

# Beyond 2050: Reimagining Design Education in Singapore

A report by the Design Education  
Advisory Committee (DEAC) for  
Term One (April 2020 – March 2022)





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# Foreword

In 1988, I enrolled into Singapore's first-ever product design course at the Baharuddin Vocational Institute. It was an eye-opening experience that provided a solid grounding in the profession and landed me a job at Philips, where I have subsequently developed a career. As a beneficiary of Singapore's early vision to establish a design education system, I was more than grateful to accept the invitation to chair the inaugural Design Education Advisory Committee (DEAC), set up by the DesignSingapore Council and appointed by the Singapore Ministry of Trade and Industry.

Beyond a means of paying forward, I am motivated by the massive transformation I have witnessed in the design industry in Singapore and around the world over the last three decades. When I first started out, designers were primarily confined to styling products. As Singapore evolved from a manufacturing to a service, and now, an innovation economy, the designer's role has expanded to designing user interfaces, experiences and even strategies for organisations. It dawned upon me – and my fellow committee members, many of whom are also beneficiaries of the local design education system – that what got Singapore here will not get the next generation to where they want to be next. There is an urgent need to reimagine design education so that designers, and even the general workforce, are equipped with the skills to thrive in the future economy and tackle the increasingly complex challenges of the world.

As the first-ever national platform for design education's different stakeholders – educators, industry leaders and policymakers – the DEAC has offered a remarkable opportunity for us to tackle this formidable task together. The first term of the DEAC over the past two years has been incredibly humbling and motivating as we debated ideas, developed our recommendations and even delivered prototypes of them – the pandemic notwithstanding. What also emerged was a shared desire to transform Singapore's design education for the long term. We have thus outlined a Point-of-Vision to guide this development for the next 30 years and recommended the DEAC be built up as the platform for thought and practice leadership on design education. It will require a sustained effort, and Singapore only has one shot to get it right.

It has been my honour to chair the first term of the DEAC, and I look forward to continuing the journey into the second term. I hope we have seeded some bold ideas which will inspire more to join our movement to nurture a new generation of creative thinkers and problem solvers who can continue the work of turning Singapore from a City by Design into a City of Design.

**Low Cheaw Hwei**  
DEAC Chairman  
31 August 2022

# Executive Summary

As the world transitions from an industrial economy towards an innovation economy, we have witnessed unprecedented disruptions and profound transformations. We all need new skills and capabilities to navigate and thrive in this uncertain period, particularly that of design and its ability to creatively solve our many complex challenges today. The recent pandemic, for instance, highlighted how the world lacked a playbook to tackle the multifaceted issues the virus threw at us. Designers then rapidly ideated, prototyped and developed solutions for the healthcare industry and the community. Businesses also applied human-centred design to successfully innovate and adapt to shifting market conditions. They showcased the power of design and how it offered many vital skills and capabilities required for the future.

Over the last 60 years, design education in Singapore has successfully developed a design workforce that has contributed to our nation-building. However, to prepare for the future, we need a robust workforce that is well-positioned to seize emerging opportunities. It includes designers who can collaborate across disciplines to integrate knowledge and develop holistic solutions. Non-designers also need to be equipped with design skills and capabilities to enable innovation across the economy and society.

In April 2020, the Design Education Advisory Committee (DEAC) was launched by the DesignSingapore Council

and appointed by the Ministry of Trade and Industry as the first-ever national body for design education thought and practice leadership. Comprising leaders from the Institutes of Higher Learning (IHLs), design and non-design sectors, as well as policymakers from government agencies, the committee aims to shape the quality of design education and embed design into the nation's education system. It signals the government's commitment to develop a workforce with the relevant skills needed by the design industry and the wider economy.

The inaugural DEAC was chaired by Mr Low Cheaw Hwei, the Practice Lead for Product and Spatial Design, Philips Global. He is also the Head of Philips Experience Design and Government and Public Affairs for ASEAN Pacific. During its first two-year term from 1 April 2020 to 31 March 2022, the committee focused on two critical tasks: to develop design talent with transdisciplinary skill sets and to equip non-design professionals with design sensibilities.

The DEAC envisions that by 2050, Singapore will have developed the next generation of creative thinkers, problem solvers, and a global, resilient workforce that will use design to help the nation thrive in the future economy. It has come up with three recommendations to realise this vision:

### › **1. To shape a design education system that is globally recognised and unique to Singapore**

Singapore's design education system has successfully produced a pipeline of design talents. We have gained sufficient confidence and capabilities to shape our own approach and philosophy to design education that can ensure Singapore's future designers stand out in the global design world and contribute to its growing diversity. The DEAC has outlined a Point-of-Vision comprising six pillars to guide our design education system towards realising this vision in the next 30 years.

### › **2. To amalgamate design education and the creative industry**

The rapid transformations brought about by the Fourth Industrial Revolution require IHLs to continually keep up with the industry to ensure design students graduate with the necessary skills and knowledge. IHLs must continue to equip Singapore's workforce with critical mindsets, skills and capabilities required for the future. The DEAC has identified four problem statements through a design thinking process and responded with 11 ideas on how design education and the industry can amalgamate with one another. Eight of the ideas are also being prototyped by the DEAC members as proof of concepts.

### › **3. To build the DEAC as the go-to platform for thought and practice leadership on design education**

The work to transform design education requires a sustained collaboration between the IHLs, industry and the government. The DEAC believes it should continue its work over the long term at the national level through a rotation of volunteer stakeholders to facilitate more dialogue and partnerships between the industry and education. This will ensure Singapore's design education stays up-to-date and supports the nation's growth into a global design capital.

Through the three recommendations, the DEAC hopes to lay the foundation for an industry-relevant design education by 2050 and beyond. It will build upon this momentum in its second term from April 2022 to March 2024 by reaching out to more stakeholders, both in Singapore and overseas, to augment its Point-of-Vision for the development of design education in Singapore. The DEAC will also continue advocating for design as a life skill and capability by refining its ideas and prototypes, so that design education in Singapore can benefit all levels of its workforce and society.

## DEAC 2050

By 2050, we will have developed the next generation of creative thinkers, problem solvers, and a global, resilient workforce that will use design to help Singapore thrive in the future economy.

**Figure 1:** An overview of the recommendations and ideas by the DEAC.

**3**

**To build DEAC as a go-to-platform for thought and practice leadership on design education**

**1**

**To shape a design education system that is globally recognised and unique to Singapore**

We have developed a Point-of-Vision comprising the following six pillars:

**1 Design as a Life Skill**



**2 People- and Planet-Driven Design**



**3 Design as an Ally of Technology**



**4 Research Into, Through and For Design**



**5 Experimental by Design**



**6 A Distinctive Culture and Philosophy of Design Education**



**2**

**To amalgamate design education and the creative industry**

We have identified four problem statements...

... and proposed 11 ideas to address them.

**How might we develop designers who do more than just design?**

- Encouraging Self-Discovery
- Developing More Holistic Assessments
- Learning Across Institutions
  - Cross-IHL Learning Bootcamps

**How might we demonstrate the impact of design education?**

- Taking design education outside of design school
  - National Design Project
- Sharing Design Successes

**How might designers start practising in school and keep learning at work?**

- Supporting Learning in the Real World
  - Real Challenges, Transdisciplinary Teams
- Building a Market for Learning
  - Design Piazza
- Helping Students Get to Work
  - Seamless Career Pathway
- Supporting Exchanges between Educators and Practitioners
  - IHL-Industry Staff Residency and Exchange

**How might students, educators and the industry collaborate on shaping the future of design?**

- Researching Design Together
  - Design Research Collaborations
- Empowering Students to Work
  - Student-Driven Internships

# Is Design Education in Singapore

1



# Ready for Tomorrow?

Singapore is constantly evolving, iterating and literally pushing physical boundaries to solve problems of the future.

**The world has been undergoing a reset over the last few decades. The climate crisis has spurred cities to rethink their futures and invest in the green economy to embark on a more sustainable development. The Fourth Industrial Revolution has brought about disruptive technologies such as digitalisation, automation and artificial intelligence that are rewiring economies. Our societies increasingly face interconnected and complex challenges such as an ageing population and resource scarcity. All these transformations have been accelerated by the recent pandemic too. It has disrupted international trade flows and led many in society to reassess what it means to work, play and even live today.**

**While no one can predict how these shifts will transform tomorrow, we will need new mindsets, skills and capabilities to navigate them. The World Economic Forum's Future of Jobs Report 2020<sup>1</sup> estimated that over half of all employees will need reskilling by 2025, particularly in problem-solving, self-management, working with people, technology use and development. The report also highlighted the top 10 skills required to cope with changing job scopes brought about by adopting technology and increasing automation. They include the ability to analyse, learn through experience, solve complex problems, think critically, be creative, work with technology and ideate.**

<sup>1</sup> Learn more: <https://www.weforum.org/reports/the-future-of-jobs-report-2020/>.

**What is interesting is that seven of these top 10 skills are inherent in design. Since Singapore progressed from an industrial economy towards an innovation economy, the role of design has grown in all sectors, from architecture, fashion, visual communication and products to tech, manufacturing, business, finance, healthcare and government. With their insights into the human experience, designers can drive the creation of new experiences and services as well as help organisations innovate. The recent pandemic also presented the world a complex problem and designers demonstrated how they could quickly ideate, prototype and develop solutions such as protective gear and touchless technologies. Many governments and businesses also successfully leveraged on creative problem-solving to discover new ways to deliver products and services, such as going online or introducing mobile versions. These examples showcase the power of design to tackle multifaceted challenges and navigate ambiguity. They also present a compelling case that it is not just designers, but the entire workforce that will benefit from possessing some level of design mindsets, skills and capabilities.**

Figure 2:

## Top 10 skills needed to navigate the new future, of which seven are<sup>+</sup> design-related

(World Economic Forum, 2020)



These skills identified by the World Economic Forum also correspond to the changing needs of Singapore's design industry and design education, according to two recent reports commissioned by the DesignSingapore Council (Dsg). The on-going 2021/2022 National Design Industry and Manpower Study (NDIMS)<sup>2</sup> has found that design is increasingly sought after as a powerful tool not just for businesses, but also governments and individuals seeking to spark change in the world. The Pre-Employment Training–Continuing Education

and Training Design Education Landscape Study (PET-CET Study) that was completed in 2022 also identified similar trends that the local design education system must respond to. Both reports support the views of this report produced by the Design Education Advisory Committee (DEAC), and will continue to serve as important points of departure going forward.

<sup>2</sup> Dsg launched the first edition of the NDIMS in 2017/2018 and the second edition in 2019/2020. The full 2021/2022 NDIMS report is targeted to be released by the first quarter of 2023. Learn more: <https://www.designsingapore.org/resources/ndims.html>.

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**+ Design is about solving problems and today, more than ever creative problem-solving capabilities have become needed core skills for all disciplines of work and professions, especially for an anomalous future we are stepping into.**

**Mr Low Cheaw Hwei**  
Chairman  
Design Education Advisory Committee

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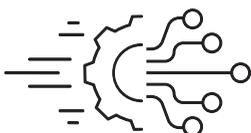
# Design is Evolving...

Although design has long been thought of as giving form to printed matter, clothing, products, buildings and services, its scope has expanded over time. As designers entered new domains, they have demonstrated how design can spur innovation, transform organisations and even speculate on new futures. The interim findings of the NDIMS 2021/2022 has identified the following areas of future growth for the profession:



## ✦ Boosting Sustainable Innovation

The growing climate crisis has kept sustainability high on the agenda for governments and businesses. A shift is underway from the current linear economy – where resources are extracted, used and discarded – towards a circular economy that seeks to reduce waste and recover or reuse resources for as long as possible. Business leaders and heads of design have picked sustainability as one of the top skills required by the design workforce in the next three years. They recognise the sweet spot that designers occupy in tackling this issue as they work with multiple stakeholders across the value chain to give material form to business concepts. To seize this opportunity, the local design workforce must boost its capabilities such as in business strategy and stakeholder management to work with corporate executives and policymakers in developing a shared language for sustainability.



## ✦ Accelerating Digital Transformation

The recent pandemic has accelerated the wave of digitalisation sweeping across all aspects of the economy and has brought about disruptions but also a sea of opportunities for design. Designers can support organisational transformation, draw up business strategies and lead the development of new experiences and services. However, industry leaders and design academics have observed that the local design workforce must be better prepared for these new roles. They note that many designers still lack a mature understanding of emerging technologies and their limitations. As a result, they

are overly optimistic that technology can resolve all problems. By becoming more knowledgeable of emerging technologies, designers can also more effectively work in multidisciplinary teams to integrate skills, knowledge and expertise from different domains to create holistic solutions.



## ✦ Enhancing Creative Calibre

Southeast Asia is forecasted to become the fourth largest economy in the world by 2030<sup>3</sup>. This has attracted many companies to set up their headquarters in Singapore to take advantage of this growth. Heads of design and business leaders, however, have found it challenging to hire local designers who can support their regional plans. Many lack the skills and knowledge to deliver work for a culturally diverse Southeast Asia, including having a global perspective and the ability to communicate well. It is also important that local designers have entrepreneurship and leadership abilities to help them pitch their value to corporate executives and command a seat at the management table. As local designers become more proficient in working within and for the region, Singapore will gain a home ground advantage and become a global design powerhouse.

<sup>3</sup> Learn more: <https://www.weforum.org/agenda/2022/01/asean-is-poised-for-post-pandemic-inclusive-growth-and-prosperity-heres-why/>.

# ... Design Education Must Change Too

As Singapore charts its post-pandemic path, it urgently needs to accelerate the transformation of its design education to drive sustainable recovery and growth. The PET-CET Study identified the following areas that Singapore's design education system could focus on to develop future-ready practitioners:

## ✦ Expanding challenges and diverse contexts

As the scope of work for designers widens, design education must equip design students with more than technical skills to help them operate effectively. For instance, it is important for design students to continue to deepen their understanding of global challenges such as climate change or an ageing population. Design students must also be equipped and encouraged to collaborate with other disciplines as many of these challenges have no fixed parameters or clearly defined clients.

### Examples of how design education is addressing the expanded role of the profession:

#### → Central Saint Martins

The learning outcomes for all programmes are based on the United Nations' Sustainable Development Goals, particularly focusing on sustainability and the climate emergency. It also has a strategic aim of connecting the design curriculum and audiences to a global purpose.

#### → Parsons School of Design

It has a Strategic Design and Management graduate programme that combines design thinking, management and applied social sciences to help businesses and organisations address complex 21st century economic, environmental and social challenges.

The expansion of design challenges requires designers to be even more sensitive to the contexts they are operating in and the many communities their work may impact. This requires design education to root design students in their local contexts while being cognizant of the international landscape. It can empower them to discover their distinctive design approaches and stand out in an increasingly globalised and crowded field.

