Endowment Fund comprises donations, grants, gifts, testamentary disposition and proceeds from gifts of movable or immovable properties. The objectives of this fund comprise the provision of facilities for teaching, training and research, the advancement and dissemination of knowledge and the promotion of research.

Other Restricted Fund comprises the following funds that are ring-fenced to support their respective operations:

- (i) Academic Centres - These are mainly teaching centres conducting courses and dedicated teaching programmes as well as research centres.
- (ii) Non-Academic Centres - These are set-up to provide separate monitoring and management of facilities, for example halls of residence for students, housing for faculty and staff, Nanyang Executive Centre etc.
- (iii) Autonomous Institutes - These comprise National Institute of Education, Lee Kong Chian School of Medicine, Earth Observatory of Singapore, Singapore Centre on Environmental Life Sciences Engineering, S. Rajaratnam School of International Studies, Wealth Management Institute and Chinese Heritage Centre.
- (iv) Scholarship Fund - These comprise funds for the award of scholarships and bursaries.

22 FUNDS MANAGED ON BEHALF OF THE GOVERNMENT MINISTRY

Pursuant to the Tuition Fee Loan (TFL), Study Loan (SL) and Overseas Student Program Loan - 50% funded by MOE (OSP) schemes, the University Company acts as agent for these loans schemes and the Government Ministry as the financier providing the funds.

	Group and University Company	
	2019 \$'000	2018 \$'000
Cash from the Government Ministry:		
At 1 April	205,310	207,488
Cash received	56,814	56,535
Interest income received on behalf of Government Ministry	3,441	3,507
Repayments	(57,815)	(58,654)
Bad debts incurred	(87)	(59)
Interest income transferred to Government Ministry	(3,441)	(3,507)
	204,222	205,310
Represented by:		
Net assets - TFL, SL and OSP	205,851	206,570
Less: Amount receivable from Government Ministry	(1,629)	(1,260)
	204,222	205,310

Cash and bank balances of \$1,629,000 (2018 : \$1,260,000) are paid on behalf and receivable from the Government Ministry for the purpose of extending study loans to students.

Students on TFL, SL and OSP are to commence repayment upon graduation. Students are given an option to repay by monthly instalments of minimum amount of \$100 over a period of up to 20 years (for TFL and SL) and 5 years (for OSP) after the borrowers' graduation. Interest is charged at the average prime rates of three local banks prevailing on the first day of each quarter, or such other rates as may be determined from time to time. Interest charged in 2019 is 4.75% (2018 : 4.75%) per annum.

The interest on the TFL, SL and OSP is remitted in full to the Government Ministry on a monthly basis.

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23 INTEREST INCOME

	Group	
	2019 \$'000	2018 \$'000
Interest received/receivable:		
- fixed deposits (placed with financial institutions)	7,467	5,143
- bank balances	380	137
	7,847	5,280

24 PROFIT ON INVESTMENTS

	Group	
	2019 \$'000	2018 \$'000
Interest income	7,760	7,205
Dividend income	5,428	2,978
Fair value gain on financial assets at fair value through profit or loss	83,943	98,043
Fair value (loss)/gain on derivative financial instruments	(32,760)	40,726
	64,371	148,952

The fair value gains/(losses) on financial assets at fair value through profit or loss and on derivative financial instruments comprise net realised and unrealised gains/(losses).

25 DEFICIT BEFORE GRANTS FROM MINISTRIES

The following items have been included in arriving at deficit before grants from ministries:

	Group	
	2019 \$'000	2018 \$'000
(Reversal of)/Loss allowance for doubtful receivables	(10)	2,121
Exchange loss	142	132
Operating lease expense	8,903	9,586
Contribution to defined contribution plans included in expenditure on manpower	76,287	70,781
Government grants - Special Employment Credit, Wage Credit and Temporary Employment Credit offset against manpower costs	(3,199)	(5,302)

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26 OPERATING GRANTS FROM GOVERNMENT MINISTRY

	Note	Group	
		2019 \$'000	2018 \$'000
Operating grants received and receivable during the year		574,882	578,159
Payment for goods and services tax on tuition fees and tuition grants		(53,250)	(53,329)
Amounts transferred to			
- deferred capital grants	14	(3,968)	(17,896)
- grant received in advance	17	(1)	(691)
Provision reversed for undergraduate funding	16(b)	-	18,412
Provision reversed for MOE budget adjustment	16(c)	-	15,100
Operating grants taken to profit or loss		517,663	539,755

27 TAXATION

The University Company is registered as a charitable institution by virtue of Section 13 of the Income Tax Act, Chapter 134.

