Reshaping the Future with I&T
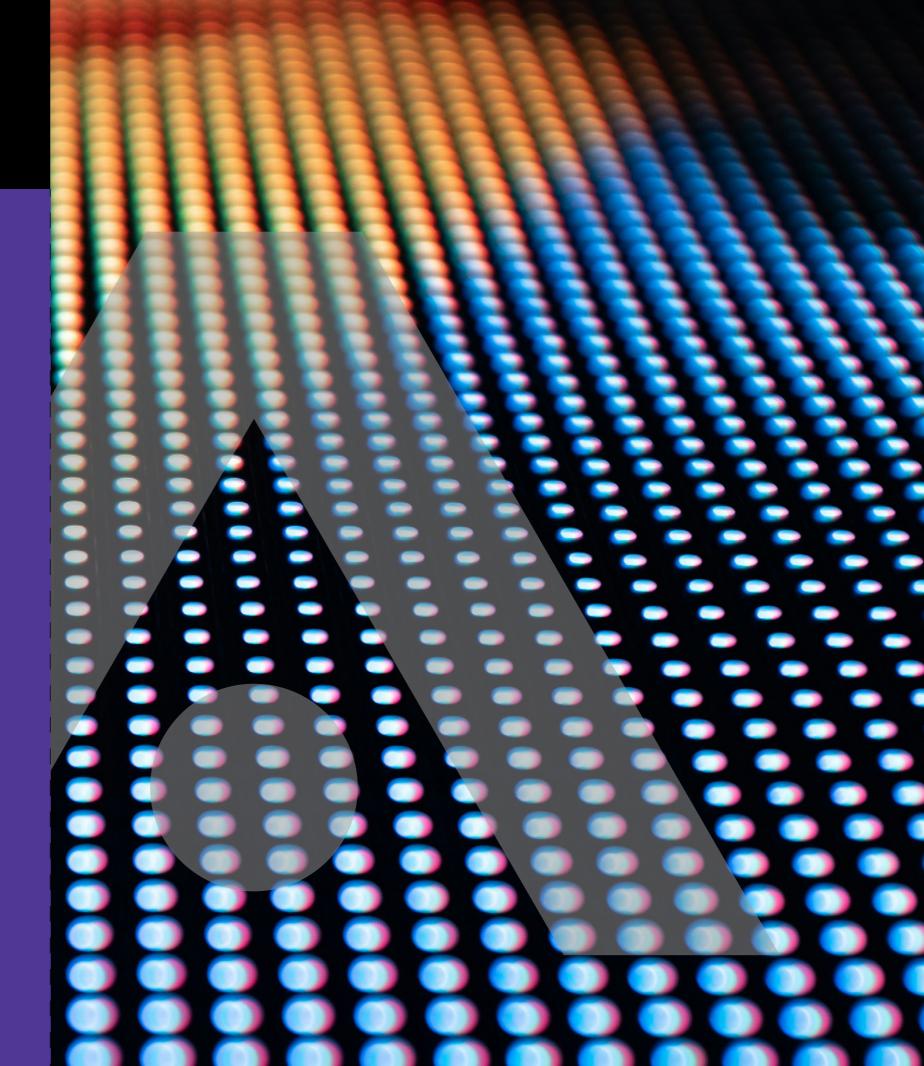
創新科技重塑未來

ASTRI

Annual Report
2023/24
年報

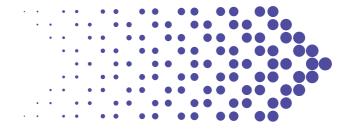> **Reshaping the Future with I&T**
> **創新科技重塑未來**

Innovation and technology are architects of transformation, redefining what is possible and constructing a new future. These powerful forces are the catalysts for change, driving progress across industries and societies. By harnessing the potential of cutting-edge advancements, we are able to contribute to the betterment of Hong Kong and revolutionise the way we live, work and interact with the world around us.

創新科技是轉型的建築師,潛在無限可能,構建嶄新的未來。
創新科技蘊藏強大力量,推動變革,促進各行各業和社會進步。
通過善用尖端科技,我們能夠為香港更好的發展作出貢獻,
並革新我們的生活、工作以至與周遭世界的互動方式。

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10 KEY ACHIEVEMENTS
大成就

Hong Kong Applied Science and Technology Research Institute (ASTRI) had a fruitful year in fiscal year 2023/24, marked by significant collaborations, technological advancements, and contributions to Hong Kong's smart city development. Below are the key highlights of ASTRI's achievements during this period:

香港應用科技研究院（應科院）於**2023/24財政年度積極進取，成果豐碩，不僅開展多項重要合作計劃，還在不同的科技領域取得突破，為香港智慧城市的發展作出貢獻。主要成就包括：**

Projects Surged
科研項目增加

The number of "Non-ITF Contract Research Projects" grew significantly, both within government departments, and across the public and private sectors. This expansion allows a wider community to enjoy the benefits brought by innovation and technology. In addition, we achieved a client satisfaction score of 96% in 2023/24, and 98% of respondents expressed their willingness to partner with ASTRI again in the future. These impressive results stemmed from our research team's commitment to delivering projects on time, on purpose, and to the highest standards.

應科院的非創新及科技基金合約研發項目顯著增長，客戶包括政府部門及公私營機構，讓更廣泛的社群享受到創新科技所帶來的好處。我們2023/24年客戶整體滿意度高達96%，而98%的客戶更表示願意在未來繼續與應科院合作，成績令人鼓舞，這全賴研發團隊緊守崗位，按時、按章交付最高標準的研發項目。

Top Patents
專利質素優秀

Ranked 42nd globally[1], ASTRI was granted 20 US patents last year, placing it ahead of other Hong Kong R&D institutions. ASTRI also performed well in global Patent Cooperation Treaty (PCT) patent inventions with a Derwent Strength Index (DSI)[2] of 42.1, the highest among other organisations, reflecting the excellent average quality of ASTRI's patent portfolio.

應科院去年獲20項美國專利，全球排名42[1]，在本港科研機構中排名最高。應科院在全球專利合作條約(PCT)專利發明申請方面表現突出，「德溫特專利強度指數」(DSI)[2]達到42.1，在眾多機構中評分最高，反映了應科院專利組合的平均品質非常出色。

Ecosystem Strengthened
促生態圈合作

In 2023/24, ASTRI established the "Smart Mobility Technology (C-V2X) Alliance" and the "FinTech and ESG Alliance," in addition to the "Microelectronics Technology Consortium" launched in late 2022. These initiatives foster collaboration among government, industry, academia, and research institutions across various tech sectors.

應科院於2023/24年度成立「智慧出行車聯網技術聯盟」以及「金融科技與永續發展聯盟」，連同2022年底成立的「微電子技術聯盟」，在不同的技術範疇促進「政產學研」合作。

Global Recognition
屢獲創科殊榮

ASTRI was honoured with numerous international awards, including an unprecedented number of accolades at the International Exhibition of Inventions Geneva, recognising our outstanding research capabilities.

應科院於國際獎項中屢獲殊榮，年內更在「日內瓦國際發明展」上贏得歷來最多的獎項，表彰我們出色的研發能力。

Shenzhen Office
設深圳辦事處

ASTRI set up a new Shenzhen office in Futian, paving the way for greater interaction with top tech enterprises and contributing to the technological advancement in the Guangdong-Hong Kong-Macao Greater Bay Area.

應科院於福田設立新的深圳辦事處，有助未來與頂尖科技企業加強互動，為「粵港澳大灣區」科技進步作出貢獻。

Mainland Ventures
加快內地合作

ASTRI strengthened collaborations with various Mainland provinces and cities. In addition to technology transfer initiatives with the Suzhou Municipal Government, we explored partnerships with industry, academia, and research institutes in Beijing, including universities, the China State Shipbuilding Corporation, and the Chinese Academy of Sciences.

應科院加強與內地不同省市合作，除了與蘇州市政府共同推動技術轉移外，亦已和北京產學研機構建立夥伴合作關係，包括大學、中國船舶集團公司以及中國科學院。

International Outreach
拓展海外業務

ASTRI initiated significant international collaborations, including agreements with Thailand's National Science and Technology Development Agency, talent exchanges with universities in Singapore, and early-stage collaborations with a Finnish elevator company, a Thai start-up, and a Swedish university.

應科院啟動重要的國際合作，包括與泰國國家科技發展局簽署合作協議，與新加坡的大學作人才交流，與芬蘭一家電梯公司、泰國初創公司和瑞典一所大學初步展開合作。

Recruitment Success
廣納創科人才

Our recruitment initiatives successfully attracted top scholars and reduced the attrition rate. Additionally, we launched the city's first Work-Study Programme in collaboration with the University of Hong Kong and the Hong Kong University of Science and Technology, fulfilling the dual goals of work and study for aspiring scientists.