### Examples of how design education is increasing sensitivity to diverse contexts:

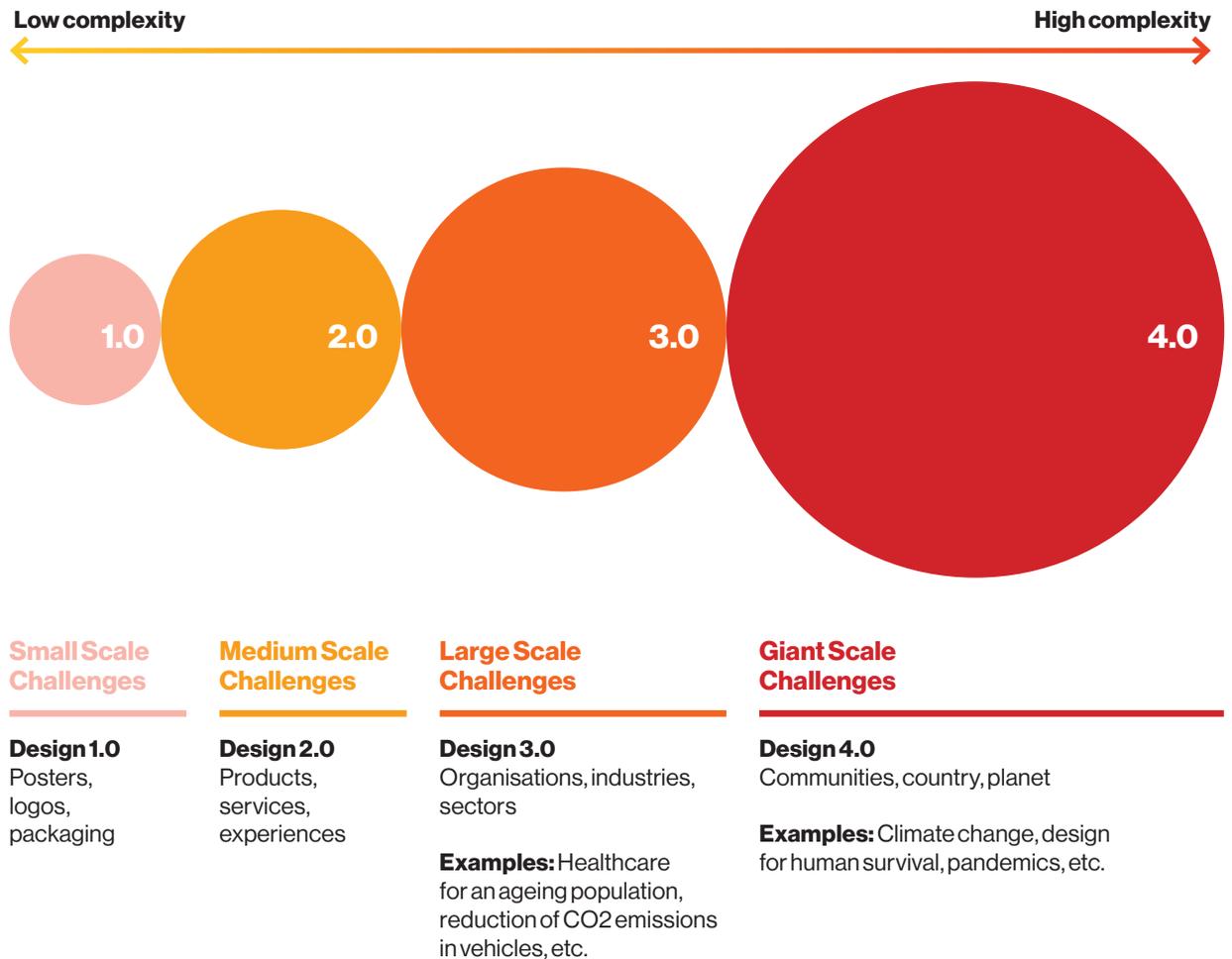
#### → Hong Kong Polytechnic University

There are electives that help students learn more about local and international cultures. These include Design and Culture, Cultural Identity and Authorship, and Future Contexts for Design Globalisation and Design.

#### → National University of Singapore

Its Master of Architectural Conservation has resources such as the Tun Tan Cheng Lock Centre for Asian Architectural and Urban Heritage in Melaka to advance the study of the region's historical architecture and urban environment using the Malaysian state as a case site.

**Figure 3:** The growing scope of design challenges.  
(PET-CET Study, 2022)



## ✦ Systems Thinking and a Transdisciplinary Approach

The increasing complexity of design challenges impacts communities, society and the world. Design education must thus help design students become familiar with how their designs operate within larger systems. One way is to teach systems thinking, so design students become more aware of the relationships between human activities, societies, businesses, governments and the environment. This will help them better identify underlying systemic problems and issues when designing solutions.

### Examples of how design education is teaching systems thinking:

#### → Deakin University

The curriculum emphasises extending the boundaries of design, science and technology. Its design projects and research push design students to understand complex systemic issues and work around them to create an environmentally sustainable, socially responsible and economically viable future.

#### → Delft Technical University

It adopts a systems thinking approach in its programme to help design students learn to look at design with a unified approach encompassing technology, people and organisation factors. It also pushes them to understand the relationships between different systems in order to affect systemic change.

In addition, design students must learn to tap into the profession's unique role in working across disciplines to catalyse change. This can be achieved by fostering collaboration across different design disciplines, and even non-design ones. As designers become more multi-, inter- and trans-disciplinary, they can better integrate knowledge across disciplines to develop innovative solutions that address challenges across a multitude of scales.

### Examples of how design education is teaching a transdisciplinary approach:

#### Design Academy Eindhoven

→ Undergraduate students are exposed to different design disciplines during their foundation year before

choosing the studios to specialise in. These studios are also not based on traditional design disciplines but on specific research projects.

#### → Singapore University of Technology and Design

Engineering, architecture, technology and design are integrated in the curriculum, and students from different majors are encouraged to collaborate in their final-year capstone projects to solve real-world challenges presented by industry partners.

**Figure 4:** How designers can transcend cross-disciplinary boundaries to take on more significant and more complex challenges. (PET-CET Study, 2022)



## 1.0 Disciplinary

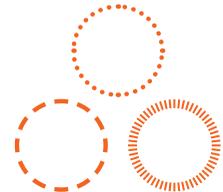
**Design 1.0**  
Small Scale Challenges



## 2.0 Multidisciplinary

Including different design disciplines

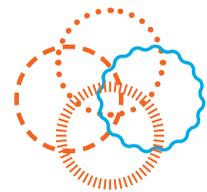
**Design 2.0**  
Medium Scale Challenges



## 3.0 Interdisciplinary

Including non-design disciplines

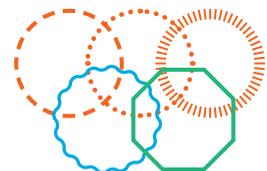
**Design 3.0**  
Large Scale Challenges



## 4.0 Transdisciplinary

Including non-academic knowledge

**Design 4.0**  
Giant Scale Challenges



**+** **My general point is: good design does not happen in a vacuum. We need to amalgamate experiences and views across many disciplines. It is not just the hardware aspects of engineering and architecture but the software as well. It goes beyond the application of technology, economics and sociology. It needs a deep understanding of human beings, their emotions and psychology – how individuals behave, how society works.**

**Mr Lee Hsien Loong**  
**Prime Minister of Singapore**  
speaking at the Singapore  
University of Technology and  
Design's Ministerial Forum 2018

## ✦ Design Ethics, Inclusivity and Accessibility

As the profession matures and awareness of design grows, designers will need to have a more comprehensive understanding of the impact of design. This will help designers improve and attract the brightest minds to a profession that can make meaningful change to the world. Thus, design education can no longer be satisfied with being an assembly line for moulding design students into workers for the industry. It must instead nurture a new generation of designers who are responsible and socially aware too.

### Examples of how design education is teaching ethics in design

#### → Royal College of Art

Several programmes looking at the intersection of ethics and design were recently launched, including one on how design can improve data protection and the experience of data use, as well as increase the use of data in the design process.

#### → Rhode Island School of Design

Undergraduates can take electives on environmental humanities and the interconnected phenomena of contemporary life. There is also an effort to encourage designers to increase awareness on the impact their work can make.

Along with increasing awareness of ethics, design education should also teach design students to work *with* communities instead of *for* them. The latter is a traditional notion of the designer as the know-it-all expert, but this has sometimes led to solutions that are not well-received by the community. Instead, designs that are co-created with its end users tend to be more inclusive and accessible and live up to design's promise as a force for good.

### Examples of how design education is advancing inclusivity and accessibility:

#### → Tongji University

It has set up a virtual high school that is connected to other schools to embed design and innovation into general education. The aim is to increase design awareness, make it more accessible and attract voices previously not heard from the profession.

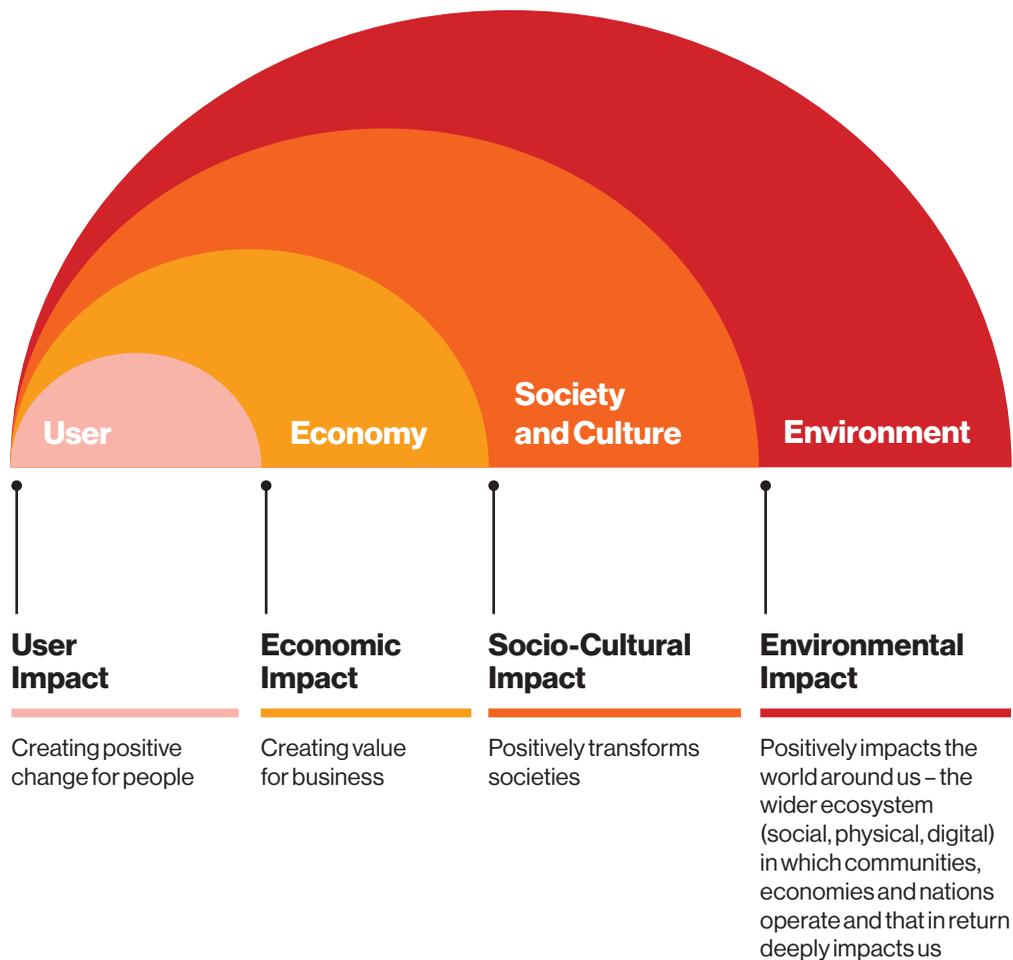
#### → Nanyang Polytechnic

It runs a Social Innovation Project where students from different disciplines come together to collaborate and apply design thinking and methods to social issues faced by different communities.

There are numerous challenges to overcome in ensuring design education is ready for tomorrow. The three growth areas – boosting sustainable innovation, accelerating digital transformation and enhancing creative calibre – are the most pressing areas that design education in Singapore needs to address today. We will need future designers who are confident and capable of tackling complex challenges and their diverse contexts to generate holistic solutions tailored to local and global needs. Their familiarity with systems thinking and a transdisciplinary approach will empower them to synthesise knowledge within multi-disciplinary teams and spur innovation on topics that defy traditional silos of knowledge. Finally, their desire to be inclusive and accessible will distinguish Singapore designers from their competition.

It can be an uphill task to redesign the design education system to achieve this – and it is a perpetual pursuit. Although there is a growing momentum among design educators worldwide and in Singapore to address these challenges, they cannot achieve the transformation alone. If design is to play an expanded role in Singapore's future, it will require the broader ecosystem, including the industry and government, to be part of the change.

**Figure 5:** The many impacts designers have to consider as the scope of their work expands. (PET-CET Study, 2022)



# A City of Design?

# 2

## It Started with Design Education.



Public housing is probably Singapore's biggest design project to address the living needs of its population. A perpetual prototype-in-progress.

**Today, Singapore has a thriving design industry, is home to some of the leading global design companies and is recognised as a UNESCO Creative City of Design<sup>4</sup>. All this would not have been possible without the government’s efforts to develop a design education system to nurture our very own designers.**

**It all started in the 1960s when Singapore embarked on an industrialisation drive and leveraged design to develop a competitive edge. Besides establishing a Product and Design Centre to promote “Made in Singapore” goods and encourage local manufacturers to take up design, the government established one of the first national design schools, the Baharuddin Vocational Institute, in 1968. The institution helped develop a pipeline of local talent in fields such as applied arts, handicrafts, fashion, printing and woodworking. These were considered as trades, which reflected the stage of Singapore’s economic development then.**

**Over the following decades, design gained an increasingly prominent role in Singapore through the efforts of the Singapore Economic Development Board and later, the Singapore Trade Development**

<sup>4</sup> In 2015, Singapore joined the UNESCO Creative Cities Network (UCCN) as a City of Design. The UCCN was created in 2004 to promote cooperation with and among cities that have identified creativity as a strategic factor for sustainable urban development. The UCCN comprises 246 member cities as of 2019, organised into seven creative fields: crafts and folk arts, design, film, gastronomy, literature, media arts and music. The 40 Cities of Design includes cities from all over the world, such as Bandung, Buenos Aires, Cape Town, Detroit, Dubai, Helsinki, Istanbul, Montreal, Seoul and Shanghai. Learn more: <https://designsingapore.org/about-us/unesco-creative-city-of-design/>.

**Board (now known as Enterprise Singapore). Design education efforts were stepped up in the 1980s as part of the efforts to help local businesses internationalise. More design schools were established within the polytechnic system. Singapore's two Arts Institutions – the Nanyang Academy of Fine Art and the LASALLE College of the Arts – also began offering diploma courses in design-related fields in 1982 and 1984 respectively. In 1989, a Design & Technology syllabus was introduced as a new O-level subject in the general education system to prepare students for living and working in an technological world too.**

**Around the 2000s, the design education system was boosted again, along with a national effort to develop a creative economy in Singapore. The country's two oldest autonomous universities, the National University of Singapore and the Nanyang Technological University began offering locally conferred degrees in design in 1999 and 2005 respectively.**

## Schooling a Nation in Design

Milestones in Singapore's design education over the last five decades:

### 1958

- Singapore Polytechnic (SP) began offering a course in architecture.

### 1965

- The Economic Development Board was established a Product and Design Centre to promote “Made in Singapore” goods and encourage local manufacturers to take up design.

### 1968

- Baharuddin Vocational Institute (BVI) was established as the first national applied arts school, offering training in advertising art, handicrafts, fashion, furniture design and printing.

### 1977

- The Industrial Training Board convened the first applied arts trade advisory committee to advise on the industrial relevance of training in BVI. The board recommended upgrading BVI's advertising art and interior design courses to diploma level.