The subsidiaries of the Group have unabsorbed tax losses of approximately \$4,168,000 (2018 : \$2,545,000) which are available for offset against future taxable income. Deferred tax assets have not been recognised in respect of these items because it is not probable that future taxable profit will be available against which the subsidiaries can utilise the benefit.

The unabsorbed tax losses of the subsidiaries are subject to agreement by the tax authorities and compliance with the tax regulations in the respective countries in which certain subsidiaries operate. These temporary differences do not expire under current tax legislation.

	Group	
	2019 \$'000	2018 \$'000
Current tax expense		
Current year	171	259
Reconciliation of effective tax		
Surplus before income tax	30,332	120,491
Income tax using Singapore tax rates of 17%	5,156	20,483
Income not subject to tax	(4,985)	(20,224)
	171	259

NOTES TO FINANCIAL STATEMENTS

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28 COMMITMENTS

Operating lease commitments

The future lease payments contracted at the reporting date but not recognised as liabilities are analysed as follows:

	Group	
	2019 \$'000	2018 \$'000
Not later than one year	11,153	6,668
Later than one year but not later than five years	10,202	6,578

The Group and the University Company leases office properties, personal computers, printers and servers under operating leases. The leases typically run for a period of 1 to 5 years.

Capital commitments

	Group	
	2019 \$'000	2018 \$'000
Contracted but not provided for	102,649	148,777
Authorised but not contracted for	504,698	518,606

The capital commitments are mainly funded from grants from Government Ministries, subject to satisfying certain terms and conditions.

	Group	
	2019 \$'000	2018 \$'000
Uncalled capital commitments to unquoted investments		
- contracted but not provided for	406,209	280,993

Collaboration with Imperial College of Science, Technology and Medicine

On 27 August 2010, NTU and Imperial College of Science, Technology and Medicine entered into an agreement in relation to a collaboration for the establishment and operation of a medical school in Singapore. As at 31 March 2019, NTU's outstanding commitment under the collaboration is estimated at £9.4 million (\$16.7 million) (2018 : £10.7 million (\$19.9 million)) till the expiry of the agreement on 31 July 2028.

NOTES TO FINANCIAL STATEMENTS

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29 SIGNIFICANT RELATED PARTY INFORMATION

Related party transactions

The Government of Singapore has control over the Group as the operations of the University Company is substantially funded through Government grants, with MOE having the power to appoint and remove members to the Board of Trustees of the University Company. Consequently, the Group has invoked the exemption from disclosure requirements of FRS 24 in relation to related party transactions and outstanding balances (including commitments) with the Government of Singapore.

The Group has significant transactions with the Government of Singapore in the form of purchase of goods and services and rendering of services. Such purchases and sales are made to various Government agencies in Singapore and collectively approximate \$18.0 million (2018 : \$19.9 million) and \$21.9 million (2018 : \$25.6 million).

Other than disclosed elsewhere in the financial statements, the Group had the following significant transactions with related parties during the year on terms agreed between the parties as follows:

	Group	
	2019	2018
	\$'000	\$'000
(a) Key management personnel compensation		
Short-term employee benefits (includes the remuneration of an executive trustee)	5,172	4,342
(b) Services rendered		
Consultancy fees paid to Trustees	191	200

30 FINANCIAL INSTRUMENTS, FINANCIAL RISKS AND CAPITAL RISKS MANAGEMENT

Categories of financial instruments

The following table sets out the financial instruments as at the end of the reporting period:

	Group		University Company	
	2019	2018	2019	2018
	\$'000	\$'000	\$'000	\$'000
Financial Assets				
Financial assets at amortised cost	1,298,354	1,347,241	1,255,426	1,308,302
Available-for-sale financial assets	-	3,698	-	-
Financial assets at FVTPL	2,700,130	2,642,963	2,692,876	2,642,963
Derivative financial instruments	847	5,213	847	5,213
	<u>3,999,331</u>	<u>3,999,115</u>	<u>3,949,149</u>	<u>3,956,478</u>
Financial Liabilities				
Financial liabilities at amortised cost	363,561	458,402	350,906	453,056
Derivative financial instruments	1,783	6	1,783	6
	<u>365,344</u>	<u>458,408</u>	<u>352,689</u>	<u>453,062</u>

Overview

The Group has exposure to the following risks from its use of financial instruments:

- credit risk
- liquidity risk
- interest risk
- price risk
- foreign currency risk
- capital risk

This note presents information about the Group's exposure to each of the above risks, the Group's objectives, policies and processes for measuring and managing risk, and the Group's management of capital. Further quantitative disclosures are included throughout these financial statements.

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

30 FINANCIAL INSTRUMENTS, FINANCIAL RISKS AND CAPITAL RISKS MANAGEMENT (CONT'D)

Credit risk management

Cash and investments in financial assets

Cash and deposits are placed with reputable financial institutions. Investment portfolios are managed by external fund managers.

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 statements of financial position.

The credit risk is diversified over a range of institutions.

Trade and other receivables

Credit risk is the potential loss resulting from the failure of a customer or a counterparty to settle its financial and contractual obligations to the Group, as and when they fall due.

The carrying amount of financial assets, grossed up for any provision, represents the maximum credit exposure. At the end of the reporting period, the credit risk is mainly due from customers in Singapore but there is no significant concentration of credit risk arising receivables due from any individual other than grant receivables from the Government Ministry.

The Group manages its credit risk with regular monitoring and following up actions for the debts outstanding from debtors. Additional information is set out in Note 11.

The aging of loans and receivables at the reporting date is:

	2019		2018	
	Gross	Loss allowance for doubtful receivables	Gross	Loss allowance for doubtful receivables
	\$'000	\$'000	\$'000	\$'000
Group				
Not past due	274,511	-	238,051	-
Past due 1 to 30 days	12,640	-	13,810	-
Past due 31 to 150 days	6,579	2	8,554	-
More than 151 days	12,234	3,345	7,322	3,357
	<u>305,964</u>	<u>3,347</u>	<u>267,737</u>	<u>3,357</u>
University Company				
Not past due	267,484	-	231,172	-
Past due 1 to 30 days	12,315	-	13,606	-
Past due 31 to 150 days	6,435	-	5,526	-
More than 151 days	12,624	4,434	8,346	4,540
	<u>298,858</u>	<u>4,434</u>	<u>258,650</u>	<u>4,540</u>

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

30 FINANCIAL INSTRUMENTS, FINANCIAL RISKS AND CAPITAL RISKS MANAGEMENT (CONT'D)

Credit risk management (cont'd)

The movement in the loss allowance for doubtful receivables in respect of loans and receivables during the year is as follows:

	Group		University Company	
	2019 \$'000	2018 \$'000	2019 \$'000	2018 \$'000
At 1 April	3,357	1,236	4,540	2,368
Loss allowance (reversed)/charged	(10)	2,121	(106)	2,172
At 31 March	3,347	3,357	4,434	4,540

Liquidity risk management

Liquidity risk is the risk that the Group will encounter difficulty in meeting the obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The contracted undiscounted cash outflows on financial liabilities approximate their carrying amounts and are generally settled within one year. The Group's approach to managing liquidity is to ensure, as far as possible, that it will always have sufficient liquidity to meet its liabilities when due, under both normal and stressed conditions, without incurring unacceptable losses or risking damage to the Group's reputation.

The Group monitors its liquidity risk and maintains a level of cash and cash equivalents deemed adequate to finance the Group's operations and to mitigate the effects of fluctuations in cash flow. Typically the Group ensures that it has sufficient cash on demand to meet expected operational expenses including the servicing of financial obligations; this excludes the potential impact of extreme circumstances that cannot be reasonably predicted.