應科院推出多個招聘計劃，成功羅致頂尖學者並減少流失率；與香港大學及香港科技大學合作推出全港首創全職員工博士生計劃則讓滿懷抱負的科學家，同時實現工作與學習的雙重目標。

Employee Satisfaction
員工滿意度升

ASTRI saw a marked improvement in employee satisfaction, with a 97% response rate on a Pulse Survey, indicating positive feedback towards the CEO and senior management. These results underscored the success of proactive employee communications and engagement, aligning the institute's goals more closely with employee expectations.

應科院最近一次「脈搏調查」的回應率高達97%，員工滿意度顯著提升，並對行政總裁及管理層評價正面。這些結果凸顯與員工溝通互動策略奏效，令機構目標更符合員工期望。

Let ASTRI be known
加強推廣力度

By participating in international I&T events and overseas exchange activities, ASTRI's efforts to increase our visibility bore fruit in 2023/24, with global news coverage nearly doubled compared to the previous year.

應科院透過參與國際創科盛事及海外交流活動提升知名度的策略已初見成效。在2023/24年度，全球媒體報道按年升幅近倍。

[1] According to the National Academy of Inventors (NAI) announcement on "Top 60 non-profit institutions and government agencies granted US utility patents in 2023".
根據美國國家發明家科學院公佈的2023年全球60所獲頒最多美國專利的頂尖非盈利研究機構和政府機構名單。

[2] According to the "Hong Kong Patent Landscape Report", released on 31 August 2023 by the Federation of Hong Kong Industries and the Hong Kong Productivity Council.
根據香港工業總會和香港生產力促進局於2023年8月31日發佈的《香港專利分析研究》報告。

A YEAR AT A GLANCE
年內盛事

April 2023

ASTRI Technovation Centre opened, featuring an array of leading homegrown technologies. It serves as an exchange platform for the tech sector to foster collaboration among the government, industry, academia and research institutions, contributing to the development of Hong Kong as an international I&T centre. Picture shows the Hon Andrew Leung, President of the Legislative Council, delivering a speech at the opening ceremony.

2023年4月

應科院「創新科研中心」開幕，展示香港領先的科研成果，提供創科交流平台，推動「政、產、學、研」合作，為香港發展成國際創科中心作出貢獻。圖為立法會主席梁君彥議員於開幕禮上致辭。

April 2023

ASTRI actively participated in InnoEX, funded by the HKSAR Government, showcasing highly-anticipated pioneering technologies that bring the concept of a future smart city to life.

2023年4月

應科院積極參與由香港特區政府資助的「香港國際創科展」，並展出多項備受矚目的創新科技，讓未來智慧城市活現眼前。

June 2023

ASTRI hosted the "Yangtze River Delta Technology Transfer Conference and Tech-exchange Meeting" in Suzhou, aiming to promote the broader adoption of innovation and technologies. Attracting more than 200 mainland entrepreneurs and technology experts, the event has further deepened technological collaboration between the two regions.

2023年6月

應科院在蘇州舉行「長三角成果轉化發佈會暨科技交流會」推動創新科技落地應用，吸引逾200名內地企業家及科技專家出席，進一步深化兩地的創科合作。

April 2023

ASTRI hosted the launching ceremony of the "Smart Mobility Technology (C-V2X) Alliance" at the Digital Economy Summit.

2023年4月

應科院於數字經濟峰會上舉行「智慧出行車聯網技術聯盟」的成立儀式。

June 2023

ASTRI exhibited at the PT Expo China, showcasing a range of the latest innovations and award-winning technologies. The exhibition is hosted by the Ministry of Industry and Information Technology.

2023年6月

應科院於國家工業和信息化部主辦的「中國國際信息通信展覽會」上展示多項最新科研成果和獲獎技術。

June 2023

ASTRI's Summer Internship Programme and FinTech Future Leader Academy were popular among tech undergraduates, with the number of applicants leaping by 20% to 3,000. Close to 100 young talents enjoyed an 8-week fruitful tech journey at ASTRI.

2023年6月

應科院的「暑期實習計劃」及「金融科技未來領袖學院」實習計劃廣受歡迎，申請者按年大增兩成至3,000人，當中獲選的近100名年青才俊，在應科院展開為期8周的充實創科之旅。

September 2023

"Microelectronics Technology Consortium" organised its first delegation to Zhuhai, visiting renowned companies to learn about the applications of microelectronics technology in various fields.

2023年9月

「微電子技術聯盟」舉辦首個考察團到訪珠海，參觀當地知名企業，了解微電子技術在不同領域的應用。

September 2023

ASTRI's mission to Beijing aimed at keeping abreast of the latest planning for the advanced-level autonomous driving demonstration zone in the Capital.

2023年9月

應科院訪京之行旨在加深了解首都高級別自動駕駛示範區的最新規劃。

October 2023

ASTRI has initiated specific collaborations with several institutions in Jiangsu Province. These include setting up a "Hong Kong Yangtze River Delta Technology Transfer Centre", and promoting the adoption of Hong Kong technologies in Suzhou. Picture shows Professor Sun Dong (left), Secretary for Innovation, Technology and Industry, HKSAR Government, and Mr Xin Changxing (right), Secretary of the CPC Jiangsu Provincial Committee, at the launching ceremony.

2023年10月

應科院與江蘇省多個機構開展具體合作，當中包括設立「香港應科院長三角成果轉化中心」，推動蘇州企業引入香港研發的科技在蘇州落地應用。圖為香港特區政府創新科技及工業局局長孫東教授（左）與江蘇省委書記信長星先生（右）主持揭牌儀式。

November 2023

ASTRI's Smart Mobility Technology (C-V2X) Alliance visited Suzhou and Wuxi to explore the C-V2X ecosystem and technological development in the Yangtze River Delta region.

2023年11月

應科院「智慧出行車聯網技術聯盟」前往蘇州及無錫，深入考察長三角地區的車聯網生態系統和技術發展。

November 2023

ASTRI and the Housing Bureau of the HKSAR Government signed an MoU to establish a strategic partnership for exploring innovative technology solutions to enhance construction efficiency, and optimise property management process.

2023年11月

應科院與香港特區政府房屋局簽署合作備忘錄，建立策略夥伴關係，共同探索創新科技解決方案，提高建造安全及效率，優化物業管理流程。

November 2023

More than 100 industry leaders attended a symposium in celebration of the first anniversary of the "Microelectronics Technology Consortium", including Mr Alfred Sit (second from left), the then Secretary for Innovation and Technology, HKSAR Government; and Mr Ivan Lee (second from right), Commissioner for Innovation and Technology, HKSAR Government.

2023年11月

逾百位業界領袖出席論壇並慶祝「微電子技術聯盟」成立一周年，當中包括香港特區政府時任創新及科技局局長薛永恒先生（左二）及香港特區政府創新科技署署長李國彬先生（右二）。

November 2023

ASTRIANs from various departments banded together and took on the thrilling "Corporate Challenge" competition organised by Outward Bound Hong Kong, conquering a series of exhilarating outdoor tasks. Competing with many other teams, we have won the "Super Tech Cup" championship and placed first runner-up in the Plate category.

2023年11月

來自不同部門的ASTRIAN組隊參加了由Outward Bound Hong Kong舉辦的「外展衝勁樂」比賽，順利完成了一系列有趣而具挑戰性的戶外項目，並從眾多參賽隊伍中贏得了「至尊科技盃」冠軍以及「碟賽」亞軍。

December 12月 2023

ASTRI held the "Beijing Economic and Technological Development Area Tech-Exchange Conference" in Yizhuang, Beijing, to foster in-depth I&T cooperation between the two regions. Aiming to accelerate technology transfer and promote the adoption of Hong Kong's innovative technologies in Beijing, the hybrid event attracted more than 700 industry experts and business leaders.

2023年12月

應科院於北京亦莊舉行「北京經濟技術開發區科技交流會」，促進兩地創科深度合作，加速科研成果轉化和相關技術對接，並推動香港創新科技在北京落地應用，線上線下合共吸引逾700名行業專家和業界領袖參與。

December 2023

We hosted a spectacular Christmas and Annual Staff Party for our ASTRIANs and took this opportunity to recognise and honour our exceptional colleagues and teams for their outstanding contributions. The event featured an exhilarating Lucky Draw and an array of delectable culinary delights.

2023年12月

應科院舉行聖誕及年度員工聯歡會，並頒發獎項予各位傑出員工及團隊，表揚他們的出色表現和貢獻。大家除了享受各式佳餚外，還參與幸運大抽獎，盡興而歸。

January 2024

ASTRI took part in the "Consumer Electronics Show" in Las Vegas, United States, showcasing its pioneering applied technologies and exploring opportunities for collaboration abroad. These technologies included ultra-light AR/VR compatible head-mounted display and sensing devices, privacy-preserving sensing technology and optical security labels for anti-counterfeiting.