### 1979

- Second applied arts trade advisory committee was convened to implement the first committee's recommendations.

### 1982

- Nanyang Academy of Fine Arts (NAFA) launched Singapore's first full-time diploma in applied arts.

### 1984

- St. Patrick's Arts Centre (today's LASALLE College of the Arts) launched diploma courses in graphic and interior design.

### 1985

- Design Centre Division was set up by the Trade Development Board to promote design on a national level and to expand Singapore's international trade.

### 1988

- BVI launched Singapore's first product design diploma.
- Biennial Young Designers Award was launched to raise consciousness about design among students.

### 1989

- Design & Technology was introduced as a new O-level subject to prepare students for living and working in a technological world.

<sup>5</sup> See Appendix for the complete list of IHLs and their design courses.

**1990**

- BVI was subsumed under the newly-formed Temasek Polytechnic, becoming the first school of design in a polytechnic.

**1999**

- National University of Singapore established the Division of Industrial Design to offer Singapore's first product design degree.

**2000**

- Nanyang Polytechnic was established its School of Design.

**2001**

- The 4As (now known as Association of Advertising and Marketing Singapore) launched the Crowbar Awards to spotlight young creatives in advertising.

**2003**

- DesignSingapore Council (Dsg) was established as the national agency to promote design.

**2004**

- Nanyang Technological University established the School of Art, Design and Media.
- Singapore Institute of Management launched design courses for working adults through its new School of Science & Technology.

**2005**

- Dsg launched the DesignSingapore Scholarship for Singaporeans to study design at top design institutions around the world.
- Republic Polytechnic established a new School of Technology for the Arts to offer courses related to design.

**2007**

- SP established SP Design School.

**2009**

- Singapore Institute of Technology launched communication and interior design degrees in partnership with The Glasgow School of Art.

**2010**

- Institute of Technical Education established the School of Design and Media.

**2012**

- Singapore University of Technology and Design was established in partnership with the Massachusetts Institute of Technology and Zhejiang University.
- Ngee Ann Polytechnic established the School of Design & Environment.

**2017**

- Design Education Review Committee (DERC) was established to strengthen Singapore's design education.

**2019**

- DERC released its report with five key recommendations, one of which was to strengthen industry links through a Design Education Advisory Committee.

**2020**

- Design Education Advisory Committee (DEAC) was established.

**2021**

- Government announces Singapore's first arts university to be established in an alliance between NAFA and LASALLE to nurture more talents in the arts, design and media.

To date, Singapore's design education system offers more than 100 courses that cover the entire spectrum of learning from Pre-Employment Training to Continuing Education and Training. They are offered by 14 Institutes of Higher Learning (IHLs)<sup>5</sup>, including:

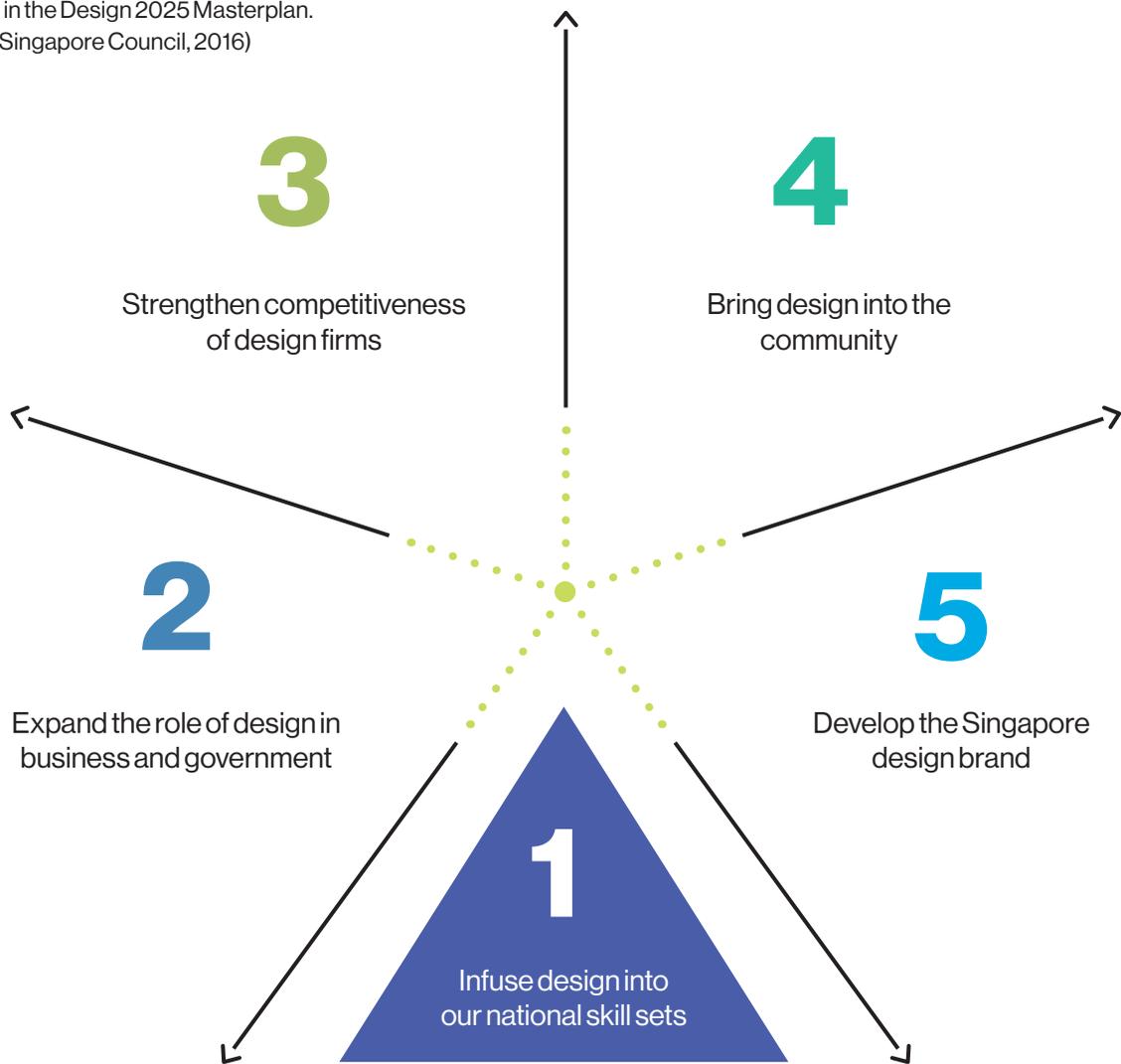
- + **Six Autonomous Universities**
- + **Five Polytechnics**
- + **Two Arts Institutions**
- + **Institute of Technical Education**

While Singapore's design education system has been successfully developing a design workforce with core design practice and technical skills, it is time to step things up. As the economy matures, the need for design to drive innovation has become more significant than ever. The climate crisis, the disruptions brought about by the Fourth Industrial Revolution and transformations in society also present new and complex challenges that require fresh approaches and solutions.

## Charting a New Future for Design Education

The Design 2025 Masterplan was released in 2016 to grow the design sector and expand the role of design in Singapore. The Masterplan Steering Committee, comprising leaders from the design industry, businesses and academia, envisioned the nation becoming a thriving innovation-driven economy and a loveable city by design.<sup>13</sup> It outlined five strategic thrusts to achieve this vision, one of which was the need to infuse design into Singapore's national skill sets.

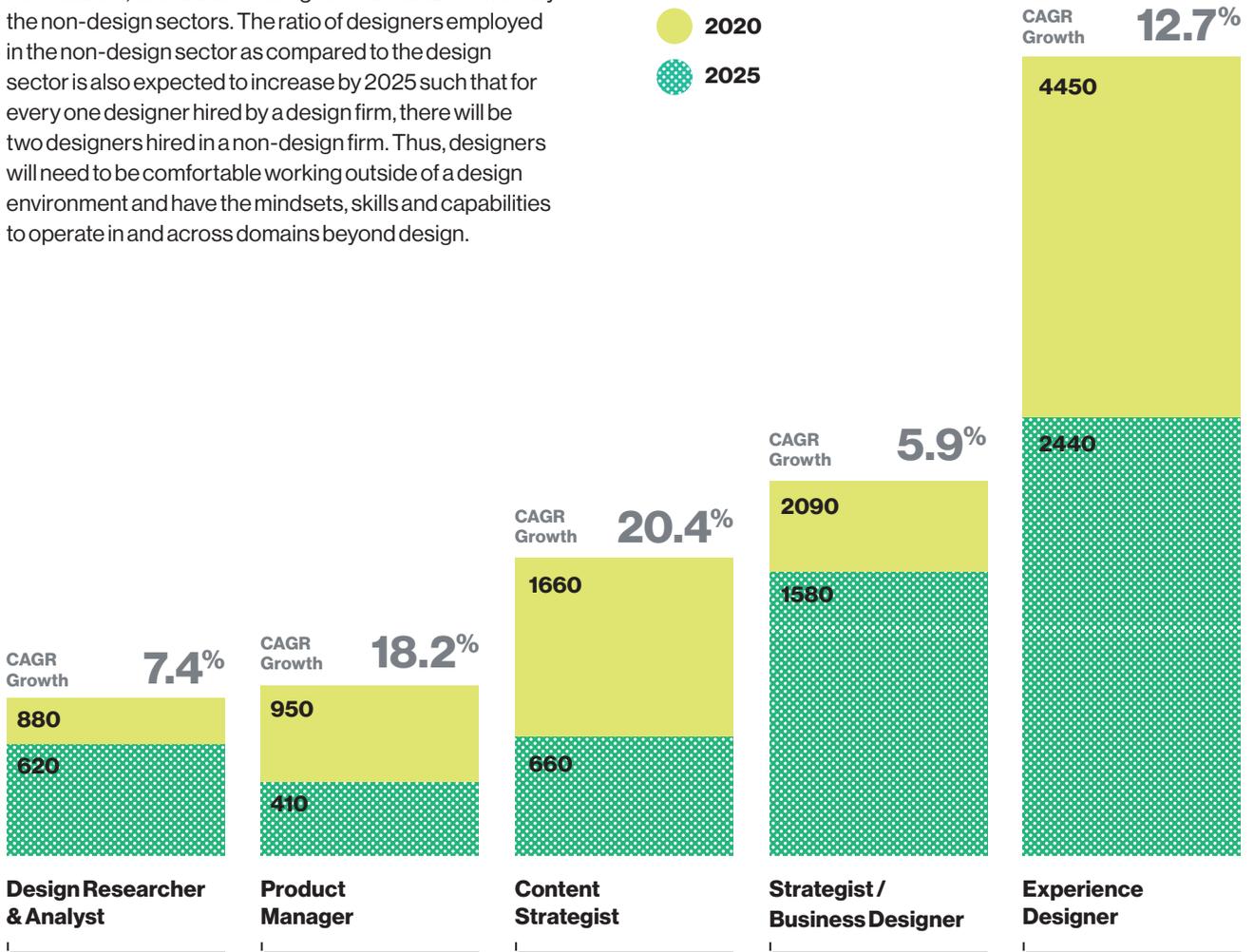
**Figure 6:** The five strategic thrusts outlined in the Design 2025 Masterplan. (DesignSingapore Council, 2016)



<sup>6</sup> Learn more: <https://www.designsingapore.org/resources/design-2025.html>.

According to the 2019/2020 National Design Industry and Manpower Study (NDIMS), Singapore's future economy is estimated to generate 85,000 new design roles by 2025. Many of these will be outside the traditional confines of a design studio or creative consultancy, in non-design businesses and organisations seeking to fuel innovation. For instance, two-thirds of designers hired in 2019 were by the non-design sectors. The ratio of designers employed in the non-design sector as compared to the design sector is also expected to increase by 2025 such that for every one designer hired by a design firm, there will be two designers hired in a non-design firm. Thus, designers will need to be comfortable working outside of a design environment and have the mindsets, skills and capabilities to operate in and across domains beyond design.

**Figure 7:** The top five job roles in design with the highest Compound Annual Growth Rate (CAGR) in manpower by 2025. (NDIMS 2019/2020)



The **Design Researcher & Analyst** studies key industry trends and competitors' user experience strategies in order to support the development of user journeys, wireframes and prototypes. They also collect meaningful metrics to assess the performance of the user interface.

The **Product Manager** is in-charge of one or more design products/features and oversees their life cycles. They champion the product development through ideation, prototyping and delivery.

The **Content Strategist** develops strategies for delivering and promoting persuasive content. They are instrumental in setting the editorial strategy to drive consistent and completing content across all delivery streams.

The **Strategist/ Business Designer** executes strategic planning activities that will enhance the organisation's brands, products and/or services. They conduct analyses for future projections based on findings from research studies to produce insights for the organisation's strategic trajectory.

The **Experience Designer** enhances user satisfaction by designing and shaping user-centric products and experiences.

In 2017, the Design Education Review Committee (DERC) was appointed by the Ministry of Communications and Information to look into strengthening the design higher education in Singapore by enhancing existing design programmes in the Institutes of Higher Learning (IHLs) and embedding design in non-design higher education programmes across different disciplines.

The DERC chaired by Mr Tan Pheng Hock, former President and Chief Executive Officer of ST Engineering, brought together representatives from the industry, IHLs and government agencies. The outcome of its two-year review was five recommendations to transform Singapore's design education.<sup>7</sup>

They included:

- 1. Strengthening industry links through a Design Education Advisory Committee**
- 2. Imparting design-led creative thinking skills to students across more disciplines**
- 3. Supporting Continuing Education and Training for design professionals and educators**
- 4. Creating real-world design learning platforms for professionals**
- 5. Empowering everyone to learn about design through modular courses and learning communities**

All five recommendations were accepted by the Ministry of Trade and Industry in a report released by the DERC in 2019.

<sup>7</sup> Learn more: <https://www.designsingapore.org/resources/design-education-review-committee-report.html>.