In addition, the Group maintains the following lines of credit:

- \$11 million bankers' guarantee facility that is unsecured.
- \$540 million that can be drawn down to meet short-term financing needs.

Interest risk management

Surplus funds from the Group's operations are invested in bank deposits and with fund managers. The Group has no material exposure to interest rate risk from fixed deposits and borrowings as the interest rates are on fixed rate basis. The Group's investments in fixed income securities that are managed by fund managers (classified as financial assets at fair value through profit or loss) are exposed to interest rate risk.

Sensitivity analysis for interest risk

If movements in interest rates result in a 3% (2018 : 3%) appreciation/depreciation in the value of the fixed income investments, all other variables being held constant, the Group's surplus would have been higher/lower by \$10,431,000 (2018 : \$13,650,000).

Market risk - Price risk management

The Group is exposed to equity securities price risk from investments classified as financial assets at fair value through profit or loss. The market values of these investments are affected by, amongst others, changes in market prices as a result of changes in the global economic conditions, macro and micro economic factors affecting the country where the investments are quoted, and factors specific to the investee corporations.

To manage the price risk arising from investment in equity securities, the Group diversifies its portfolio across different markets and industries as appropriate.

Sensitivity analysis for price risk

If movements in financial markets result in a 5% (2018 : 5%) appreciation/depreciation in the value of the quoted equity and other investments, all other variables being held constant, the Group's surplus would have been higher/lower by \$52,340,000 (2018 : \$56,473,000).

If movements in financial markets result in a 5% (2018 : 5%) appreciation/depreciation in the value of the unquoted investments, all other variables being held constant, the Group's surplus would have been higher/lower by \$64,969,000 (2018 : \$52,842,000).

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

30 FINANCIAL INSTRUMENTS, FINANCIAL RISKS AND CAPITAL RISKS MANAGEMENT (CONT'D)

Foreign currency risk management

The Group's investments which are managed by fund managers may be in instruments denominated in foreign currencies. Currency exposure arising from such investments is managed by fund managers. Additional information is set out in Note 10.

The main foreign currency exposure of investments (net of foreign currency forwards) based on information provided to management is as follows:

	US dollar	Euro	Japanese Yen	Pound Sterling	Others
	\$'000	\$'000	\$'000	\$'000	\$'000
2019	877,610	71,260	35,487	47,684	402,783
2018	833,154	68,117	37,476	45,103	380,980

Sensitivity analysis for currency risk

If the relevant foreign currency changes against the Singapore dollar by 5% (2018 : 5%), all other variables being held constant, the effects will be as follows:

	Profit or Loss	
	2019 \$'000	2018 \$'000
Increase/(Decrease)		
<i>US dollar against Singapore dollar</i>		
Strengthened	43,881	41,658
Weakened	(43,881)	(41,658)
<i>Euro against Singapore dollar</i>		
Strengthened	3,563	3,406
Weakened	(3,563)	(3,406)
<i>Japanese Yen against Singapore dollar</i>		
Strengthened	1,774	1,874
Weakened	(1,774)	(1,874)
<i>Pound Sterling against Singapore dollar</i>		
Strengthened	2,384	2,255
Weakened	(2,384)	(2,255)

Estimating the fair values

Financial assets at fair value through profit or loss

The fair values of financial assets traded in active markets are based on quoted market prices at the end of the reporting period.

The fair values of unquoted investments are based on net asset values provided by fund managers, fund administrators and external valuations.

Available-for-sale financial assets

Quoted and unquoted equity investments are stated at fair value. The fair value of quoted equity investments are determined based on market prices at the end of the reporting period. The fair value of unquoted equity investments are estimated based on recent transactions and reference to other similar investments.

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

30 FINANCIAL INSTRUMENTS, FINANCIAL RISKS AND CAPITAL RISKS MANAGEMENT (CONT'D)

Estimating the fair values (cont'd)

Non-derivative financial liabilities

Fair value, which is determined for disclosure purposes, is calculated based on the present value of future principal and interest cash flows, discounted at the market rate of interest at reporting date.