2024年1月

應科院參與在美國拉斯維加斯舉行的「國際消費電子展」，展出多項領先的應用科技，包括超輕AR/VR兼容頭戴式顯示器與傳感裝置、保護私隱傳感技術、光學防偽標籤技術等，探索海外合作機遇。

January 2024

"GBA iForum" was initiated by the Federation of Hong Kong Industries, with ASTRI being one of the organisers. For the first time, ASTRI showcased C-V2X technologies through an interactive game, drawing interest from guests including the Chief Executive of HKSAR, Mr John Lee.

2024年1月

「2024大灣區（東莞）工商界高峰論壇及交流會」由香港工業總會牽頭，而應科院是主辦機構之一。應科院首次以互動體驗方式展出車聯網和無人車技術，吸引一眾嘉賓試玩，包括香港特別行政區行政長官李家超先生。

February 2024

ASTRI has inaugurated a "FinTech and ESG Alliance", actively engaging with industry stakeholders. It focuses on leveraging ASTRI's core technologies to address industry pain points and construct an ecosystem of exchange and knowledge sharing through activities such as seminars, workshops, and study tours. The Hon Jeffrey Lam (Centre), Member of the Executive Council and Legislative Council, was the Guest of Honour.

2024年2月

應科院成立「金融科技與永續發展聯盟」，積極與業界持份者溝通，聚焦以應科院的核心科技解決行業痛點，並透過舉辦座談會、工作坊及考察團等活動建構交流和知識共享生態圈。行政會議成員兼立法會議員林健鋒先生（中）親臨主禮。

February 2024

ASTRI developed a privacy-preserving "Federated Learning" technology to empower small and medium-sized enterprises (SMEs) in Hong Kong with enhanced access to financial products and services, simplifying the financing and credit application and approval procedures for SMEs. Standard Chartered Bank (Hong Kong) Limited has adopted this technology, providing innovative financial solutions for customers of Lalamove and FreightAmigo .

2024年2月

應科院開發的「聯盟式學習」技術保障企業客戶私隱，讓中小企業更容易找到合適的金融產品及方案，同時有效簡化中小企業融資及信貸的申請及審批流程。有關技術已率先被渣打銀行（香港）有限公司採用，為Lalamove及FreightAmigo的客戶提供創新金融方案。

February 2024

ASTRI and its ecosystem partners participated in Mobile World Congress Barcelona to showcase the latest 5G technologies and award-winning innovations to global industry players.

2024年2月

應科院及合作夥伴攜同先進5G技術參與在西班牙巴塞隆拿舉行的「世界移動通訊大會」，向環球業界展示屢獲殊榮的科技成果，推廣香港創科優勢。

March 2024
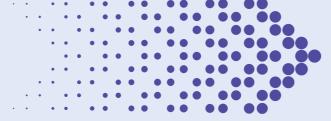
ASTRI has signed a contract and a Memorandum of Understanding with the National Science and Technology Development Agency (NSTDA) and the National Credit Bureau Company Limited (NCB) respectively, paving the way for R&D collaboration in smart mobility, FinTech, artificial intelligence, and more.

2024年3月

應科院與泰國國家科技發展局（NSTDA）以及泰國國家信用局（NCB）分別簽署了合約和合作備忘錄，就智慧出行、金融科技、人工智能等多個技術領域展開全面科研合作。

AWARDS AND ACCOLADES
獎項與榮譽

Throughout the year, ASTRI received numerous prestigious honours and awards, showcasing our R&D capabilities and innovations, which are widely recognised by industry at home and abroad.

應科院於年內獲頒多個重要獎項與榮譽，充分顯示出我們的研發能力備受全球業界認同。

Full List
完整名單

ASTRI garnered 34 awards at the 48th International Exhibition of Inventions Geneva, including a "Special Award for Innovation from King Abdulaziz University", two "Gold Medals with the Congratulations of the Jury", six gold medals, and 25 silver and bronze medals. This is ASTRI's best result by far, making it one of the top award-winning organisations in Hong Kong.

應科院於「第48屆日內瓦國際發明展」中勇奪34個科研獎項，包括「特別創意大獎」（King Abdulaziz University-Special Award for Innovation）、兩項「評審團嘉許金獎」、六項「金獎」，以及25項「銀獎」及「銅獎」，奪獎成績為歷年之冠，亦是香港代表團獲獎最多的機構之一。

Dr Justin Chuang (right), Vice President, Communications Technologies, ASTRI, was elected a 2023 Fellow of the Hong Kong Academy of Engineering Sciences.

應科院通訊技術副總裁莊哲義博士(右) 榮膺2023年香港工程科學院院士。

ASTRI was awarded the prestigious "Data Initiative of the Year" at the Asia FinTech Awards 2023 in Singapore.

應科院於新加坡的「亞洲金融科技獎」中獲頒「最佳年度數據倡議」殊榮。

ASTRI achieved excellent results at the IFTA FinTech and Innovation Achievement Awards 2022/23, where it was honoured with the "Platinum Award – Cybersecurity and Data Protection" and "Silver Award – Banking Tech".

應科院在「IFTA 金融科技及創新成就獎2022/2023」中取得佳績，分別獲得「鉑金獎 - 網絡保安及數據保護」以及「銀獎 - 銀行科技」。

With our "HK HoneyNet for Actional Threat Intelligence" technology, ASTRI won the "FinTech (Regulatory Technology and Risk Management) Silver Award". We also secured the "Smart Business (Solution for Business and Public Sector Enterprise) Bronze Award" for our "Light-weight Adaptive IoT Intrusion Detection and Prevention System enabled by AI".

應科院憑藉「香港蜜網（HoneyNet）－早期威脅捕捉與分析網絡」及「AI 賦能輕量級物聯網入侵檢測防禦系統」，分別獲頒發2023香港資訊及通訊科技獎「金融科技（監管科技及風險管理）銀獎」，以及「商業方案（商業及公營機構）銅獎」。

ASTRI won 10 awards at the third Asia Exhibition of Innovations & Inventions Hong Kong, including the "Gold Medal with Congratulations of the Jury" and the "First Prize of Inventions Geneva Award", along with two gold and six silver medals.

應科院於第三屆「亞洲創新發明展覽會」中榮獲10個獎項，包括「評審團嘉許金獎」、「日內瓦發明一等獎」、兩項「金獎」，以及六項「銀獎」。

ASTRI's cutting-edge "HoneyNet "and C-V2X technologies were recognised at the CAHK Star Awards 2023, winning the "Best Cloud Solution Silver Award" and the "Best 5G Application Bronze Award", respectively.

應科院研發的「香港蜜網」及車聯網科技走在科技尖端，讓應科院於2023年度的香港通訊業聯會非凡年獎中，分別贏得「雲端方案卓越獎」銀獎以及「5G應用方案卓越獎」銅獎。

"HoneyNet" and "Federated Learning" technologies have brought ASTRI two "Excellence Awards - Tech Company of the Year" at the 2023 BUSINESS GOVirtual Tech Awards, in the Cloud & Edge Computing and FinTech categories, respectively.

應科院憑「香港蜜網」及「聯盟式學習」科技，於2023 BUSINESS GOVirtual Tech Awards分別榮獲「領軍科技獎 – 雲端運算」，以及「領軍科技獎 – 金融科技」。

By establishing a fair and positive working environment, ASTRI enables our talent to fully unlock their potential and strive for excellence.

應科院致力構建公平愉快的工作場所，讓員工各展所長，齊心向目標進發，建立追求卓越的機構文化。

HR Asia Best Companies to Work for in Asia 2023

This award recognises ASTRI's HR practices and well-being initiatives for collaborative development, which foster employee engagement towards positive workplace cultures.

這個獎項表揚應科院在實踐人力資源政策及員工福利方面的成績，有助促進員工協作發展，積極參與並建立正面的職場文化。

Happy Organisation Citation
開心機構

ASTRI has been honoured with the "Happy Organisation" citation for 2023, acknowledging our efforts in cultivating a joyful working culture and promoting a pleasant work environment.

應科院獲選為開心機構2023之一，嘉許我們營造快樂工作文化及推動愉悦工作環境方面的努力。

JobMarket Employer of Choice Award and Outstanding Employee Communication Award
JobMarket「卓越僱主大獎」及「卓越僱員溝通大獎」

These awards affirm ASTRI's achievements in pursuing HR excellence and implementing practical communication strategy as a caring employer.

應科院作為關懷員工的僱主，這兩個獎項肯定了我們在追求卓越人力資源管理以及落實實務溝通策略方面的成就。

ESG Pledge
ESG 約章

Since 2023, ASTRI has been accredited under the "ESG Pledge Scheme", demonstrating our commitment to implementing and promoting sustainable development.