**+ As the first of its kind design industry and education collaboration, the DEAC will play a vital role in ensuring an agile workforce equipped with the ability to understand changing user behaviour, and capable of innovating and solving complex problems.**

**Ms Low Yen Ling**  
Minister of State  
Ministry of Trade and Industry  
Ministry of Culture, Community and Youth

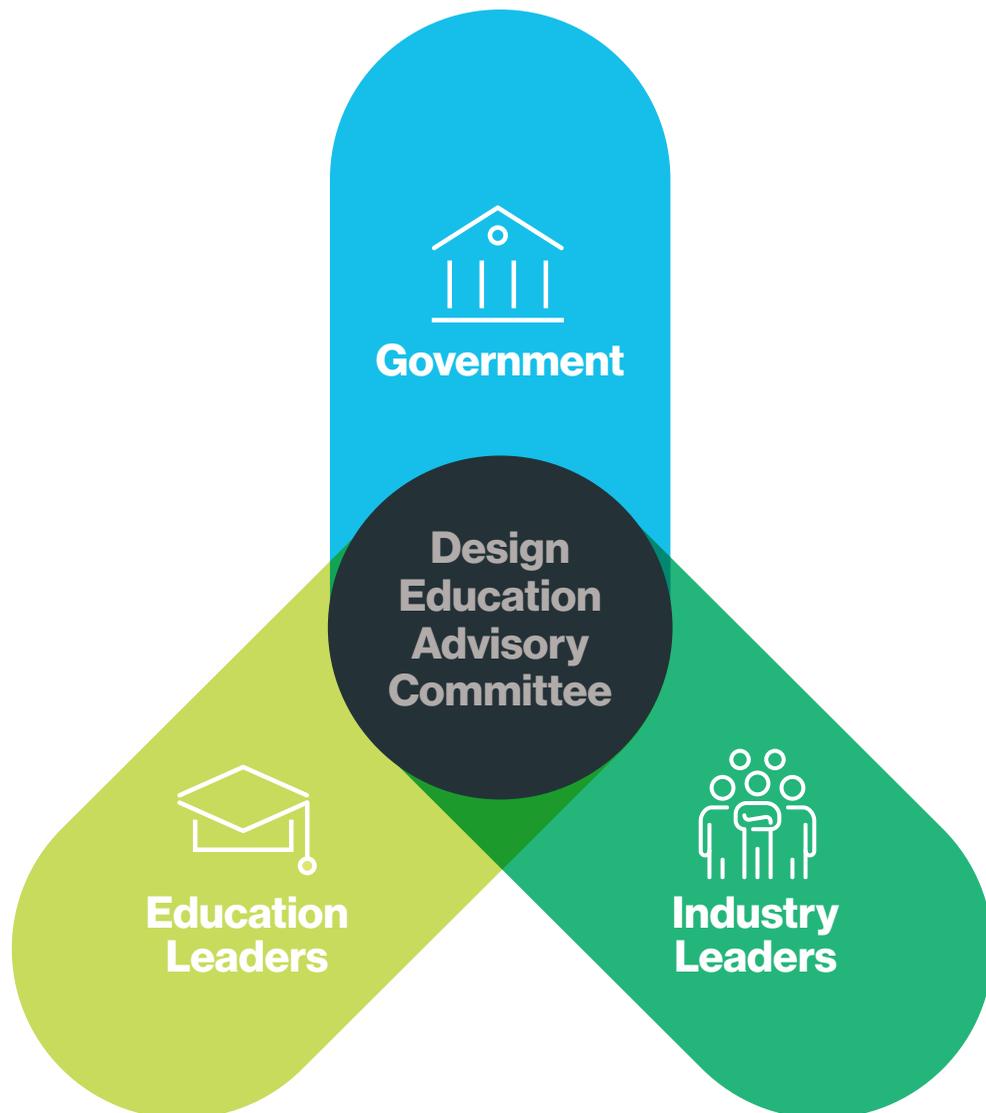
## **Bringing Education, Industry and Government Closer Together**

On 1 April 2020, the Design Education Advisory Committee (DEAC) was launched by DesignSingapore Council and appointed by Ministry of Trade and Industry as the first-ever national platform for Singapore's design educators, industry leaders, as well as the government. It aims to shape the quality of design education and embed design into design higher education to develop a global, resilient workforce that can help businesses become competitive through human-centred innovation in the face of global disruption and economic uncertainty.

The DEAC is envisioned to support and augment the long-established relationships between the IHLs and the design industry in Singapore. For instance, IHLs regularly review their courses with input from the industry in a variety of ways. The IHLs have advisory committees comprising professionals from the design industry who provide feedback and insights. The Ministry of Education has also established Sector Coordinators for various sectors, including design, to strengthen partnerships and coordinate engagements with the industry. The Nanyang Polytechnic leads the Sector Coordinator Team for Design with representatives from the other polytechnics and Institute of Technical Education (ITE).

The DEAC complements these efforts and tightens the nexus between education and practice by providing a more inclusive platform. It has representation from employers both in the design and non-design sectors, the latter of which is driving future employment in the industry. The DEAC also includes representatives from the autonomous universities, polytechnics, ITE and the arts institutions. By involving a wider group of stakeholders in a national-level committee and by fostering education-industry amalgamation and collaboration, the DEAC aims to prepare Singapore's design and non-design workforce for the new future by equipping them with critical core skills – such as creativity, critical thinking and dealing with uncertainty – that will be in demand across all industries.

**Figure 8:** The DEAC is the first-ever national platform that brings together various stakeholders in Singapore's design education.



## The DEAC: Term One (April 2020 – March 2022)

### Chairman and Committee Members



The Minister for Trade and Industry appointed as the chairman of the inaugural DEAC, Mr Low Cheaw Hwei, the Practice Lead for Product and Spatial Design, Philips Global. He is also the Head of Philips Experience Design and Government and Public Affairs for ASEAN Pacific. On the committee are also members consisting of fellow design industry professionals, key business leaders from the non-design sector, and IHL leaders. The committee was supported by a resource panel comprising representatives from the Infocomm Media Development Authority, Ministry of Manpower, Ministry of Trade and Industry, National Arts Council, SkillsFuture Singapore and Workforce Singapore. Other agencies were invited to sit in on DEAC meetings when relevant items were discussed.<sup>8</sup>

**Figure 9:** The DEAC Members and Resource Panel.



**Low Cheaw Hwei** (Chairman)  
Product and Spatial Design Practice  
Lead, Philips Global  
Head of Philips Experience Design and  
Government and Public Affairs  
Philips ASEAN Pacific



**Alan Tay**  
Co-founder and  
Principal Architect  
Formwerkz Architects



**Crystal Chu**  
Creative Director  
Kingsmen Exhibits



**Ho Semun**  
Chief Executive Officer  
Textile and Fashion  
Federation



**Hong Khai Seng**  
Founder and Director  
Studio Dojo



**Jeff Cheong**  
Chief Executive Officer  
DDB Group Singapore



**Lee Tze Ming**  
Co-founder and Director  
STUCK Design



**Pann Lim**  
Co-founder and Creative Director  
Kinetic Design and Advertising



**Seah Chee Huang**  
Chief Executive Officer  
DP Architects



**Stuart Smith**  
Regional Head of  
Engagement and Design  
UOB Digital Bank  
United Overseas Bank

<sup>8</sup> See Acknowledgements for full details of all DEAC Members and Resource Panel.



**Albert Lim**  
Director  
School of Design and Media  
Nanyang Polytechnic



**Agnes Xue**  
Head of Design Factory  
Singapore Institute  
of Technology



**Cheah Kok Ming**  
Associate Professor (Educator Track)  
Assistant Dean  
College of Design and Engineering  
National University of Singapore



**Emida Natalaray**  
Director  
School of Technology for the Arts  
Republic Polytechnic



**Georgina Phua**  
Deputy Principal  
(Development)  
Singapore Polytechnic



**Gilbert Tan**  
Associate Professor  
Strategic Management (Education)  
Singapore Management University



**Gregory Chew**  
Deputy Director  
School of Electronics and  
Info-Comm Technology  
Institute of Technical Education



**Ho Shen Yong**  
Executive Director  
Institute of Pedagogical Innovation,  
Research and Excellence  
Nanyang Technological University



**Lim Chong Jin**  
Creative Counsel  
Temasek Polytechnic



**Nur Hidayah Abu Bakar**  
Dean  
Faculty of Design  
LASALLE College of the Arts



**Pang-Eng Peck Hong**  
Director  
School of Design and Environment  
Ngee Ann Polytechnic



**Peter Chuah**  
Head, Visual Communication/Design  
Innovation Programmes  
School of Business  
Singapore University of Social  
Sciences



**Pey Kin Leong**  
Associate Provost  
Undergraduate Studies and  
SUTD Academy  
Singapore University of Technology  
and Design



**Sabrina Long**  
Dean  
School of Art and Design  
Nanyang Academy of Fine Arts



**Adrian Ong**  
Director  
Jobs and Skills Division  
Infocomm Media  
Development Authority



**Gillian Woo**  
Director  
Creative and Professional Services  
Division  
Workforce Singapore



**Li Jingheng**  
Director  
Workforce Strategy and  
Policy Department  
Ministry of Manpower



**May Tan**  
Director  
Education and Development  
National Arts Council



**Sanjay Nanwani**  
Director  
(Manufacturing, Connectivity  
and Services) Industry Division  
Ministry of Trade and Industry



**Tracy Lee**  
Director  
Industry Development Division 2  
SkillsFuture Singapore

## The Committee's Key Tasks



The committee identified two critical tasks to nurture the next generation of creative thinkers, problem solvers and a global, resilient workforce that will use design to help Singapore thrive in the future economy:

1.

### **Develop design talent with transdisciplinary skill sets**

IHLs must nurture T-shaped designers who excel in design as their core skill and have some level of experience in related domains in order to integrate their knowledge and create new products and services that meet the industry's needs.

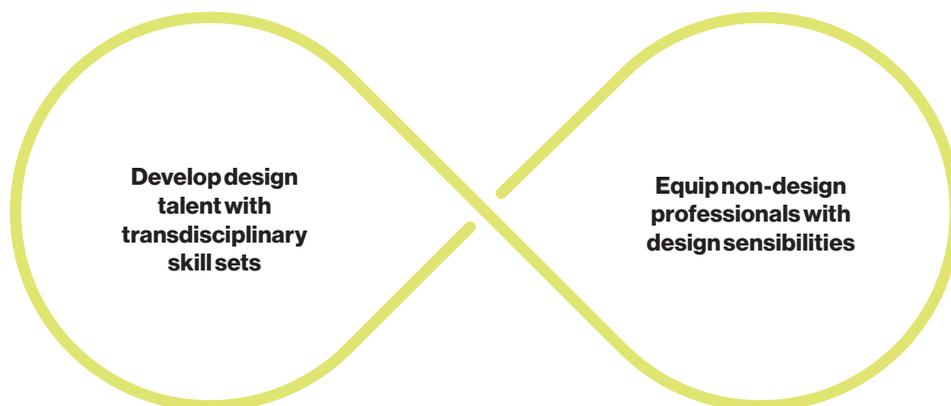
2.

### **Equip non-design professionals with design sensibilities**

While ensuring designers are future-ready, Singapore's design education system should also equip all Singaporeans with creative abilities and approaches inherent in design. This will help create a workforce and citizenry that can drive innovation in business, tackle complex societal issues and co-create a more loveable and liveable city.

#### **Figure 10:**

The two critical tasks for the DEAC.

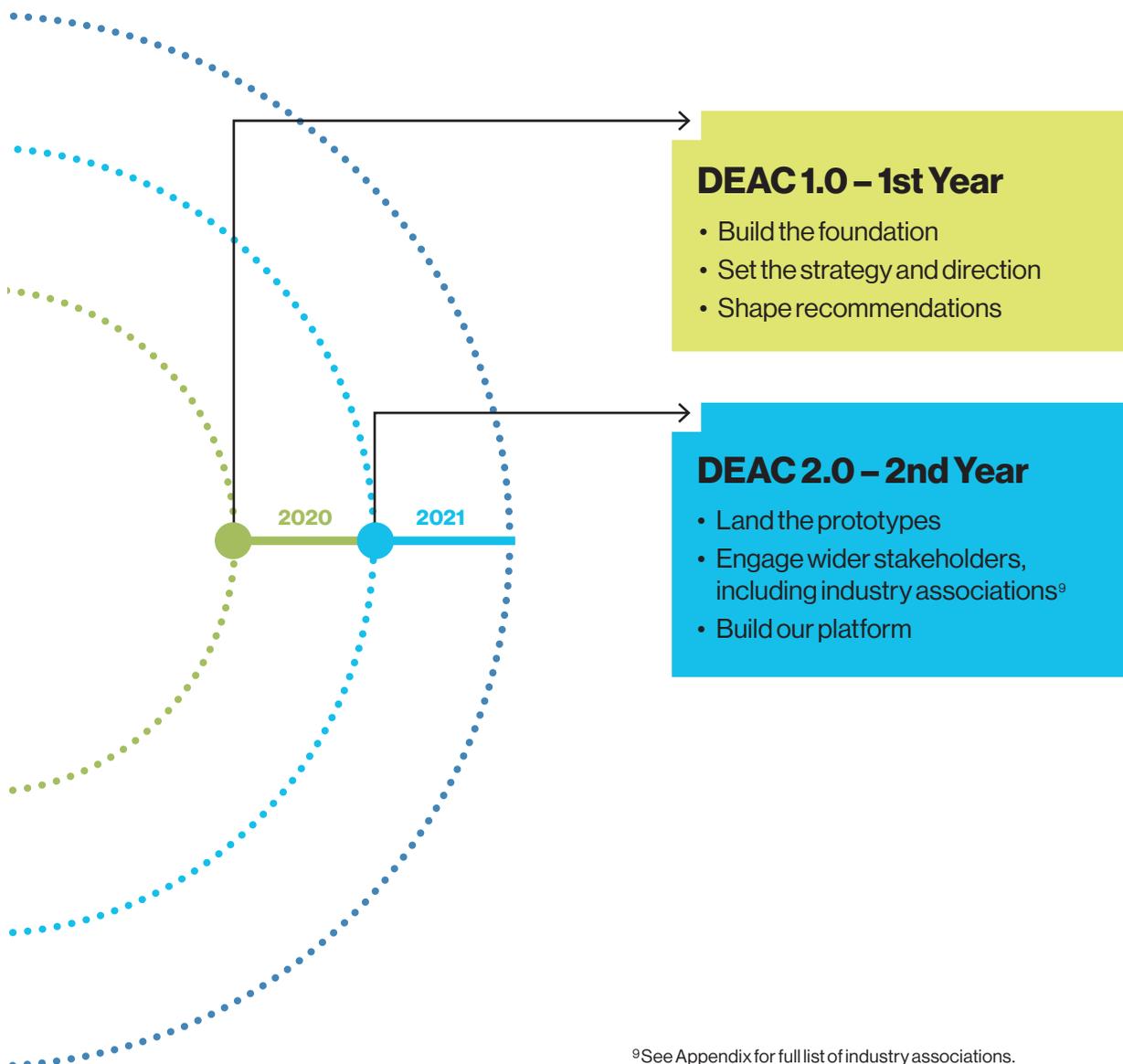


## How the Committee Worked



United in a shared belief in the transformative potential of design, the DEAC approached their two critical tasks like a design project. The committee met eight times during Term One, from 1 April 2020 to 31 March 2022, and used the design thinking framework to define, develop and deliver their recommendations to enhance design education in Singapore.

**Figure 11:**  
How the DEAC progressed during its Term One.



<sup>9</sup>See Appendix for full list of industry associations.

## The DEAC's Recommendations

To steer the long-term transformation of Singapore's design education, the DEAC has developed three recommendations that together serve as a North Star to guide the different stakeholders and subsequent committees towards progress.

### 1.

#### To shape a design education system that is globally recognised and unique to Singapore

Over the last 60 years, Singapore's design education system has successfully produced a pipeline of design talents. While early design educators underwent training overseas and many local graduates furthered their studies abroad, Singapore has since developed the capabilities and confidence to shape its own approach and philosophy to design education. In the following chapter, the DEAC outlines a Point-of-Vision to help Singapore's design education realise this potential over the next 30 years.

### 2.

#### To amalgamate design education and the creative industry

The Fourth Industrial Revolution has made it increasingly challenging for design education to keep up with the accelerating speed of transformations. The desire to expand design education to the rest of the population also presents new challenges. To ensure Singapore's design education continues to meet the nation's needs and fulfil the aspirations of its students, IHLs should be supported to take risks and explore new frontiers for the profession. They should also work even closer with the industry and upgrade existing ad hoc partnerships with more formal frameworks for deeper exchanges and even collaborate with other IHLs. In this way, design education and industry can synergise and blur the line where learning ends, and practice

begins. In Chapter 5, the DEAC shares 11 ideas on how this can be achieved and has also been developing eight of them into prototypes as proof of concepts.