Other financial assets and liabilities

The carrying amounts of financial assets and liabilities with a maturity of less than one year (including trade and other receivables, cash and cash equivalents, other payables and accruals, and short-term borrowings) are assumed to approximate their fair values. The fair values of other classes of financial assets and liabilities are disclosed in the respective notes to financial statements.

Fair value hierarchy

The table below analyses financial instruments carried at fair value, by valuation method. The different levels have been defined as follows:

- Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities
- Level 2: inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e., as prices) or indirectly (i.e., derived from prices)
- Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs)

	Level 1 \$'000	Level 2 \$'000	Level 3 \$'000	Total \$'000
Group				
31 March 2019				
Financial assets at fair value through profit or loss	1,396,247	792,789	511,094	2,700,130
Derivative financial assets	-	847	-	847
	1,396,247	793,636	511,094	2,700,977
Derivative financial liabilities	-	1,783	-	1,783
31 March 2018				
Available-for-sale financial assets	900	-	2,798	3,698
Financial assets at fair value through profit or loss	1,586,121	607,057	449,785	2,642,963
Derivative financial assets	-	5,213	-	5,213
	1,587,021	612,270	452,583	2,651,874
Derivative financial liabilities	-	6	-	6
University Company				
31 March 2019				
Financial assets at fair value through profit or loss	1,396,154	792,789	503,933	2,692,876
Derivative financial assets	-	847	-	847
	1,396,154	793,636	503,933	2,693,723
Derivative financial liabilities	-	1,783	-	1,783
31 March 2018				
Financial assets at fair value through profit or loss	1,586,121	607,057	449,785	2,642,963
Derivative financial assets	-	5,213	-	5,213
	1,586,121	612,270	449,785	2,648,176
Derivative financial liabilities	-	6	-	6

NOTES TO FINANCIAL STATEMENTS

31 MARCH 2019

30 FINANCIAL INSTRUMENTS, FINANCIAL RISKS AND CAPITAL RISKS MANAGEMENT (CONT'D)

Fair value hierarchy (cont'd)

There were no transfers between Level 1, 2 and 3 of the fair value hierarchy in 2018 and 2019.

Assets measured at fair value based on Level 3:

	Financial assets designated at fair value through profit or loss		Available-for-sale financial assets		Total	
	Unquoted investments	Unquoted investments	Unquoted investments	Unquoted investments	Unquoted investments	Unquoted investments
	2019 \$'000	2018 \$'000	2019 \$'000	2018 \$'000	2019 \$'000	2018 \$'000
Group						
At 1 April	449,785	440,652	2,798	448	452,583	441,100
Effects of adoption of FRS 109						
Reclassification of:						
- Available-for-sale financial assets to FVTPL	2,798	-	(2,798)	-	-	-
- Convertible note to FVTPL	3,753	-	-	-	3,753	-
Gains in profit or loss	57,455	33,263	-	1,803	57,455	35,066
Subscriptions/Contributions	130,523	68,736	-	547	130,523	69,283
Redemptions/Distributions	(133,220)	(92,866)	-	-	(133,220)	(92,866)
At 31 March	511,094	449,785	-	2,798	511,094	452,583
University Company						
					Financial assets designated at fair value through profit or loss	Unquoted investments
					2019 \$'000	2018 \$'000
At 1 April					449,785	440,652
Gains in profit or loss					57,408	33,263
Subscriptions/Contributions					129,609	68,736
Redemptions/Distributions					(132,869)	(92,866)
At 31 March					503,933	449,785

Capital risk management policies and objectives

The capital structure of the Group consists of funds and accumulated surplus. Risk management is integral to the activities of the Group. The Group has controls in place to create an acceptable balance between the cost of risks occurring and the cost of managing the risks. Management continually monitors its risk management processes to ensure that an appropriate balance between risk and control is achieved. Risk management processes are reviewed regularly to reflect changes in the Group's activities. The Group's overall strategy remains unchanged from 2018.

31 CHARITY ACT AND REGULATIONS

As required for disclosure under Section 17(1) of the Charities (Institutions of a Public Character) Regulations, the University Company has received total tax deductible donations of \$42,806,000 (2018 : \$25,864,000) in the current financial year.

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