自2023年，應科院獲「ESG約章」行動的認證，確認我們在踐行和促進可持續發展的決心。

FAST FACTS
數字概覽

As of 31 March 2024, ASTRI:
截至**2024年3月31日**，應科院：

751
employed 聘用

employees in Hong Kong and Mainland China
名員工，分佈香港和內地

1,100
carried out 已完成
research projects
研究項目

1,500
performed 已成功轉移
technology transfer
項技術至業界

1,100+
was granted 獲
patents
專利授權

In fiscal year 2023/24, ASTRI:
在**2023/24**財政年度，應科院：

69
was granted 獲批
patents
項專利

40
commenced 開展
new projects
個新項目

62
received 榮獲
local and international awards
個國際及本地獎項

34
signed 簽訂
technology licensing agreements
份專利技術授權協議

Non-ITF Contract Research Projects
非創新及科技基金合約研發項目

按年

+131%
y-o-y in terms of value
(以合約款項計算)

65%
Level of income received from the industry
來自業界的收入水平

WHO WE ARE
認識應科院

Hong Kong Applied Science and Technology Research Institute (ASTRI) was founded by the Government of the Hong Kong Special Administrative Region (HKSAR) in 2000. Our mission is to enhance Hong Kong's competitiveness through applied research. Over the years, ASTRI has nurtured a pool of research and innovation and technology (I&T) talents, generating I&T benefits for the community. We have earned numerous international accolades for our pioneering innovations as well as exemplary contributions to both business and society.

ASTRI's core R&D competence is grouped under five Technology Divisions: Advanced Electronic Components and Systems; Artificial Intelligence and Trust Technologies; Communications Technologies; Innovative Mind; and IoT Sensing and AI Technologies. These are applied across six core areas, which are Smart City, Financial Technologies, New Industrialisation and Intelligent Manufacturing, Digital Health, Application Specific Integrated Circuits and Metaverse.

香港應用科技研究院（應科院）由香港特別行政區政府於**2000**年成立，其使命是透過應用科技研究提升香港的競爭力。多年來，應科院致力培育研究及創科人才，為廣大社群提供創科效益，通過其技術創新及對工商業界和社區的傑出貢獻，屢獲國際殊榮。

應科院的主要科技研發領域可歸納於五個技術部門，包括：先進電子元件及系統、人工智能及可信技術、通訊技術、創新思維、物聯網感測與人工智能技術。技術研發主要應用在六項重點範疇：智慧城市、金融科技、新型工業化及智能製造、數碼健康科技、專用集成電路及元宇宙。

OUR VISION
我們的願景

Enhance Hong Kong's competitiveness in the technology-based industries through applied research.

透過應用科技研究，協助發展以科技為基礎的產業，藉此提升香港的競爭力。

OUR MISSION
我們的使命

> Conduct relevant and high-quality research and development for transfer to industry;

> Encourage collaboration among government, industry, academia and research;

> Foster wider adoption of innovation and technology (I&T);

> Nurture Hong Kong's I&T talents; and

> Promote Hong Kong's I&T advantages.

> 進行相關及高質素的科技研發工作，並把科研成果轉移給不同產業應用；

> 鼓勵「政策學研」合作；

> 推動更廣泛應用創新科技；

> 培育香港創科人才；以及

> 推廣香港創科優勢。

OUR VALUES 我們的核心價值

Accountability 問責

We work in an ethical, honest, open and fair manner and are responsible for our actions.

我們恪守專業操守，以誠實的態度和公開公平的原則處事，並承擔責任。

Service 服務

We render timely and world-class services to our stakeholders.

我們為不同的持份者提供適時並達世界水平的服務。

Tenacity 堅毅

We strive to overcome all challenges to the best of our ability.

我們百折不撓，竭盡所能，克服挑戰。

Respect 尊重

We give due respect to others and ourselves, to establish and support an environment of teamwork and growth.

我們律己敬人，以建立團體精神，促進個人成長。

Innovation 創新

We innovate to achieve betterment for Hong Kong, our country and the world.

我們致力創新，造福香港、國家和世界。

BUSINESS SCOPE
業務範圍

ASTRI aspires to be one of the most influential and impactful research institutes in the region by successfully delivering world-class innovation and transferring new technologies to different industries. We have reaped fruits for both ASTRI and our customers with a host of commercially viable technologies readily available for industry deployment, creating many business opportunities.

應科院致力成為區內最具影響力和最重要的科研機構，不斷為業界帶來世界級創新技術。我們研發了大量可以商業化的技術，可隨時被業界應用，由此創造大量商機，為應科院和我們的客戶帶來了豐碩成果。

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R&D Professionals
研發專才

ASTRI has teams of brilliant researchers, led by competent professionals, many of whom are prominent technologists in their respective fields. Among our R&D staff, 20% holding doctoral degree and 56% holding Master's degree.

應科院聘用的科研人員中，兩成已取得博士學位，56%擁有碩士學位。團隊領導都是來自不同技術領域的傑出專家，研究員在他們的帶領下，進行卓越的科技研究。

Intellectual Properties
知識產權

Patents are important assets for ASTRI because they represent the originality and value of our innovation, and serve as a foundation for technology transfers to the industry. Since its inception, ASTRI has filed over 1,400 patent applications in China, the US and other countries. As of 31 March 2024, more than 1,100 patents have been granted to ASTRI.

專利是應科院的重要資產，它們顯示我們創新研發的原創性和價值，並作為技術轉移予業界的基礎。應科院自成立以來已於中國、美國及其他國家申請了逾1,400項專利項目。截至2024年3月31日，應科院共獲授超過1,100項發明專利。

Technology Transfer
技術轉移

ASTRI focused on developing innovative and commercially viable technologies readily available for market deployment. There were close to 1,500 cases of technology transfers conducted through research contract, technology licensing and other forms of partnership.

應科院聚焦研發嶄新且適合商業化的科技，我們透過研發合約、授權及其他合作模式將近1,500 項技術轉移給產業界。

ASTRI's Licensing and R&D Projects
應科院的授權及研發項目

Ways of Collaboration
合作模式

ITF-funded Platform Project
創新及科技基金資助的平台項目

業界投資
Industry Contribution

10%

Projects that are mainly funded by Innovation and Technology Fund (ITF) with industry contribution of at least 10% of the total project costs. ASTRI owns all IP rights but industry partners can license the IP non-exclusively.

項目主要由創新及科技基金資助，業界投入至少佔總成本一成資金。應科院擁有所有知識產權，但業界可以獲非獨家授權使用相關技術。

業界投資
Industry Contribution

100%

ITF-funded Seed Projects
創新及科技基金資助的種子項目

Projects that are forward-looking or exploratory work, providing foundation work for future projects.

前瞻性和探索性質的研發項目，為將來的項目奠下基礎。

Industry Collaborative Project
業界合作項目

業界投資
Industry Contribution

>30%

Industry partner can exclusively license the foreground IP for a period.

業界夥伴可獲獨家授權使用研發技術一段時間。

業界投資
Industry Contribution

>50%

Industry partner can own the foreground IP.

業界夥伴可擁有其後開發項目的知識產權。

Both ASTRI and partners contribute funds and other resources.

應科院及合作夥伴雙方均投入基金和其他資源。

Contract Research
研發合約

Industry is responsible for 100% of R&D project costs. The R&D projects are customised according to industry partners' requests. Industry partner can own the foreground IP.

業界夥伴須負責所有科研項目成本，研發項目會按業界夥伴個別需要而制定，而業界夥伴則可擁有其後開發項目的知識產權。

Public Sector Trial Scheme (PSTS)
公營機構試用計劃

PSTS provides funding support for production of prototypes/samples and conduction of trial schemes in the public sector to facilitate and promote the realisation and commercialisation of R&D outcomes under ITF projects.

計劃資助製作原型/樣板並在公營機構內進行試用，以促進和推動基金項目，實現科研成果商業化。

BOARD OF DIRECTORS
董事局

Back row from left: Mr William Ho, Mr Wilfred Wong, Mr Edmund Lee, Mr Stephen Chau, Mr Peter Ng, Mr Eddie Mak, Mr Charles Chow, Prof Steve Chuang, Ms Ada Wong, Mr Theodore Ma, Ir Dr Samson Tai, Dr Felix Chow, Mr Jack Ng

Front row from left: Prof Martin Wong, Dr Alfred Ng, Mr Ivan Lee, Ir Sunny Lee, Prof Chan Chun-kwong, Mr Anthony Tong, Prof Christopher Chao

後排左起：何達先生、黃錦沛先生、李治緯先生、鄒金根先生、吳漢瑜先生、麥德偉先生、周世強先生、莊子雄教授、王賢敏女士、馬衡先生、戴劍寒博士 工程師、周博軒博士、伍煥杰先生

前排左起：黃定發教授、吳民卓博士、李國彬先生、李惠光工程師、陳俊光教授、湯達熙先生、趙汝恒教授

ASTRI is governed by a Board of Directors comprising representatives from the industry, commercial and professional sectors, the academia and the HKSAR Government. Directors are appointed by the Government and have collective responsibility for overseeing ASTRI's operation and strategic directions. Three Functional Committees were formed to assist the Board in managing ASTRI:

> **The Finance and Administration Committee**

is tasked with overseeing all aspects of ASTRI's finance and administration;

> **The Technology Committee**

is responsible for guiding research initiatives at ASTRI; and

> **The Audit Committee**

ensures both internal and external audit processes are executed properly.