### 3.

#### To build the DEAC as the go-to platform for thought and practice leadership on design education

The work of keeping design education relevant with the times is never-ending. It requires regular interactions between the different stakeholders, including the IHLs, industry and government, to develop a shared vision over time. The effort must be sustained at a national level through a rotation of volunteer stakeholders. The DEAC is an important first step, but its current term-based setup is inadequate. Building the DEAC as the go-to platform to continue facilitating dialogue and co-creating partnerships between the industry and education will better support the ambition to transform Singapore's design education in the long term. It will cement design's significance for the future of this nation and support the ground-up work of all stakeholders in nurturing the people who will develop Singapore into a global design capital.

---

**When developing the recommendations, the DEAC took a collaborative and pragmatic approach. It recognises that there are many existing stakeholders and design education initiatives out there. Instead of starting from scratch, the DEAC set out to collaborate with and leverage these partners and initiatives to achieve our shared vision of advancing design education in Singapore.**

# What will Design Education in Singapore

3

be Like  
Beyond  
2050?

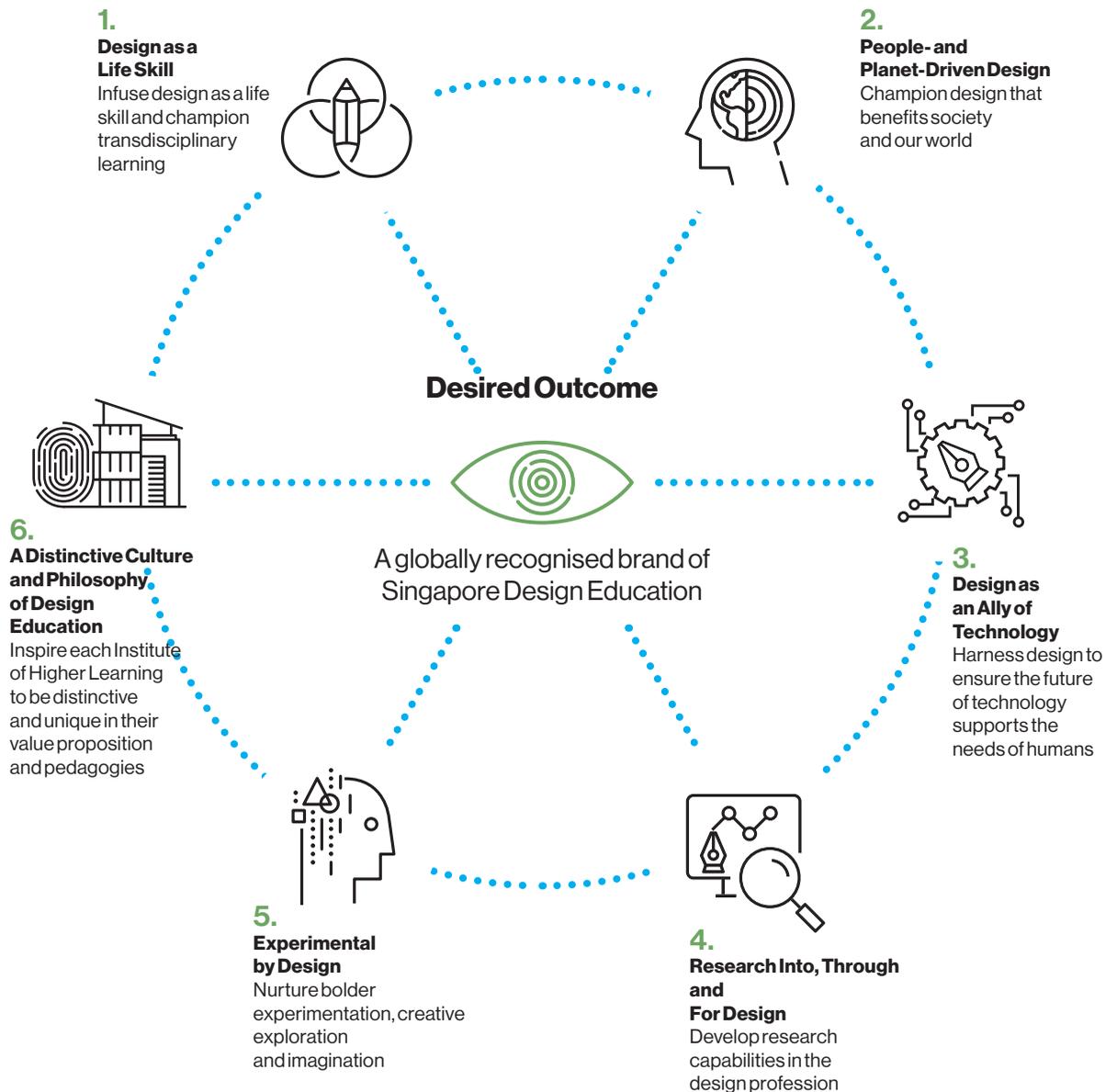


By reframing from "Garden City" to "City in a Garden", Gardens by the Bay epitomises how Singapore has continued to reimagine the city's relationship with nature.

**Singapore's design education is vital in building the talent pipeline for the design industry. As the nation transitions from an industrial economy towards an innovation economy, it must evolve to better meet the changing needs of the industry and the workforce. The transformation also presents an opportunity to develop a design education that reflects Singapore's aspirations to grow into a nation of design. The DEAC has identified six pillars that form a Point-of-Vision to shape a design education that is globally recognised and unique to Singapore by 2050 and beyond.**

**Figure 12:** The DEAC's Point-of-Vision for Singapore's design education.

# Point-of-Vision for Singapore Design Education





1

## Design as a Life Skill

Design is not simply a profession but an innate capability to creatively solve problems. It is why everyone should acquire foundations that would enable them to design, such as design thinking which is only one of the known approaches to creative problem solving. Such capabilities should also be taught in real-world settings instead of in a training room. To achieve this, design education must go beyond the boundaries of design schools and into the general education system.

Although there has been much attention in recent years on the importance of teaching Science, Technology, Engineering and Mathematics (STEM), students would also benefit from a foundation in design to navigate and thrive in our increasingly complex world. Design fosters empathy to help one understand challenges from the perspective of others and embraces uncertainty which is part of any creation process. It also encourages a transdisciplinary approach to working as it is in the nature of the profession to work with different disciplines to synthesise knowledge and make meaning. This design foundation can be built readily through the continued emphasis on the development of students' 21<sup>st</sup> Century Competencies (21CC)<sup>10</sup> in general education and LifeSkills in higher education – spearheaded by the Singapore Ministry of Education. Imagine every student in Singapore is equipped with the 21CC and LifeSkills<sup>11</sup> to leverage a design-driven approach to innovation. It will nurture a new generation of innovative and resilient individuals who can take on the complex challenges of the future.



2

## People- and Planet-Driven Design

Design is everywhere. This ubiquity presents both a responsibility and an opportunity for designers to champion the needs of people and even the planet. From the fight for social equity to the drive for sustainability, such planet-wide issues are moving higher up the agenda of governments, companies and the social sector who are seeking out creative solutions for them. Design's nature of working with different disciplines places it at a sweet spot where it can serve as an integrator and leverage its unique people-first approach.

However, designers can only effectively play this role if design education equips them with the relevant mindsets, skills and capabilities. IHLs can create platforms and programmes for design students to collaborate with other disciplines – from anthropology, engineering, finance, healthcare, sociology, psychology, healthcare and more – to tackle specific issues and contexts across various industries and organisations. Such engagements across disciplines will expose them to the breadth of work available in the profession, including beyond the traditional “creative industries”. It will also showcase to non-design students how the profession is more than just about giving form to ideas. Through developing these partnerships, IHLs can also grow into distinct research centres offering programmes that break away from traditional design specialisations.



3

## Design as an Ally of Technology

Emerging technologies such as digitalisation and artificial intelligence have brought about waves of disruption in our economy and society and become more ubiquitous in our everyday lives. They are also enabling new tools that are changing the practice of design. Many in the profession lament how the speed of technological change has resulted in designs that are created without consideration of the users. But instead of viewing technology as a threat, we could also perceive it as an opportunity. Be it artificial intelligence, virtual reality or even blockchain, all technologies need to be designed into forms and formats that are engaging and useful.

Such work still requires a good grasp of fundamentals in design, such as craft, but also an understanding of technologies to express its possibilities. While designers today are already involved in the articulation and marketing of new technologies, they can bring the profession's unique focus on users much earlier into their development and give voice to the needs of humans in a world increasingly dominated by technology. Design education must seize the opportunity to equip design students with the skills and knowledge to work alongside experts from non-design disciplines on developing new technologies and futures from the ground up.



4

## Research Into, Through and For Design

The word “research” invokes the perception of reading theories and writing academic papers. But there is so much more. Research is a systematic investigation and study of materials and sources to develop new knowledge and is not just a theoretical endeavour. It can be applied to generate real-world impact. Specific to design, research into design can involve looking into the discipline to develop new design methods, tools and ways of thinking. Research can also be done through design when one is studying the human dimension in the development of new technologies. Finally, research can be for design such as studying user behaviour to generate insights on trends and communities.

Design education should help design students better appreciate the value of research not just in fulfilling academic requirements but also boosting innovation. Institutes of Higher Learning (IHLs) can strive to become knowledge centres that support investigations of specialised areas of interest in collaboration with the industry. Encouraging more design students to pursue postgraduate studies and explore research into and through design will elevate the profession's status in academia as well as boost the number of thought leaders who can convincingly champion design to businesses and policymakers. As designers get more comfortable with researching into, through and for design, they will also be able to contribute more effectively to the growing number of multidisciplinary teams working to break down silos of knowledge to make discoveries and generate solutions.



5

## Experimental by Design

Since Singapore established its first national design school, our design education system has diligently trained a design workforce to meet the industry's needs. However, it is no longer enough for IHLs to simply prepare designers to secure jobs. They need to nurture practitioners who dare to experiment and explore beyond what the industry needs today and ultimately shape the future of design. After all, IHLs have the space and capacity to incubate new design expressions, ideas and experiences that the market may or may not be ready to meet.

They can facilitate this by offering more programmes that promote experimentation or encourage interdisciplinary collaboration to bring design into new fields. The measure of success for IHLs should expand beyond meeting industry standards and employability but also include others, such as creating new kinds of design jobs that meet emerging needs and even having a global presence as a thought leader. By continually questioning the status quo and exploring new intersections between design and other disciplines, design education can stay ahead of the industry and even inspire it by incubating new business models, modes of working and ideas for commercialisation. This will create a much needed balance of intellectual and practice dependency between IHLs and the industry. Such a provocative education system will also encourage faculty and students to see design as not just a job or career but a way of life.



6

## A Distinctive Culture and Philosophy of Design Education

There is currently a wide range of courses offered by IHLs that serve the different design disciplines, but some may be restricted to tried-and-true curriculum modelled after established design schools abroad. While our home-grown designers can hold their own on the world stage, there is room to further define the Singapore design education system to make it more distinctive in the context of our cosmopolitan society. IHLs in Singapore could identify areas to specialise in and become unique centres of knowledge and learning in design.

Singapore's design education system should be bold enough to develop its own pedagogy and philosophy that build upon its decades of experience. The curriculum of IHLs should infuse greater elements that link Singapore and the surrounding region of Southeast Asia, which is gaining attention globally as the second growth engine of Asia. Many companies are moving into the region and offering plenty of opportunities for designers. There is also a huge need for creative problem-solving capabilities to support economic development. A deeper engagement with local and regional societies, geographies and histories will create a more distinctive design education system and ensure it nurtures practitioners who can engage more meaningfully in the region and stand out in the increasingly globalised design world.

<sup>10</sup> Learn more: <https://www.moe.gov.sg/education-in-sg/21st-century-competencies>.

<sup>11</sup> Learn more: <https://www.moe.gov.sg/news/press-releases/20220307-expanding-pathways-and-opportunities-across-a-life-course-investing-in-our-learners-for-life>.

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**The six pillars that make up the Point-of-Vision are each distinct but also interconnected and should be developed in tandem to uplift Singapore’s design education over the next 30 years. We hope they will inspire IHLs as they continue renewing their institutions for the future, and each of them will adopt and adapt the DEAC’s Point-of-Vision to chart their strategic direction.**

**As new challenges and needs continue to arise, the vision can also be expanded with new pillars. By pursuing excellence in a diligent and sustained manner, the DEAC is confident Singapore’s design education will transform, and as a result, become recognised as a distinctive global brand.**

# How can Design Education in Singapore

4

---

be  
Redesigned  
Today?



New technologies, new behaviour, new ways of learning  
and generating knowledge will continue to reshape the  
future of Singapore and design.

**Over the last century, a distinct education system has become the de facto teaching and learning design model worldwide. It has carved out an independent space for the professional training of designers and experimentation with new ideas. However, there remain gaps between education and industries where barriers and opportunities lie in the rapidly changing world. The Design Education Advisory Committee (DEAC) believes the amalgamation of design education and the industry will help Singapore develop design talent with transdisciplinary skill sets and equip non-design professionals with design sensibilities. To better frame this challenge, the committee came up with the following four problem statements:**

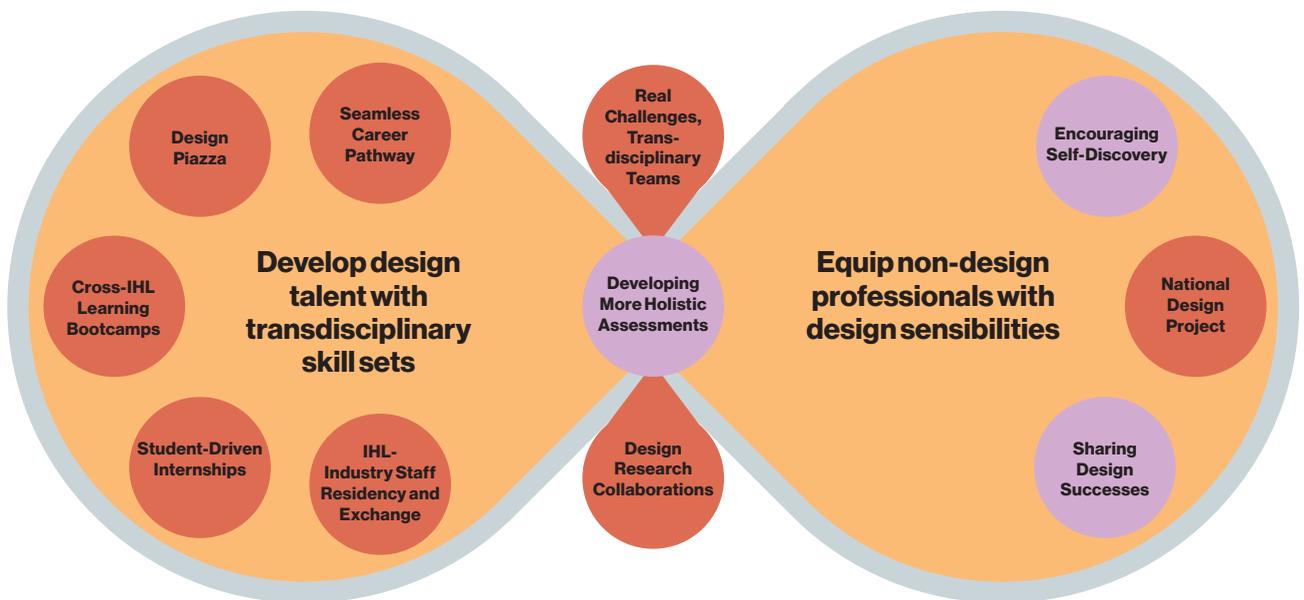
- 1. How might we develop designers who do more than just design?**
- 2. How might we demonstrate the impact of design education?**
- 3. How might designers start practising in school and keep learning at work?**
- 4. How might students, educators and the industry collaborate on shaping the future of design?**

**In response to these problem statements, the DEAC formulated 11 ideas to redesign design education in Singapore. We have also been developing eight of these ideas into prototypes as proof of concepts.<sup>12</sup>**

<sup>12</sup> See Appendix for full details on each idea and prototype.

**Figure 13:** The 11 ideas from the DEAC on how to bring education and industry closer.

- Prototype being developed
- Idea



---

## + **Problem statement**

### **How might we develop designers who do more than just design?**

Designers will need to continue to hone their skills and knowledge beyond the design space as they are increasingly expected to work across domains and disciplines. While Institutes of Higher Learning (IHLs) continue to update their curriculum to equip design students with a wider diversity of skills, there are limited resources and it is impossible to cater to every need. IHLs should then focus on nurturing design students motivated to learn and explore new things independently. This will help design students discover their interests and strengths early on, so that they can apply the skills and knowledge they learn in more meaningful ways.

## Encouraging Self-Discovery

1.

Beyond curated modules, IHLs can continue to provide more self-directed learning opportunities and support students to pursue interests beyond the formal curriculum. Today, these include service learning and community work modules as well as final-year and capstone projects where design students are encouraged to tackle subjects close to their hearts. Such flexibility within the curriculum offers a richer learning journey and encourages design students to take ownership of it. They can also supplement core modules with those from other disciplines to augment their design sensibilities with a broad range of interests that will be useful in tackling multifaceted design challenges.

## Developing More Holistic Assessments

2.

In recognition of the importance of life skills, IHLs have increasingly incorporated experiential learning and project-based assignments in their curricula to develop students holistically. It will also allow for design as a discipline and soft skills, such as critical analysis and synthesis, communication and negotiation, to be identified and developed.

## Learning Across Institutions

3.

Some IHLs have begun redesigning their design-related modules and courses to inculcate cross-disciplinary learning, while others have moved from a fixed curriculum to teaching modules offering in-demand industry skills. Several institutions are developing a common curriculum of core skills for design students and other disciplines to learn together. This desire to tear down boundaries in design education can be further supported by bringing together different IHLs to encourage a cross-pollination of ideas among students and faculty with varied approaches to the subject. In the longer run, master's and doctorate students could even enrol in selected courses across IHLs to offer a wider curriculum for learning.

### × Prototype

## Cross-IHL Learning Bootcamps: Design Leadership Challenge 2022

by Nanyang Academy of Fine Arts,  
Ngee Ann Polytechnic, Singapore Polytechnic and  
Temasek Polytechnic

Beyond existing efforts to organise events and programmes jointly, this project brought together 38 students and 15 faculty members from four IHLs to work in cross-institution teams to develop entrepreneurial ideas that address health and wellness issues for youths. The five-day camp held in June 2022 was organised in partnership with Ideactio, a strategic design consultancy, and \*SCAPE, a non-profit organisation that supports youth, talent and leadership development. During the camp, the students were mentored by youth entrepreneurs and also visited seven organisations – Ground-up Initiative, Food Citizen, The Interchange, LASALLE College of the Arts, Philips, Participate in Design and RaceHub – to learn how they address similar topics through their work. They also underwent a skills sprint conducted by marketing agency Epic Dialogue on how to pitch ideas.

The students experienced learning beyond their formal curriculum, including nurturing their entrepreneurial spirit, honing their leadership skills and growing their professional networks. They are now part of a Design Leadership Network hosted by \*SCAPE. The experience also benefited the faculty facilitators, who could interact with the industry as well as students and lecturers from the different IHLs.

---

## + **Problem statement**

### **How might we demonstrate the impact of design education?**

Design education not only equips students with the skills and knowledge to become designers but also imparts capabilities and mindsets such as problem-solving, critical thinking and a human-centred approach to issues – all of which are essential skills for the general workforce in the future. However, the public continues to perceive design education as useful only for designers and many in the industry still see design as simply a tool for shaping aesthetics. There needs to be more efforts to shift these perceptions by showcasing the wide-ranging impact of design and design education. It will encourage more to take up design education and build a community of people with design skills who can go on to apply design in all aspects of everyday living.

## Taking Design Education Outside of Design School

# 4.

Besides formal avenues such as Design and Technology programmes offered in secondary schools and design courses in IHLs and design institutions, there should be more platforms and spaces for the young and youths to learn and practice design skills through ideation, making and experimentation. The National Design Project will complement events and competitions such as the National STEM Championship, which focuses on science, technology, mathematics and engineering, and the Tan Kah Kee Young Inventors Award where students across general to higher education can submit their solutions to real world problems. Such efforts to make available design-centric events for students in the primary and secondary school levels to acquire design skills and appreciate the value of design should continue and be further expanded. As more pick up design from a younger age, it will help nurture future design leaders, stewards and patrons who can go on to strengthen Singapore's status as a city and nation of design.

## Sharing Design Successes

# 5.

Despite the growing importance of design skills for solving future challenges that are becoming more complex and transdisciplinary, public appreciation for design remains low. Design continues to be defined by its legacy as a technical skill and one focused solely on form over function. More can be done to demonstrate the impact of design in helping businesses innovate and improve the lives of communities, as well as highlight the role of design education in training design students and imparting essential skills such as critical thinking and problem-solving. These efforts can come in the form of showcasing inspiring design projects and insightful conversations with award-winning designers. Besides directing these at businesses and communities, it is also important to reach out to youths who are concerned about social issues and inspire them to take up design as a career or pick up design skills to make a meaningful impact on the world.

### × Prototype

## National Design Project

by DP Architects and  
the DesignSingapore Council

Aspiring to be the annual “go-to” design event for our youths, the National Design Project (NDP) aims to develop the mindset and skills of a designer and raise participants' appreciation of design. Students from all levels of general education will be invited to tackle a series of design challenges curated by industry leaders, such as recipients of the President\*s Design Award. Through project-based learning and tutelage by industry mentors, the students will pick up core design skills such as critical thinking, purposeful inquiry, creative problem-solving, research and collaboration. Design students from IHLs can also assist to guide the younger students and hone their leadership skills.

As a national event for youths to learn design, the project will demonstrate to the public how design is critical in solving everyday problems and even tackle challenges Singapore faces. It will also emphasise the impact of design on society and its role in the nation's continued development. As the name suggests, NDP will inculcate design learning and deeper appreciation across all ages, especially in the young, with the aspiration to elevate Singapore to become a city of design.

---

## + **Problem statement**

### **How might designers start practising in school and keep learning at work?**

Design education today is largely confined within the IHLs. Students hone their skills and knowledge in preparation for entering the workforce while being mentored by faculty who help them discover and develop their interests. Although there are internships and attachments for students to gain industry experience, they typically run independent of the curriculum. Creating more opportunities to blend education and industry work will help design students understand the relevance of what they are taught; faculty can continue developing professionally through interactions with industry practitioners, and the industry will find graduates more prepared for the working environment. The result is a more fluid exchange between the industry and IHLs, thus offering a more seamless experience for all.

## Supporting Learning in the Real World

# 6.

IHLs can provide their students more relevant learning experiences. This can come in various formats, be it working on industry-based projects or interdisciplinary projects with communities. These will expose students to the necessary skills expected of them when they start working and may excite and motivate them to learn. IHLs can also cultivate an active alumni network by supporting alumni's projects and forming strategic partnerships that will get them to volunteer their expertise and even return to teach. IHLs can also encourage the industry to take ownership of training and nurturing fellow future practitioners. This will foster more meaningful and lasting relationships between students, educators and practitioners, resulting in a stronger design community overall.

### × Prototype

## Real Challenges, Transdisciplinary Teams

by Singapore University of Technology  
and Design (SUTD) and KR&D (Creative  
Arm of Kingsmen Group)

From October 2022, a leading experience design company in Singapore, KR&D, will be offering SUTD students the opportunity to experience what it is like to work in the industry. They can choose from one of three topics – an attraction for kids, a thematic food and beverage environment or product launches – to research and develop designs for, under the guidance of SUTD faculty and mentors from KR&D. The project will last between three to six months and will also include non-design students from other IHLs to create a transdisciplinary setting.

## Building a Market for Learning

# 7.

Just as it takes a village to raise a child, it takes a design community to train a designer. Over the years, IHLs in Singapore have worked with industry partners to offer students various learning opportunities, like internships and ad hoc design projects, albeit in a limited fashion. More such collaborations can be developed, scaled up and shared across all IHLs to offer students a central marketplace of opportunities to learn.

### ✕ Prototype

## Design Piazza

by Republic Polytechnic and  
the DesignSingapore Council

This one-stop physical and digital platform will bring together stakeholders in the design industry and design education – including students, lecturers, graduates, designers and employers – to create, collaborate and connect with one another. As a talent hub, it addresses the lack of a centralised and long-term platform to showcase the work of design students and fresh graduates, and for them to widen their project and employment opportunities. The piazza will also allow the industry to post job openings, or initiate design projects and challenges for graduates and students across IHLs to collaborate on. Through these networking opportunities, the platform can spark collaboration and discussions that will mutually benefit the stakeholders.

Four students from Republic Polytechnic have researched, ideated and developed the prototype they have named as “hyco” – an amalgamation of “hybrid” and “connect”. They are currently working with a partner to build and test out the platform.

## Helping Students Get to Work

# 8.

Besides traditional internships and attachments that offer students platforms for hands-on learning and to apply their skills at work, Singapore has developed structured programmes to bridge the work-study divide in design. For instance, various design schools offer the SkillsFuture Work-Study Programme for fresh graduates to develop new skills and knowledge while working with participating employers. This can be scaled up and enhanced for more students to transition seamlessly into the industry after graduation. Immersing in a working environment will give students a clearer line of sight on their career prospects and build a pipeline of talent who have industry experience upon graduation.

### ✕ Prototype

## Seamless Career Pathway

by Nanyang Polytechnic and  
Tribal Worldwide Singapore

Since April 2022, three design students from the polytechnic have been working in the advertising agency as part of their final-year programme. In this first phase, the students spend six months on a hybrid internship where they take on client projects, work on their final-year project under the mentorship of practitioners in the agency and attend classes at the polytechnic. The students have been involved in various projects for clients such as iShopChangi and the Ministry of Culture, Community and Youth.

In the next phase of the final-year programme, the students will spend another six months on a full-time internship where they will be exposed to the full spectrum of creative work, including project management and campaign planning. At the end of the final-year programme, those shortlisted for full-time employment by the agency can go on to attain the polytechnic's Work-Study Programme Specialist Diploma in Visual Communication too.

## Supporting Exchanges Between Educators and Practitioners 9.

It is not just design students who need to be aware of what is going on in the industry. The same goes for their educators. Today, design educators have access to various professional development programmes, including industrial attachments, short-term workshops and self-initiated projects. It is also common for IHLs to employ practitioners as adjunct lecturers to bring in fresh perspectives and insights from the industry. These exchanges can be enhanced with more structured programmes, such as research collaboration between industry partners and academic staff. This will institutionalise the flow of people and knowledge and encourage more dialogue between academia and industry.

### × Prototype

#### IHL-Industry Staff Residency and Exchange

by LASALLE College of the Arts,  
Ngee Ann Polytechnic and Philips Singapore

A “revolving door” will be piloted by end 2022 among the two IHLs and the health technology company. The educators will join Philips to learn more about its design approach and practices, while the company’s staff will be posted to the IHLs to learn about their design curriculum and pedagogy. The programme will focus on selected themes, for example, sustainability or healthcare design, into which participants will conduct research. Through this continuous exchange of personnel and knowledge, the programme will create greater synergy between education and industry and establish a virtuous cycle between them.

## + Problem statement

### **How might students, educators and the industry collaborate on shaping the future of design?**

The traditional model of design students relying on design educators as the single source of knowledge to prepare them for the industry is obsolete. Instead, design educators are increasingly regarded as facilitators of learning alongside other partners such as the industry and even design students themselves. The new role of the design educator requires them to have more autonomy to adapt the curriculum to effectively engage, inspire and push design students out of their comfort zones, instead of relying on prescriptive and standardised teaching methods. Design educators must be engaged with the practice of design to offer students relevant experiences from the industry too. As part of this new collaborative learning model, the industry can partner IHLs to spur innovation in their respective fields and design students can take on a larger role in shaping their own design education. By working together, design educators, the industry and students can help shape thought and practice leadership on design too.

## Researching Design Together

# 10.

IHLs and the industry have long collaborated to spur development and innovation. The former can offer the resources and talent to experiment and conduct research, while the latter has a list of real-world challenges to tackle, particularly so for small and medium enterprises (SMEs). While many multinational companies understand the strategic value design offers, this is less so among local design buyers such as SMEs that have less resources. By working together with local companies on design research projects, IHLs can provide students with more opportunities to engage in industry-relevant work that will motivate them to learn more. The SMEs in turn, can access cutting-edge research to gain a competitive business edge.

### ✕ Prototype

## Design Research Collaborations

by Nanyang Technological University (NTU)

While NTU currently showcases its students' works, research expertise and capabilities via a variety of public websites and blogs, they are not well known because of a lack of publicity. A platform will be developed by NTU to centralise this information to increase accessibility and better connect students and researchers with industry practitioners to embark on various design research projects. It will especially benefit resource-strapped SMEs by offering them access to research capabilities, and create opportunities for NTU's students and researchers to tackle industry-relevant issues. The platform can also include a catalogue of challenges from selected companies to guide students and researchers looking to collaborate on design research projects.

## Empowering Students to Work

# 11.

Educators have long played the role of bridging design students and the industry. By empowering students to have a greater say in engaging their choice of industry partners, they may be better motivated to maintain longer-term relationships between IHLs and the industry after graduation and support a more cohesive design community. There can also be pathways established for design students to pursue opportunities in the region, which can play to Singapore's strengths as a regional and international hub.

### × Prototype

## Student-Driven Internships

by Institute of Technical Education  
and STUCK Design

Flipping the traditional internship model around, students will be encouraged to create their own internship opportunities. They can develop collaboration ideas with interested companies and even tap into funding, such as the DesignSingapore Council's Good Design Research programme. They can also form teams to solve challenges posed by the industry. It is a win-win approach as students can pursue their interests while companies engage the interns as partners instead of employees.

# What's Next for the DEAC?

5



During its first term from April 2020 to March 2022, the Design Education Advisory Committee (DEAC) has successfully demonstrated how the Institutes of Higher Learning (IHLs), the industry and government could work together to advance design education in Singapore. The gathering of different stakeholders on a national-level platform facilitated many conversations and sparked new ideas and even prototypes on how to move the needle. Most importantly, it forged a common belief that design education needs to transform, and this could not be achieved by the IHLs alone. It must involve the entire design ecosystem.

The DEAC will build upon this momentum during its second term over the next two years by continuing to engage the IHLs, industry and the government, and reaching out to non-design trade and business associations as well as parents and students. The committee will also seek advice from overseas experts in design education to stay in tune with global trends. These discussions will inform the continual development of our Point-of-Vision, which will become a strategic document to guide the transformation of design education in Singapore.

Another important task for the DEAC going forward is advocating for design as a life skill and capability. It is not just designers who need to be trained in design. All members of Singapore's workforce will benefit from having design mindsets, skills and capabilities to navigate and thrive in the future economy with its complex challenges. The DEAC will continue running and refining our ideas and prototypes to amalgamate design education and the industry so that it serves all levels of Singapore's workforce and society.