ASTRI is mandated to prepare and submit detailed annual plans, quarterly and yearly operational reports, and annual audited accounts pertaining to its operation and projects. These documents require approval from both the Board of Directors and the Innovation and Technology Commission.

During the 2023/24 fiscal year, the Board convened a total of five meetings, with an average attendance rate of 86.4%. Please read pages 89 to 90 for more details.

董事局是應科院的管治組織，由香港特區政府委任的成員包括來自業界、工商和專業界、學術界及香港特區政府的代表。董事局集體負責監督應科院的營運及發展方向，並下設三個功能委員會，包括：

> **財務及行政委員會**

負責監察應科院的財務及行政事宜；

> **科技委員會**

負責監察應科院的研究項目；以及

> **審計委員會**

負責確保內部和外部審計程序妥善執行。

應科院須提交年度計劃、載述營運情況的季度及年度報告，以及有關營運和研發項目的年度經審核帳目，供董事局和創新科技署批核。

於2023/24財政年度，董事局召開了五次會議，平均出席率為86.4%。詳情請翻閱89至90頁。

MESSAGE FROM CHAIRMAN AND CEO
主席及行政總裁的話

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Innovation and technology (I&T) play a critical role in shaping the ever-evolving global economic landscape. I&T power advancements across industries, bringing greater efficiency and ushering in new markets. As digital transformation accelerates, more traditional industries are harnessing technology to sharpen their competitive edge, while new tech-driven sectors emerge, creating new opportunities for the wider adoption of homegrown technologies.

創新科技在不斷演變的全球經濟格局中發揮着關鍵作用,推動各行各業進步,提升效率、開拓新市場。隨着數碼轉型加速,愈來愈多傳統企業藉創新科技提升競爭優勢,由科技驅動的新興產業亦應運而生,為港產科技創造更多落地應用的機遇。

As Hong Kong's largest technology research institute, ASTRI has made remarkable contributions to Hong Kong I&T journey since its inception in 2000. To date, we have been granted over 1,100 patents, and transferred 1,500 technologies to various industries.

Over the past year, ASTRI not only made significant technology breakthroughs and won numerous awards, but also achieved fruitful results in connecting the I&T community, expanding our presence in the Mainland and overseas, promoting I&T advantages, and nurturing I&T talents.

作為全港最大的科研機構,應科院自2000年成立以來,為香港創科發展貢獻良多。我們至今已獲得超過1,100項專利,並向各行各業轉移1,500項技術。

過去一年,應科院除了在不同科研領域取得突破、屢獲殊榮外,亦在聯繫創科社群、擴展內地與海外影響力、推廣創新科技優勢以及培育創科人才方面取得豐碩成果。

> " ASTRI is actively aligning its efforts with national and local government policies on I&T. We are committed to fostering collaboration among key stakeholders, driving technology transfer, and promoting the growth of emerging industries. Our goal is to expedite the formation of a "New Quality Productive Forces" that will propel Hong Kong's economy and society to new heights.
>
> 應科院積極配合國家和香港特區政府的創科政策，致力凝聚「政產學研」合作，推動技術轉移，引領新興產業蓬勃發展，加快形成「新質生產力」，拉動香港經濟增長和社會進步。 "
>
> Ir Sunny Lee, Chairman, ASTRI
> 應科院主席李惠光工程師

Powering Hong Kong's Future
增港發展動力

The national "14th Five-Year Plan" supports the development of the Greater Bay Area into an international centre for innovation and technology, providing a clear direction for Hong Kong's development and bringing new opportunities for the industry. Additionally, the Chief Executive of the Hong Kong Special Administrative Region (HKSAR) announced a comprehensive strategy in the Policy Address to promote the I&T development in Hong Kong, including strengthening the innovation and technology ecosystem and expanding the I&T talent pool. These initiatives align with the goals set out in the "Hong Kong Innovation and Technology Development Blueprint".

ASTRI has been actively supporting the national and HKSAR Government's policies on I&T. We have developed commercially viable technologies that can be used across industries, including advanced electronic components and systems, artificial intelligence, communication technologies and IoT sensing technologies etc. We are committed to fostering collaboration among government, industry, academia, and research sectors, promoting technology transfer, leading the robust development of emerging industries, and accelerating the formation of "New Quality Productive Forces".

國家「十四五規劃」支持大灣區發展成為國際創新科技中心，為香港發展定位提供了明確的發展方向，並為業界帶來新機遇。此外，香港特區行政長官在施政報告中公佈推動香港創新科技發展的四管齊下策略，包括加強香港創新科技生態圈、擴大創新科技人才庫等，與《香港創新科技發展藍圖》目標一致。

應科院一直積極配合國家及香港特區政府的創科政策，研究商業上可行的創新科技，包括先進電子元件及系統、人工智能及可信技術、通訊技術、物聯網感測與人工智能技術等，供各行各業使用。我們亦致力凝聚「政產學研」合作，推動技術轉移，引領新興產業蓬勃發展，加快形成「新質生產力」。

Promoting Technology Commercialisation
促進科研成果商業化

ASTRI has been at the forefront of promoting the practical application of R&D outcomes, collaborating not only with industry partners but also with government departments, public organisations, and public utilities. These collaborations are aimed at improving the quality and efficiency of public services, ultimately enhancing the convenience, comfort, and safety of daily life for the people of Hong Kong.

In fiscal year 2023/24, ASTRI's level of industry income reached 64.8%, reflecting our achievements in commercialisation. In addition, our partnership on "Non-ITF Contract Research Projects" reached new heights. These projects focused on the practical application of technology to address business painpoints.

The success of these projects demonstrates the immense potential of I&T to drive positive change in society and contribute to the development of a more efficient, responsive and user-friendly public service sector. We anticipate continued growth in these collaborative endeavours as more organisations recognise the transformative power of applied research and development, realising the Hong Kong Smart City Blueprint.

應科院積極推動科研成果落地應用，合作夥伴除了業界外，亦包括政府部門、公營機構、公用事業機構等，有助提升公共服務質素及效率，讓市民生活更方便、舒適及安全。

在2023/24財政年度，應科院來自業界的收入水平高達64.8%，反映我們科研成果商業化的成績理想。此外，我們的「非創新及科技基金研發項目」亦創新高，這些項目聚焦應用創新科技解決業務痛點。

這些合約項目成效顯著，展示了創新科技的巨大潛力，有助發展更高效、反應更迅速及更人性化的公共服務，以至推動社會進步。隨著更多機構認識到應用科技帶來的變革，我們預計這些合作項目將會持續增長，支持落實香港智慧城市藍圖。

"

Our goal remains on leading the advancement of innovation and technology, and expanding its adoption across industries. We will continue to kick off more relevant R&D projects, supporting Hong Kong's goal of becoming a leading international I&T hub.

應科院將會繼續以「領航科技創新、擴大產業應用」為目標，推動研發創新科技，助力香港發展成為國際頂尖的創科中心。

Dr Denis Yip, CEO, ASTRI
應科院行政總裁葉成輝博士

"

Recognising R&D Achievements
研發成果獲認可

Our R&D excellence was further affirmed by the 62 international awards received and 69 patents were granted in 2023/24. ASTRI is not only the local research institution with the most US patents, but we also achieved the highest in the Derwent Strength Index (DSI) in the Hong Kong Patent Landscape Report, reflecting the excellent quality of our patent portfolio. We are deeply grateful to our highly skilled team of professionals for their dedication and diligence, which have been instrumental in our achievements.

應科院在2023/24年度合共獲得62個國際獎項和69項專利，進一步肯定我們傑出的科研成就。應科院不僅是獲得最多美國專利的香港科研機構，而且在《香港專利分析研究》報告中，我們在專利強度指數（DSI）方面也取得了最高評分，反映專利組合的卓越品質。我們衷心感謝專業科研團隊的奉獻和努力，讓應科院屢創佳績。

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Connecting the I&T Community
聯繫創科生態圈

ASTRI has been building I&T ecosystems across universities and various industry sectors since the establishment of the Ecosystem and University Technology Transfer Department in 2022. By promoting comprehensive cooperation throughout the upstream, midstream, and downstream segments of the I&T industry chain, ASTRI accelerates the transformation of outstanding R&D results and their application in diverse scenarios and industries.