Ultimately, the DEAC seeks to lay a solid foundation for the advancement of Singapore's design education beyond 2050. It will ensure we have a next generation of creative thinkers, problem solvers, and a global, resilient workforce who can help our nation thrive in the future economy. Singapore will also become recognised for its distinctive brand of design education and as a city of design.

## Appendix

### Abbreviations



<b>CET</b>	Continuing Education and Training
<b>DEAC</b>	Design Education Advisory Committee
<b>DERC</b>	Design Education Review Committee
<b>Dsg</b>	DesignSingapore Council
<b>EDB</b>	Economic Development Board
<b>IHLs</b>	Institutes of Higher Learning
<b>IMDA</b>	Infocomm Media Development Authority
<b>MCCY</b>	Ministry of Culture, Community and Youth
<b>MOE</b>	Ministry of Education
<b>MOM</b>	Ministry of Manpower
<b>MTI</b>	Ministry of Trade and Industry
<b>NAC</b>	National Arts Council
<b>NDIMS</b>	National Design Industry and Manpower Study
<b>PET</b>	Pre-Employment Training
<b>SSG</b>	SkillsFuture Singapore
<b>SGUS</b>	SGUnited Skills
<b>WSG</b>	Workforce Singapore
<b>WSP</b>	Work-Study Programme

### Industry Associations



<b>AAMS</b>	Association of Advertising and Marketing Singapore
<b>DBCS</b>	Design Business Chamber Singapore
<b>IDCS</b>	Interior Design Confederation Singapore
<b>SFIC</b>	Singapore Furniture Industries Council
<b>SIA</b>	Singapore Institute of Architects
<b>SILA</b>	Singapore Institute of Landscape Architects
<b>SIP</b>	Singapore Institute of Planners
<b>SIDS</b>	Society of Interior Designers Singapore
<b>TaFF</b>	Textile and Fashion Federation Singapore

### Institutes of Higher Learning



<b>ITE</b>	Institute of Technical Education
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#### Polytechnics

<b>NYP</b>	Nanyang Polytechnic
<b>NP</b>	Ngee Ann Polytechnic
<b>RP</b>	Republic Polytechnic
<b>SP</b>	Singapore Polytechnic
<b>TP</b>	Temasek Polytechnic

#### Autonomous Universities

<b>NTU</b>	Nanyang Technological University
<b>NUS</b>	National University of Singapore
<b>SIT</b>	Singapore Institute of Technology
<b>SMU</b>	Singapore Management University
<b>SUSS</b>	Singapore University of Social Sciences
<b>SUTD</b>	Singapore University of Technology and Design

#### Arts Institutions

<b>LASALLE</b>	LASALLE College of the Arts
<b>NAFA</b>	Nanyang Academy of Fine Arts

## Design Courses Offered by Institutes of Higher Learning (as of July 2022)

### Polytechnics and the Institute of Technical Education



Institution	Pre-Employment Training (PET)	Continuing Education and Training (CET)
• NP	Diploma in Design – Specialisation in Architecture or Product Innovation	Diploma (Conversion) in Digital Media Design
	Diploma in Landscape Design and Horticulture	
• NYP	Diploma in Experiential Product and Interior Design	WSP Specialist Diploma Digital Content Creation for E-Commerce
	Diploma in Communication and Motion Design	WSP Specialist Diploma in Spatial Design
	Common Design and Media Programme	WSP Specialist Diploma in Visual Communication
		WSP Specialist Diploma in User Experience Design and Management
		Specialist Diploma in Service Experience Design and Innovation
• RP	Diploma in Design for User Experience	Specialist Diploma in Digital Content Creation for Business
	Diploma in Media Production and Design	Specialist Diploma in User Experience for IT
	Diploma in Design for Games and Gamification	Specialist Diploma in Immersive Experience for Business
	Common Arts, Design and Media Programme	Part-time Diploma in Design and Media (Digital Entertainment and Events)
		SGUS Digital Content Creation and User Experience
• SP	Diploma in Interior Design	Diploma in Design (Visual Communication)
	Diploma in Media, Arts and Design – Specialisation in Design for Communication and Experience	Specialist Diploma in User Experience and Digital Product Design
	Diploma in Architecture	
	Diploma in Landscape Architecture	

**Polytechnics and the Institute of Technical Education**

<b>Institution</b>	<b>Pre-Employment Training (PET)</b>	<b>Continuing Education and Training (CET)</b>
<b>• TP</b>	Diploma in Apparel Design and Merchandising	WSP/CET Specialist Diploma in Branding Design
	Diploma in Communication Design	WSP/CET Specialist Diploma in Integrated Digital Communication
	Diploma in Interior Architecture and Design	WSP/CET Specialist Diploma in Lighting Design
	Diploma in Product Experience and Design	CET Specialist Diploma in Interior Design Practice
	Diploma in Digital Film and Television	Part-time Diploma in Design (Digital Commerce and Experience)
	Common Design Programme	
<b>• ITE</b>	Nitec in Interior and Exhibition Design	Higher Nitec in Services (Visual Merchandising)
	Nitec in Product Design	Nitec in Services (Interior and Exhibition Design)
	Nitec in Fashion Apparel Production and Design	Nitec in Services (Visual Communication)
	Nitec in Visual Communication	Work-Study Diploma in Architectural BIM and Design
	Higher Nitec in Visual Merchandising	Work-Study Diploma in Media Communication and Digital Marketing
	Higher Nitec in Interactive Design	Higher Nitec in Services (Architectural Technology)
	Nitec in Architectural Technology	
	Higher Nitec in Architectural Technology	

## Autonomous Universities



Institution	Pre-Employment Training (PET)	Continuing Education and Training (CET)
• NTU	Bachelor of Fine Arts in Design Art	Master of Arts (Research)
		..... Doctor of Philosophy
• NUS	Bachelor of Arts in Industrial Design	Master of Science (Coursework) in Integrated Sustainable Design
	.....	.....
	Bachelor of Arts in Architecture	Master of Architecture (Coursework)
	.....	.....
	Bachelor of Landscape Architecture	Master of Landscape Architecture (Coursework)
	.....	.....
	.....	Master of Arts (Coursework) in Urban Design
	.....	Master of Arts (Research) in Architecture
.....	Master of Arts (Research) in Industrial Design	
.....	Doctor of Philosophy (Research) in Architecture	
.....	Doctor of Philosophy (Research) in Industry Design	
.....	Master in Urban Planning	
.....	Master of Architecture	
• SUTD	Bachelor of Science (Architecture and Sustainable Design)	Master of Engineering in Innovation by Design
	.....	.....
	Bachelor of Science (Design and Artificial Intelligence)	Doctor of Philosophy (PhD) under the 'Architecture and Sustainable Design' academic track
• SIT		Postgraduate Certificate in Design Strategy and Innovation
• SMU	While SMU and SUSS do not offer degrees in design, they provide their students with modules and programmes to acquire design and design-led creative thinking skills.	
• SUSS		

## Arts Institutions



Institution	Pre-Employment Training (PET)	Continuing Education and Training (CET)
• <b>LASALLE</b>	Diploma in Design for Communication and Experiences	Master of Arts Design
	Diploma in Creative Direction for Fashion	Creative Design I, II, III
	Diploma in Interior Design	Design and Construction of Men's Jackets
	Bachelor of Arts (Honours) in Design Communication	Design and Construction of Men's Shirts
	Bachelor of Arts (Honours) in Fashion Design and Textiles	Design and Construction of Men's Trousers
	Bachelor of Arts (Honours) in Fashion Media and Industries	Eco Jewellery: Jewellery Making Using Recycled Materials
	Bachelor of Arts (Honours) in Product Design	Fashion Design Implementation of Design Through Pattern Drafting
	Bachelor of Arts (Honours) in Interior Design	Fashion Styling
	Fundamentals of Graphic Design I and II	
	Introduction to Type and Identity Design	
	Introduction to Graphic Design for Youth (12 – 18 years old)	
	Jewellery Illustration I and II	
• <b>NAFA</b>	Diploma in Advertising	Certificate in Interior Design (Technical Drawing)
	Diploma in Graphic Communication	Certificate in Interior Design (3D Visualisation)
	Diploma in Illustration Design with Animation	Certificate in Specialist Certificate in Interior Design
	Diploma in Fashion Design	Certificate in Graphic Communication (Digital Graphics and Principles)
	Diploma in Fashion Merchandising and Marketing	Certificate in Visual Merchandising (Experiential Spatial Design)
	Diploma in Design (Furniture and Spatial)	Certificate in Fashion Design

Institution	Pre-Employment Training (PET)	Continuing Education and Training (CET)
<b>NAFA (cont.)</b>	Diploma in Design (Interior and Exhibition)	Certificate in Jewellery Appreciation and Fabrication
	Diploma in Design (Landscape and Architecture)	Certificate in Furniture Making
	Diploma in Design (Object and Jewellery)	Certificate in Design Experience and Interface
	Diploma in Screen Media	Certificate in Digital Video Design
	Bachelor of Arts (Honours) in Design Practice	Certificate in Infographics

## Ideas and Prototypes by the DEAC

### DEAC 2.0 IDEA 1

# Encouraging Self-Discovery

#### WHO IT IS FOR

- IHL Students
- Upper Secondary Students
- Lecturers and teachers

#### Key Stakeholders

- Policymakers

#### PROBLEM IT SOLVES

- Exam focus doesn't encourage students to explore.
- Schools and parents have a mindset that doesn't value importance of white space.

#### KEY FEATURES

##### **Dedicated calendar time outside the curriculum**

For example, 1 to 4 days a month.

##### **Lecturers as mentors**

Mentor who guides the student in exploration and self-discovery.

##### **IHL support**

Support from school in terms of facilities, tools, connections, etc.

**Owner** Crystal/Kingsmen



**Time, support, and guidance for students to pursue their passion and discover their strengths.**

#### VALUE IT DELIVERS

##### **Fosters self-driven spirit in students**

- Students decide for themselves what to learn and how to learn.

##### **Encourages cross-disciplinary interests**

- Encourage learners to discover interests and make connections across disciplines which fosters creativity and reinforces their learning experiences.

##### **Changes mindsets and behaviours**

- Makes parents and educators more appreciative of overall development of students that exploration and self-discovery allows them.

#### EXAMPLE

Google, HP, 3M have purposefully created white space or time off for their employees to explore ideas or learn new skills.

**DEAC 2.0 IDEA 2**


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## Developing More Holistic Assessments

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**WHO IT IS FOR**

- Students

**Key Stakeholders**

- Policymakers
  - Lecturers
  - Employers
  - Parents
- 

**PROBLEM IT SOLVES**

- Exam and academic grades focus doesn't encourage students to see value in pursuing ways to build real life skills beyond curriculum.
- 

**KEY FEATURES****A framework to assess real world skills**

A first of its kind assessment framework to assess critical core skills.

**Recognition of skills beyond grades**

Provides recognition to students without grades and rewards students' performance and skills holistically, thus enabling all round development.

**Owner** Gilbert/SMU

**Develop frameworks and tools to assess students holistically for design and creative problem solving skills beyond academic curriculum.**

**VALUE IT DELIVERS****Capability beyond academics**

- Allows students to develop creative skills and be more confident in their abilities beyond academic performance.

**All round development for industry readiness**

- Helps to master real world skills that are much needed in the industry along with professional design skills that schools already teach/train students in.

## DEAC2.0 IDEA 3 – PROTOTYPE

# Cross-IHL Learning Bootcamps

## WHO IT IS FOR

- IHL Students

### Key Stakeholders

- Lecturers
- Industry Partners

## PROBLEM IT SOLVES

### Currently students have limited opportunities...

- To learn beyond curriculum.
- For multidisciplinary exposure.
- For cross-IHL mingling.

## KEY FEATURES

### Bootcamp format

A bootcamp/workshop/hackathon type of format providing dynamic learning environment.

### Shaped along with industry

IHL and industry partners come together to design and execute.

**Owners** Peck Hong/NP, Georgina/SP, Sabrina/NAFA, Chong Jin/TP

**Theme-based real-world challenges from industry as a mode for students to learn beyond curriculum.**

## Learning beyond curriculum

Provide non-graded courses that is not linked to the formal curriculum.

## Cross IHL and disciplines

Different students from different domains, disciplines and institutions come together.

## VALUE IT DELIVERS

### Students

- Social entrepreneurship and design leadership.
- Mentorship.
- Putting together a business plan.
- Peer learning and network with other IHL students and lecturers.

### Lecturers

- Working with and learning from Industry to curate/facilitate programme.
- Peer learning and network from other IHL lecturers.
- Learning to manage diverse students.

## NEXT STEPS & PROGRESS

### Apr—Jul 2022

#### Creating a structure

- Create course and get facilitators.
- Use Dsg network to help source for facilitators.

### Jun—Sep 2022

#### First bootcamp

- Will be held between 15 – 21 June 2022 excluding weekends.
- First course will be on health and wellness issues for youths.

### Sep—Dec 2022

#### Implementation on a larger scale

- Start bringing in partners and other IHLs to flesh out other courses/bootcamps.

Build

Test &amp; Learn

Scale

SCOPING SHAPING FINALISING

## DEAC 2.0 IDEA 4 – PROTOTYPE

# National Design Project

## WHO IT IS FOR

- Primary, Secondary and Tertiary Students
- IHL Students

### Key Stakeholders

- IHLs
- Industry Partners

## PROBLEM IT SOLVES

- Lack of focus on creative thinking and problem-solving in local pedagogy.
- Shortage of design-centric initiatives that target younger students, especially those at primary and secondary levels.
- Inadequate awareness and gaps in public perception of design, its purpose and impact.

## KEY FEATURES

### For students of all levels

A national-level design challenge, curated by past President's Design Award (P\*DA) recipients, that is open to students of all levels.

## NEXT STEPS & PROGRESS

### 2022

#### Design minimum viable product (MVP)

- Reach out to relevant stakeholders.
- Recruit master curator (P\*DA recipient).
- Work with Dsg to shape approach for the 2023 beta test.

Build

### 2022

#### Test MVP

- Test ideas to assess how initiative can be manifested across levels.
- 1 primary school, 1 secondary school, 1 polytechnic, 1 IHL.

FINALISING

### 2023

#### Beta test with Design Education Summit (Youth Challenge)

Test &amp; Learn

### 2025

#### Big launch in tandem with Singapore's Diamond Jubilee SG60

Scale

SCOPING

SHAPING

**Owners** Chee Huang/DP, Alan/Formwerkz, Kok Ming/NUS, Pann/Kinetic, Tracy/SSG

**An initiative for students of all levels, to use design as a problem solving tool to address challenges that have national impact.**



## How it works

- Challenge Brief – Challenge brief is created for an issue of national importance.
- Promotion and storytelling - Challenge is presented, advertised and promoted through talks and roadshows by President\*s Design Award recipients.
- Teams apply - Multidisciplinary teams from primary, secondary, or students from IHL.
- Coaching for teams by higher-level design students and volunteer industry designers.
- Publicise success stories - Winner is announced; roadshow and media coverage to publicise projects and importance of design.

## VALUE IT DELIVERS

### Promotes design among youths

- Seeds appreciation of design amongst the young and youths.
- Cultivates design mindset and develops skill sets.

### A showcase for design

- Showcases how design can be applied to solve big challenges and everyday life issues.

### Communication

- Serves as a strong communication piece to raise national agenda on design.

## DEAC 2.0 IDEA 5

# Sharing Design Successes

## WHO IT IS FOR

- Primary and Secondary Students
- Parents
- General Public

## Key Stakeholders

- IHLs
- Industry

## PROBLEM IT SOLVES

'Design' is still a widely misunderstood term as people impose a limitation on it, hence it is not often seen as a first career choice. The effort here is to broaden and define design, bringing awareness, to make it more relevant to everyone.

## KEY FEATURES

### Share success stories of designers

Sharing success stories and outreach to change mindsets about design and the value it brings to reach a wider audience.

**Owners** Alan/Formwerkz, Gillian/WSG, Chong Jin/TP, Jingheng/MOM, Kok Ming/NUS, Tracy/SSG

**Changing perception of design education through the power of success stories of design and designers.**

## Design influencers

Create influencers by involving alumnus of design awards in storytelling and outreach.

## Convert them young

Create targeted and digestible stories in form and manner that connects with youth.

## VALUE IT DELIVERS

### Correct misconceptions

- Misconceptions around career prospects and salaries (graduate pay) that designers can command.
- Value that design brings to everyday life by solving problems.
- Misconception that design is only about arts.

### Inspire younger students to join design education

- Inspire primary and secondary school students to make informed career choices about design education.

## NEXT STEPS & PROGRESS

### Apr—Aug 2022

#### Create a structure

- Determining scale of resources required, the role of DEAC and support needed from Dsg.
- Form an executive team with National Design Project.

Build

### Aug 2022—Feb 2023

#### Identify partners

- Outreaching to partners for content creation.
- One of the initiatives is collaborating with ARTZOO to run first issue of comic strip and roadshow.

Test &amp; Learn

### Aug 2023

#### Execute

- Draft a strategy and action plan.

Scale

SCOPING

SHAPING

FINALISING

## DEAC 2.0 IDEA 6 – PROTOTYPE

# Real Challenges, Transdisciplinary Teams

## WHO IT IS FOR

- IHL Students (design and non-design)

### Key Stakeholders

- IHLs
- Industry Partners

## PROBLEM IT SOLVES

- Design and non-design students do not get to collaborate and solve problems.
- IHLs spend a lot of time per company to scope the project. There is currently no IHL system to allow us to tap into each other's resources.

## KEY FEATURES

### A collaboration model

Enables students from different institutions and disciplines to come together to address a real-world challenge.

### Shared resources

IHLs share the responsibility of scoping, guiding and mentoring the transdisciplinary team. IHLs are able to tap in to each other's resources and connections.

## NEXT STEPS & PROGRESS

### Apr—Jun 2022

#### Find partners

- Start with 2 IHLs and one industry partner.
- Set up a communication system between IHLs.

### Jul—Sep 2022

#### Agree on roles and responsibilities

- Define knowledge and resources that can be shared.
- Create a systematic approach to scope industry projects.

### Oct 2022—Mar 2023

#### Project launch

- Invite students from various IHLs to work on a challenge.
- Establish first transdisciplinary team to work on a challenge.

Build

Test &amp; Learn

Scale

SCOPING

SHAPING

FINALISING

**Owners** Kin Leong/SUTD, Crystal/Kingsmen, Georgina/SP, Jeff/DDB Group Singapore, Peter/SUSS



**Project-based collaborations between design and non-design students to address real-world challenges.**

## Real challenges

Companies are able to bring real, multi-faceted challenges which are more than just design-related.

## VALUE IT DELIVERS

### Design students

- Learn to work with non-design students from other institutions resembling working life.

### Non-design students

- Get exposure to working with design students.

### Lecturers

- Reduce time spent on scoping projects.

### Industry partners

- Access to teams with diverse skill sets (enables more holistic problem-solving to company's challenge).

## DEAC2.0 IDEA 7 – PROTOTYPE

# Design Piazza

## WHO IT IS FOR

- IHL Students
- Industry Professionals
- IHL Lecturers

### Key Stakeholders

- IHLs
- Industry Partners

## PROBLEM IT SOLVES

- Lack of a centralised platform where design students, lecturers and industry professionals can connect and collaborate.
- Students are not able to showcase their Final Year projects for an unlimited period of time.
- There is no central repository where design students can showcase their projects and where employers can post their job openings, challenges or projects.

## KEY FEATURES

### Student portfolio showcase

Students showcase final year projects and portfolios for prospective employers for an extended period of time.

## NEXT STEPS & PROGRESS

### Apr – Jul 2022

#### Understanding stakeholders

- Conduct user research.
- Develop solution.

### Aug – Nov 2022

#### Develop the procurement brief and identify partner

- Determine the scope of requirements.
- Call for work tender.

### Dec 2022 – Apr 2023

#### Build and test the platform

- Develop platform.
- Organise a physical networking event.
- User testing.

### May 2023

#### Beta launch

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**Owners** Emida/RP, Albert/NYP, Semun/TaFF, Greg/ITE, Stuart/UOB



**A hybrid community platform for students, lecturers and employers to showcase, network and hire.**

## Job postings

Companies post openings for designers.

## Industry Challenges

Companies post their problems as 'design challenges' for students to address.

## Networking opportunities

Informal networking opportunities, such as events or forums to enable student, industry partners and lecturers to understand one another better.

## VALUE IT DELIVERS

### One-stop-shop

- Employers can see all new design graduates and their portfolios in one place.
- Students can see project opportunities, internship opportunities, and job postings from prospective employers.

## DEAC 2.0 IDEA 8 – PROTOTYPE

# Seamless Career Pathway

## WHO IT IS FOR

- IHL Students (design and non-design)

### Key Stakeholders

- Industry Partners

## PROBLEM IT SOLVES

- Friction and hurdles for students to transition seamlessly and effectively into industry after graduation.
- Some industry partners rely fully on IHLs to get students ready for work and may not consider that they also have an important part to play.

## KEY FEATURES

### Dovetailing

Dovetails Final-Year Programme with Work Study Programme.

### Co-ownership

IHL and Industry co-create and co-deliver.

**Owners** Albert/NYP, Jeff/DDB Group Singapore, Khai Seng/Studio Dojo, Emida/RP, Cheaw Hwei/Philips

**A new/alternative career pathway for FY students to transition into industry by dovetailing 'FY programme' with 'work study programme'.**



## Through train programme

Students gradually learning while easing into industry.

## Mindset shift in students

From school-centric (academics) to company-centric (profession: "I work for company and go to school").

## VALUE IT DELIVERS

### A clear line of sight

- Students gain clarity about career choices through immersive real-world professional experience.

### Real life skills

- Students develop attitudinal (real world) skills along with academic/profession-related.

### Talent pipeline

- Helps in talent scouting and retention.
- A well tested and trained talent pipeline (as students would have worked for two years).

### Industry realism

- Infuses industry realism into curriculum.

## NEXT STEPS & PROGRESS

### Apr – Sep 2022

**Six-month work on Final-Year Projects (FYP) at Tribal Worldwide while continuing course work at Nanyang Polytechnic**

- Mentorship by Tribal staff on FYP.
- In-house training at Tribal.

### Oct 2022 – Feb 2023

**Six-month internship at Tribal Worldwide**

- Work on real world projects.
- In-house training.
- Tour of duty at different departments.

### May 2023 – Feb 2024

- Tribal Worldwide employee undertaking.
- 12-month Work-Study Programme Specialist Diploma in Visual Communication from NYP.

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## DEAC2.0 IDEA 9 – PROTOTYPE

# IHL-Industry Staff Residency and Exchange

## WHO IT IS FOR

- Lecturers
- Industry Professionals

## Key Stakeholders

- IHLs

## PROBLEM IT SOLVES

- Existing industry attachment programmes are ad hoc and transactional.

## KEY FEATURES

### Revolving door metaphor

Constant flow of exchange of 'staff' between IHLs and Industry in the form of residency/exchange programmes.

### Thematic (e.g. healthcare design)

Selected topic used as a spine for staff exchange.

### Clear job descriptions

- Specific Job Descriptions to ensure clarity
- Time spent by staff has to contribute to company work.

**Owners** Nur Hidayah/LASALLE, Cheaw Hwei/Philips, Jingheng/MOM, Peck Hong/NP

**A staff residency and exchange programme that enables seamless exchange of knowledge between industry and IHL design educators.**



## What it is not

- Not mixed up with adjunct lecturing.
- Not an activity for parking people – it is about knowledge development.

## VALUE IT DELIVERS

### Knowledge development

- Uplift overall capability across IHLs and industry through constant flow of knowledge development.

### Enriched learning experience

- Students benefit with a more enriched learning experience.

### Industry exposure to lecturers

- Educators stay in touch with industry needs and the day-to-day operations of design companies.

### Reinforced curriculum

- Reinforce curriculum with real world knowledge.

## NEXT STEPS & PROGRESS

### Apr – Jun 2022

- Garner signups from interested IHLs and industry partners.



### Jul – Sep 2022

- Work out research themes.
- Make research plans and timelines.
- Create clear Job Descriptions.
- Draft of residency agreement.



### Oct – Dec 2022

- Pilot run begins.

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## DEAC 2.0 IDEA 10 – PROTOTYPE

# Design Research Collaborations

## WHO IT IS FOR

- Small and Medium Enterprises (SMEs)
- IHL Students

## Key Stakeholders

- IHLs

## PROBLEM IT SOLVES

- SMEs are likely not to have budget to hire design research staff to advance their companies capabilities.
- SMEs don't have access to the cutting edge research capabilities of IHLs to create novel/innovative solutions.
- Research undertaken by IHLs may not always be industry-relevant.

## KEY FEATURES

### Framework for collaboration

Connects research expertise across IHLs, using design as a common framework.

### Catalogue

- 'Catalogue' of research capabilities, student projects across participating IHLs.
- 'Catalogue' of industry problems.

**Owners** Shen Yong/NTU, Agnes/SIT, Crystal/Kingsmen, Nur Hidayah/LASALLE, Tze/STUCK

**A programme that drives design research collaboration between IHLs and SMEs, with the goal of creating groundbreaking, industry solutions.**

## PhDs and undergrads

Tap on students across IHLs by involving senior undergraduates, PhD and (possibly) postdoctoral fellows, to collaborate on design research projects.

## SME-IHL collaboration

Strengthen collaboration between IHLs & SMEs through design research.

## VALUE IT DELIVERS

### Novel, groundbreaking solutions

- Focus on innovation and intellectual property – not 'problem-solution'.

### Research access to SMEs

- Provides an avenue for SMEs to get their problems addressed.

### Industry relevant research

- Helps to make IHLs work relevant to industry (specifically SMEs' needs).

### Real world exposure

- Offers exposure to real world context and problems to students and lecturers.

## NEXT STEPS & PROGRESS

### Apr – Jun 2022

- Framework – Define overarching framework for collaboration and map ecosystem.
- Tweak appraisal system of IHLs to motivate faculty to engage in more research collaborations.

### Jul – Sep 2022

- Research requirements – Identify the needs of SMEs and how might these translate into research requirements.
- IHL - Curate relevant IHL capabilities.

### Oct – Dec 2022

- Align – Explore tweaking appraisal system of IHLs to motivate faculty to engage in more research collaborations.

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## DEAC 2.0 IDEA 11 – PROTOTYPE

# Student-Driven Internships

## WHO IT IS FOR

- IHL Students

### Key Stakeholders

- IHL
- Small and Medium Enterprises (SMEs)
- Funding Partners (e.g. Enterprise Singapore)

## PROBLEM IT SOLVES

### Students' transition into industry

Friction and hurdles for students to transition seamlessly and effectively into industry post-graduation.

Some industry partners rely fully on IHLs to get students ready for work and may not consider that they also have an important part to play.

## KEY FEATURES

### Co-created by students with company

Students enter internship with a mutually-agreed, real world challenge from the company; before the internship starts.

**Owners** Greg/ITE, Sabrina/NAFA, Shen Yong/NTU, Tze/STUCK

**Flipping internships to be student led, scoped around the real challenges of a company.**

## Student teams solving real SME problems as a project

Internships are viewed as a 'challenge to be solved' by a student team bringing varied skill sets.

### Grants for students to run SME projects

Enables SMEs' access to funding to address their challenges.

## VALUE IT DELIVERS

### A clear line of sight

- Students gain clarity about career choices through immersive real world professional experience.

### Real life skills

- Students develop attitudinal (real world) skills along with academic/profession related skills.

### Talent pipeline

- Helps in talent scouting and retention.
- A well tested and trained talent pipeline (as students would have worked for 2 years).

### Industry realism

- Infuses industry realism into curriculum.

## NEXT STEPS & PROGRESS

### Apr – Jun 2022

- Scope suitable opportunity.
- Ensure internal approval for go-ahead.
- Address core issues e.g. IP issues.

### Jul – Sep 2022

- Communicate prototype opportunity to students.
- Identify students who have or can build connections in industry.

### Oct – Dec 2022

- Initiate conversation between IHLs, company and students.
- Initiate grant funding (if needed).
- Confirm prototype go-ahead.

### Jan – Mar 2023

- Launch prototype with new batch of students.

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# Acknowledgements

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## DEAC Members and Resource Panel

(Term One: April 2020 – March 2022)

### Industry

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**Mr Low Cheaw Hwei** (Chairman)  
Product and Spatial Design Practice Lead,  
Philips Global  
Head of Philips Experience Design and  
Government and Public Affairs  
Philips ASEAN Pacific

**Mr Alan Tay**  
Co-founder and Principal Architect  
Formwerkz Architects

**Ms Crystal Chu**  
Creative Director  
Kingsmen Exhibits

**Ms Ho Semun**  
Chief Executive Officer  
Textile and Fashion Federation

**Mr Hong Khai Seng**  
Founder and Director  
Studio Dojo

**Mr Jeff Cheong**  
Chief Executive Officer  
DDB Group Singapore

**Mr Lee Tze Ming**  
Co-founder and Director  
STUCK Design

**Mr Pann Lim**  
Co-founder and Creative Director  
Kinetic Design and Advertising

**Mr Seah Chee Huang**  
Chief Executive Officer  
DP Architects

**Mr Stuart Smith**  
Regional Head of Engagement and Design  
UOB Digital Bank  
United Overseas Bank

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### A/Prof Agnes Xue (from April 2021)

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Assistant Dean  
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Director  
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Singapore Polytechnic

### A/Prof Gilbert Tan

Associate Professor  
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Deputy Director  
School of Electronics and Info-Comm Technology  
Institute of Technical Education

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Executive Director  
Institute of Pedagogical Innovation, Research  
and Excellence  
Nanyang Technological University

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Cluster Director\*  
Design and Specialised Business Cluster  
Singapore Institute of Technology

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Vice President (Academic)\*  
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Nanyang Academy of Fine Arts

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\*Last position held while serving on the DEAC.

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## Resource Panel

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Director  
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Infocomm Media Development Authority

**Ms Gillian Woo** (from January 2021)

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Creative and Professional Services Division  
Workforce Singapore

**Ms Grace Ng** (till October 2020)

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Education and Development  
National Arts Council

**Mr Joseph Zhang** (till January 2021)

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\*Last position held while serving on the Resource Panel.

## Acknowledgements

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# DEAC Secretariat

(Term One: April 2020 – March 2022)

## DesignSingapore Council

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Executive Director\*

**Ms Emily Ong**  
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**Mr Eugene Chin**  
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Talent Development

\*Last position held while serving on the DEAC Secretariat.

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# Notes