In 2023/24, ASTRI continued to expand its I&T ecosystem by forging connections with key industry stakeholders. Building on the success of the Microelectronics Technology Consortium (METC) established in the previous fiscal year, we launched the Smart Mobility Technology (C-V2X) Alliance (SMTA) and the FinTech and ESG Alliance (FTEA). Another significant milestone in our efforts to connect the I&T community was the inauguration of the ASTRI Technovation Centre in April 2023. This state-of-the-art facility showcases our leading scientific research achievements and serves as a platform for government-industry-academia-research exchanges in I&T.

應科院自2022年成立「科研生態系統及大學技術轉移部門」以來，一直致力為大學及各行業建立創科生態圈，促進產業鏈上中下游全面合作，加快優秀研發成果轉化，並應用在不同場景和產業，賦能香港高質量發展。

在2023/24年度，應科院繼續與主要行業持份者建立聯繫，共建創科生態圈。承接上一個財政年度「微電子技術聯盟」的成功，我們成立了「智慧出行車聯網技術聯盟」和「金融科技與永續發展聯盟」。應科院「創新科研中心」於2023年4月啟用，是我們聯繫創科界的另一重要里程碑。這個中心展示了我們領先的科研成果，並為「政產學研」提供創新科技交流平台。

Expanding Global Presence
擴大全球影響力

In 2023/24, ASTRI made significant strides in expanding its presence in Mainland China. We initiated collaborations with key cities such as Beijing, Suzhou, and Shenzhen, successfully reaching cooperation agreements with state-owned enterprises and the prestigious Chinese Academy of Sciences. These strategic partnerships aim to foster innovation, knowledge exchange, and technology transfer between the Mainland and Hong Kong.

Our Mainland expansion was further marked by the opening of our office in Hong Kong Science Park Shenzhen Branch in Futian District in January 2024. This strategic move expedites ASTRI's cooperation with Mainland provinces and cities, particularly within the Greater Bay Area, in the area of I&T.

We remain committed to our dual role of "bringing in" and "going global" by actively participating in major I&T events worldwide to showcase Hong Kong's advantages and foster international collaborations. Besides having a strong presence at key local events such as the InnoCarnival, InnoEX and Digital Economy Summit, we also showcased our technologies at the PT Expo China in Beijing, the Consumer Electronics Show (CES) in Las Vegas, the Mobile World Congress (MWC) in Barcelona and other major international events. These events provided an excellent platform for ASTRI to demonstrate our latest technological advancements, engage with industry leaders, and explore potential partnerships.

We strengthened our overseas outreach efforts in 2023/24, focusing on reaching cooperation agreements and promoting the global adoption of homegrown advanced technologies. These efforts yielded notable achievements, including an agreement with the National Science and Technology Development Agency of Thailand. ASTRI also initiated talent exchanges with universities in Singapore, and collaborations with a Finnish elevator company and a university in Sweden.

在2023/24年度，應科院在拓展內地合作方面取得重大進展。我們分別與北京、蘇州和深圳等重點城市開展合作，又成功與國有企業和中國科學院達成合作協議。這些策略夥伴關係旨在促進內地與香港在創新、知識交流和技術轉移方面的合作。

應科院於2024年1月在福田區香港科學園深圳分園開設辦事處，標誌着我們進一步拓展內地業務，加快與內地省市特別是大灣區在創新科技領域上的合作。

我們繼續致力發揮「引進來、走出去」的雙重作用，積極參與全球重要創新科技盛事，展示香港優勢，並促進國際合作。除了參與「創新科技嘉年華」、「香港國際創科展」和「數字經濟峰會」等本地創科活動外，應科院亦在北京的「中國國際信息通信展覽會」、美國拉斯維加斯的「國際消費電子展」、西班牙巴塞羅那的「世界移動通訊大會」等大型展覽，推廣我們的尖端技術。這些活動為應科院提供理想平台，展示我們最新的科研成果，並與行業領袖交流，探索潛在的合作機會。

應科院在2023/24年度加強海外拓展力度，冀達成合作協議，推動港產科研成果在全球落地應用。這些努力已取得成果，包括與泰國國家科技發展局達成協議。我們亦正與新加坡的大學商談人才交流，以及與芬蘭一家電梯公司和瑞典一所大學展開合作。

Nurturing I&T Talent
培育創科人才

We launched the "Top Technology Scholar Programme" and collaborated with the University of Hong Kong and the Hong Kong University of Science and Technology to offer the "ASTRI Work-Study Programme (PhD)".

These initiatives successfully recruited over 250 top-tier technology talents, increasing the team size to 751 members in 2023/24. Nearly 80% of these research professionals hold either a PhD or master's degree, significantly enhancing Hong Kong's I&T talent pool.

應科院推出「精英科技人才招聘計劃」及分別與香港大學和香港科技大學合辦「兼讀博士生工作計劃」，現已成功招聘逾250名頂尖級科技人才加入，整個團隊規模增至751人，當中接近八成的科研專才擁有博士或碩士學位，顯著壯大香港創科人才庫。

Ir Sunny Lee, Chairman of ASTRI, board members and Dr Denis Yip, CEO of ASTRI had a great time with ASTRI colleagues at the Christmas Party
主席李惠光工程師、一眾董事和行政總裁葉成輝博士出席聖誕聯歡會，與員工共渡美好時光。

Celebrating Silver Jubilee
慶祝銀禧

Over the past twenty-four years, ASTRI has been supporting the development of the I&T sector and making contributions to facilitate the transformation and upgrading of diverse industries, fueling Hong Kong's competitive edge and enhancing the quality of life for Hong Kong people.

To commemorate ASTRI's silver jubilee in 2025, we plan to organise a major symposium and exhibition that will bring together key I&T leaders from Hong Kong, the Mainland, and abroad to reflect on the milestones of Hong Kong's I&T development and explore future directions.

We also plan to establish two new technology alliances in the coming year, focusing on construction and property technologies, and artificial intelligence and digital technologies. We will continue to strengthen our promotional efforts and let the ASTRI name be known at home and abroad.

在過去二十四年，應科院一直支持創新科技發展，並在促進各行各業升級轉型、增強香港競爭力，以至提升市民生活質量方面作出貢獻。

為慶祝應科院銀禧紀念，我們計劃在2025年舉辦大型研討會和展覽，廣邀香港、內地和海外的重要創新科技領袖齊聚一堂，回顧香港創新科技發展里程碑，並探索未來發展方向。

此外，我們計劃在來年成立兩個新的科技聯盟，聚焦房地產及建築科技，以及人工智能和數碼科技。我們亦將繼續加強推廣工作，讓應科院的名字在各地更為人知。

Ir Sunny Lee, Chairman of ASTRI (third from left) and Dr Denis Yip, CEO of ASTRI (third from right) shared the joy of ASTRI's outstanding achievement of winning an unprecedented 34 awards at the International Exhibition of Inventions Geneva 2023
應科院在2023年「日內瓦國際發明展」榮獲34個獎項，是歷年最佳成績。主席李惠光工程師(左三)和行政總裁葉成輝博士(右三)與團隊分享得獎喜悅。

Sincere Appreciation
衷心致謝

It is with immense pride that we acknowledge the exceptional team of scientists and staff at ASTRI. Their unwavering dedication, professionalism, and hard work are the driving forces behind ASTRI's success. We extend our deepest gratitude to each and every one of them for their tireless efforts in pushing the boundaries of innovation and technology.

We would like to express our heartfelt appreciation to the HKSAR Government, our esteemed Board of Directors, our valued partners and clients. Your unfailing support and trust have been instrumental in enabling us to fully harness our strengths, seize opportunities, and navigate challenges with confidence and resilience.

Looking ahead, we reaffirm our dedication to serving the diverse stakeholders of the technology ecosystem. By fostering stronger partnerships, promoting knowledge exchange, and driving cutting-edge research and development, we aim to create a brighter and more technologically advanced future for Hong Kong and beyond. As we embark on this exciting journey, we invite you to join us in shaping a future where I&T serve as the catalysts for progress, growth, and prosperity.

優秀的科學家和員工團隊無比專注和專業地辛勤工作，是應科院成功的主要動力，我們引以為傲，並向他們每一位致以最衷心的謝意，感激他們為推動創新科技的發展而努力不懈。

我們還要向香港特區政府、尊敬的董事局成員、合作夥伴和客戶衷心致謝，全賴您們堅定不移的支持和信任，我們才能充分發揮自身優勢、抓住機遇，自信而堅毅地應對挑戰。

展望未來，應科院會繼續致力為科技生態圈及相關持份者服務。通過促進更緊密的合作和知識交流，以及推動先進科技研發，我們將為香港以至其他地區創造一個更美好、科技更先進的未來。在踏上這段科技旅程之際，我們誠邀您與應科院攜手推動創新科技，塑造更進步和繁榮昌盛的未來。

MANAGEMENT TEAM
管治團隊

ASTRI is headed by Chief Executive Officer who is responsible for the company's overall management. He is assisted by the Chief Technology Officer, Chief Operating Offer and Chief Financial Officer as well as other senior executives, for overseeing research and development, business development, technology transfer, marketing and corporate communications, human resources, finance and administration. In fiscal year 2023/24, ASTRI's C-suite leadership includes:

應科院由行政總裁領導，負責整體管理工作，並在首席科技官、首席營運官、首席財務官和其他高級行政人員協助下監督科技研發工作，以及管理業務發展、技術轉移、推廣傳訊、人事、財務、行政等事宜。於**2023/24**財政年度，應科院的領導層包括：

Dr Denis Yip
葉成輝博士
Chief Executive Officer
行政總裁

Mr David Chan[1]
陳滿恒先生[1]
Chief Operating Officer
首席營運官

Ms Cammy Yung
容慧琪女士
Chief Financial Officer
首席財務官

*　Dr Joseph Ng, Chief Technology Officer, left ASTRI on 22 November 2023
　首席科技官吳其彥博士於2023年11月22日離職

[1]　Left ASTRI on 31 March 2024
　於2024年3月31日離職

Technology Division Heads
研發部門領導

Dr Justin Chuang
莊哲義博士
Vice President,
Communications Technologies
通訊技術副總裁

Dr Daniel Shi
史訓清博士
Vice President,
Advanced Electronic
Components and Systems
先進電子元件及系統副總裁

Dr Chen Jung Tsai
蔡振榮博士
Chief Director,
IoT Sensing and AI Technologies
物聯網感測與人工智能技術
首席總監

Dr Alan Cheung
張偉倫博士
Chief Director,
Artificial Intelligence and
Trust Technologies
人工智能及可信技術首席總監

Mr Kenny Chan
陳建龍先生
Chief Director,
Innovative Mind
創新思維首席總監

Senior Executives (In alphabetical order of surname)
高級行政人員 (以英文姓氏順序排列)

Ms Jamie Cheng
鄭可怡女士
Senior Director of Ecosystem,
University Technology Transfer
and Marketing
科研生態系統、大學科技轉移及
市場策劃高級總監

Mr Simon Lee
李漢恩先生
Senior Director of FinTech,
PropTech and Art-Tech
金融、建築及藝術科技高級總監

Dr Jackie Liu
廖振興博士
Senior Director of Smart City
智慧城市高級總監

Mr Michael Poon
潘自翹先生
Head of Internal Audit
內部審計部主管

Ms Jennifer Wang
王瑋女士
Chief Legal Counsel
首席法律顧問

Ms Mavis Yip
葉秀媚女士
Senior Director of Finance
高級財務總監

Back row from left 後排左起：
Mr Simon Lee, Ms Jamie Cheng, Dr Cheng Jung Tsai, Dr Justin Chuang, Dr Daniel Shi, Ms Jennifer Wang, Ms Mavis Yip, Dr Jackie Liu
李漢恩先生、鄭可怡女士、蔡振榮博士、莊哲義博士、史訓清博士、王瑋女士、葉秀媚女士、廖振興博士

Front row from left 前排左起：
Mr Michael Poon, Dr Alan Cheung, Dr Denis Yip, Ms Cammy Yung, Mr Kenny Chan
潘自翹先生、張偉倫博士、葉成輝博士、容慧琪女士、陳建龍先生

WHAT WE DO
我們的工作

CONNECTING THE I&T COMMUNITY
聯繫創科社群

ASTRI established the Ecosystem and University Technology Transfer Department to further bolster the I&T ecosystem by the end of 2022. The department facilitates connections with the I&T community, promotes technology transfer, and supports the commercialisation of research outcomes. As of the end of March 2024, ASTRI has established three alliances to focus on our core technologies while promoting collaboration and knowledge exchange through seminars, workshops, and missions.

應科院於2022年底成立「科研生態系統及大學科技轉移部」,以進一步推動創新科技生態圈的發展。該部門專責促進與創新科技社群的聯繫,推動技術轉移和支援科研成果商業化。截至2024年3月底,我們已成立了三個聯盟,聚焦應科院的重點科技,藉着研討會、工作坊和考察團推動知識交流和合作。

(From Left) Ir Sunny Lee, Chairman of ASTRI, Mr Ivan Lee, Commissioner for Innovation and Technology and Dr Denis Yip, CEO of ASTRI at the opening ceremony of Microelectronics Technology Consortium Symposium
(左起) 應科院董事局主席李惠光工程師、創新科技署署長李國彬先生及應科院行政總裁葉成輝博士為「微電子技術聯盟論壇」揭幕。

ASTRI strives to enhance technology transfer and the commercialisation of research outcomes. By fostering partnerships among the government, industry, academia and research sectors, ASTRI aims to expedite the creation and development of "New Quality Productive Forces" while driving the comprehensive growth of technology ecosystem for different sectors. These efforts are crucial in affirming Hong Kong's status as a global hub for innovation and technology (I&T).

應科院致力推動技術轉移及科研成果商業化。通過促進「政產學研」合作,應科院加快創建和發展「新質生產力」,並引領不同領域的科技生態圈全面成長。這些舉措對鞏固香港作為全球創新科技中心的地位至關重要。

Smart Mobility Ecosystem
智慧出行生態圈

ASTRI established the Smart Mobility Technology (C-V2X) Alliance (SMTA) in April 2023 to cultivate Hong Kong's smart mobility ecosystem by fostering collaboration among government, industry, academia, and research sectors. SMTA aims to advance the deployment of C-V2X technology and infrastructure in the region, ultimately transforming Hong Kong into a globally recognised smart city.

The official launch was attended by Mr Lam Sai-hung, Secretary for Transport and Logistics, HKSAR Government, as well as experts and industry leaders from various sectors. ASTRI also signed Memorandums of Understanding (MoUs) with several business partners. SMTA's mission is to unite ecosystem players, and in fiscal year 2023/24, we organised study missions to Suzhou, Wuxi and Shenzhen to help members stay abreast of mainland China's dynamic smart mobility landscape.

應科院於2023年4月成立「智慧出行車聯網(C-V2X)聯盟」(SMTA),通過促進「政策學研」協作,建立香港智慧出行產業生態圈。SMTA的目標是推動車聯網技術及基礎設施的創新應用,助力香港構建成為全球認可的智慧城市。

香港特區政府運輸及物流局局長林世雄先生以及不同領域的科技專家和行業領袖出席成立儀式。應科院亦於會上與多個合作夥伴簽署了合作備忘錄。聯盟冀推動生態圈團結一致,於2023/24財政年度,我們舉辦了考察團到訪蘇州、無錫及深圳,協助會員掌握內地智慧出行產業的動態。

(From left) Dr Denis Yip, CEO, ASTRI; Mr Lam Sai Hung, Secretary for Transport and Logistics, HKSAR Government; Mr Tony Wong, Government Chief Information Officer, HKSAR Government and Mr Stephen Ho, the then Board Member, ASTRI attended the official launch
(左起) 應科院行政總裁葉成輝博士、香港特區政府運輸及物流局局長林世雄先生、香港特區政府政府資訊科技總監黃志光先生以及時任應科院董事局成員何偉中先生出席聯盟成立儀式。

During the three-day mission to Suzhou and Wuxi, delegates visited renowned autonomous driving companies and pioneering smart driving service platforms. In addition, they had the opportunity to take rides on Qcraft's RoboBus, Baidu's RoboTaxi and Apollo minibus, which offered them first-hand market insights into the application of autonomous public vehicles in the Mainland's transportation landscape
為期三日的蘇州一無錫「海陸空智慧交通」考察團除了參觀多家自動駕駛企業以及智慧駕駛服務公共平台外,團員更有機會親身體驗輕舟智航的RoboBus、百度蘿蔔快跑及阿波龍小巴,進一步了解自動駕駛交通工具在內地場景的實際應用。

METC's First Anniversary
微電子技術聯盟成立一周年

The Microelectronics Technology Consortium (METC) celebrated its first anniversary in November 2023 with over 200 industry experts and business leaders, including Mr Ivan Lee, Commissioner for Innovation and Technology, and Mr Philip Yung, the then Director-General of the Office for Attracting Strategic Enterprises. The concurrent symposium featured leading experts sharing insights into the industry's development and Hong Kong's role as a microelectronics research centre. ASTRI showcased award-winning technologies, presenting opportunities for commercialisation and application.

Throughout the year, METC organised various events, including seminars, business visits, and a trip to Zhuhai, to explore new opportunities and provide a platform for members and industry players to connect and exchange ideas. The strong support and active participation from industry players highlight ASTRI's vital role in facilitating technological advancement and collaboration within the microelectronics industry.

應科院於2023年11月慶祝「微電子技術聯盟」(METC)成立首周年，吸引200多位行業專家和業界領袖參加，包括創新科技署署長李國彬先生和時任引進重點企業辦公室主任容偉雄先生。同場舉行的論壇邀請了業內頂尖專家分享行業發展和香港作為微電子研究中心的真知灼見。我們亦於會上展示了多項獲獎技術，提供商業化應用的機會。

作為微電子業界的聯繫和交流平台，METC於年內組織了多項活動，計有研討會、企業拜訪及以珠海考察團，以探索行業新機遇。聯盟獲業界大力支持和參與，彰顯應科院在促進科技創新與合作所發揮的重要作用。

More than 200 industry stakeholders attended the Microelectronics Technology Consortium First Anniversary Symposium cum Luncheon, jointly promoting the sustainable development of the city's microelectronics ecosystem
超過200位業界持份者齊聚一堂參與「微電子技術聯盟一週年論壇暨午宴」，共同推動香港微電子生態圈持續發展。

Over 400 technology experts and leaders from the financial and green sectors gathered to celebrate the establishment of ASTRI's FinTech and ESG Alliance, among them were Executive Council Member and LegCo Member the Hon Jeffrey Lam (second from left) and LegCo member the Hon Duncan Chiu (second from right)
約400多名來自金融和環保領域的專家和領袖出席「金融科技與永續發展聯盟」成立典禮，促進業界聯繫和合作，當中包括行政會議成員兼立法會議員林健鋒先生(左二)和立法會議員邱達根先生(右二)。

Green FinTech Hub
綠色金融科技樞紐

In February 2024, ASTRI launched the FinTech and ESG Alliance (FTEA) to foster engagement with regulators, policymakers, incubators, and accelerators, FinTech start-ups and enterprises, and other stakeholders, promoting technological collaboration and commercialisation to strengthen Hong Kong's role as a leading green FinTech hub. The opening ceremony brought together over 400 leaders and stakeholders from various sectors, and FTEA is supported by more than 30 financial institutions, associations, and businesses.

FTEA serves as a communication platform for the financial technology and sustainable development sectors, focusing on exploring emerging technologies to revolutionise financial services, enhance operational efficiency, and accelerate the adoption of I&T. With a specific emphasis on environmental, social, and governance factors, and the integration of FinTech solutions, FTEA has planned future events, including forums, networking opportunities, and overseas missions to foster collaboration among stakeholders and capitalise on opportunities in Mainland China and beyond.

應科院於2024年2月成立了「金融科技與永續發展聯盟」(FTEA)，促進與監管機構、政策制定者、孵化器及加速器、金融科技初創及企業等持份者的互動，推動技術協作和科研成果商業化，助力香港發展成綠色金融科技樞紐。活動匯聚了400多位專家及業界領袖，並獲30多家金融機構、協會和企業的支持。

FTEA作為金融科技和永續發展行業的溝通平台，專注探索有助革新金融服務和提升營運效率的新興技術，並加速這些創新科技落地應用。FTEA特別強調「環境、社會和管治」(ESG)因素，以及金融科技解決方案的整合，並已計劃未來舉辦論壇、海外考察團等活動，以促進業界合作，拓展內地及其他國家的商機。

More Collaboration Ahead
擴展大學網絡

Since the launch of the University Technology Transfer (UTT) Scheme in August 2022, ASTRI has signed MoUs with six local universities, including City University of Hong Kong, Hong Kong Baptist University, the Chinese University of Hong Kong, the Hong Kong Polytechnic University, the Hong Kong University of Science and Technology, and the University of Hong Kong, engaging them in projects and driving commercialisation of R&D outcomes. Facilitating technology transfer and commercialisation remains a key focus for ASTRI in 2023/24, with 34 vetted projects, of which 15 are already underway.

Looking forward, we will continue to extend our university network to other local and overseas tertiary institutions, driving innovation and propelling I&T development in Hong Kong to new heights.

自2022年8月啟動「大學技術轉移計劃」以來，應科院已與六所本地大學簽署了合作備忘錄，包括香港城市大學、香港浸會大學、香港中文大學、香港理工大學、香港科技大學和香港大學，開展不同合作項目，推動研發成果商業化應用。在2023/24年度，我們的工作重點之一是促進技術轉移和研發成果商業化，共有34個與大學合作的項目獲審核，並已開展其中15個項目。

展望未來，應科院將繼續擴展大學合作網絡，與更多本地及海外高等院校建立聯繫，推動香港創新科技發展邁向新高峰。

(From second left, front row) Professor Rocky Tuan, President of CUHK; Professor Alexander Wai, President of HKBU; Ir Sunny Lee, Chairman of ASTRI; Ms Lillian Cheong, Under Secretary for Innovation, Technology and Industry; Dr Denis Yip, CEO of ASTRI, as well as (second row, from left) Professor Anderson Shum, Associate Vice-President (Research and Innovation) of HKU; Professor Christopher Chao Yu-hang, Vice-President (Research & Innovation) of PolyU; Professor Sham Mai-har, Vice-President (Research) of CUHK; Professor Michael Tse, Associate Vice-President (Strategic Research) of CityU; and Dr Shin Cheul Kim, Associate Vice-President for Research and Development (Knowledge Transfer) of HKUST, among other guests celebrated the launch of ASTRI Technovation Centre
（前排左二起）中大校長段崇智教授、浸大校長衛炳江教授、應科院主席李惠光工程師、創新科技及工業局副局長張曼莉女士、應科院行政總裁葉成輝博士，以及（第二排左起）港大協理副校長（研究及創新）岑浩璋教授、理大（研究及創新）趙汝恒教授、中大副校長（研究）岑美霞教授、城大協理副校長（策略研究）謝智剛教授、科大協理副校長（知識轉移）金信哲博士與一眾嘉賓共慶應科院創新科研中心開幕。

(From left) Dr Denis Yip, CEO of ASTRI, the Hon Andrew Leung, President of the Legislative Council and Mr Stephen Ho, the then Board Member of ASTRI, officiated at the opening ceremony of ASTRI Technovation Centre
（左起）應科院行政總裁葉成輝博士、立法會主席梁君彥議員及時任應科院董事局成員何偉中先生為應科院「創新科研中心」揭幕。

Technovation Centre Opened
創新科研中心開幕

The ASTRI Technovation Centre, which opened in April 2023, features leading homegrown technologies and serves as an exchange platform for the tech sector to foster collaboration among the government, industry, academia, and research institutions. About 100 exchange events were held so far, attended by officials from Hong Kong and Mainland China, representatives from various sectors and overseas research institutions. Among them were awardee of Shaw Prize in Astronomy Professor Simon DM White, representatives from Thailand Digital Economy Promotion Agency, delegates of missions from Beijing, Shanghai, Qingdao, Ningbo, Suzhou, Hangzhou, Nanjing, Guangzhou, Shenzhen, Zhuhai and Foshan.

The Centre showcased ASTRI's core technologies and R&D achievements across domains such as 5G technology, smart mobility, ArtTech, cybersecurity, and AI applications, highlighting their potential advancing Hong Kong's development as a smart city. Riding on these exchanges, we also explored the opportunities to promote the adoption of homegrown technologies in mainland or overseas markets.

應科院「創新科研中心」於2023年4月開幕，展示香港研發的領先技術，並作為科技界的交流平台，促進「政產學研」協作。我們至今在中心舉辦了近百場交流活動，吸引內地和香港官員、各界代表和海外研究機構到訪。當中包括邵逸夫天文學獎得獎者西蒙懷特、泰國數字經濟促進局代表，以及來自北京、上海、青島、寧波、蘇州、杭州、南京、廣州、深圳、珠海、佛山等地的訪港團成員。

中心展示了應科院在5G科技、智慧出行、藝術科技、網絡安全和人工智能等領域的核心技術和研發成果，聚焦其發展潛力，助力推動香港發展成為智慧城市。我們亦藉這些會面交流，探討把港產科研推廣至內地和海外市場落地應用的機遇。

MAKING INROADS INTO MAINLAND CHINA
拓展內地版圖

Hong Kong is strategically positioned to leverage synergies with neighbouring cities while maintaining its global connectivity. In fiscal year 2023/24, ASTRI has been actively expanding its presence in the region's innovation and technology (I&T) landscape. Through collaborations with industry partners, the establishments of a new office, and the strengthening of ties with Mainland provinces and cities, ASTRI is creating more opportunities for homegrown technologies and driving the industrial and city transformation in the Guangdong-Hong Kong-Macao Greater Bay Area (GBA) and beyond.

香港地理位置優越,能夠充分善用與周邊城市的協同效應,同時聯通國際。在**2023/24**財政年度, 應科院積極擴大區內創科版圖。通過與業界合作、成立新辦事處、加強與內地省市的聯繫,應科院為本土研發技術創造更多落地應用的機會,推動粵港澳大灣區(大灣區)以至全國產業和城市轉型。

New Office in Shenzhen
深圳辦事處啟用

ASTRI's new office in the Hong Kong Science Park Shenzhen Branch in Futian District, inaugurated in January 2024, accelerates I&T collaboration with Mainland provinces and cities, particularly in GBA, and drives industrial transformation through talent training, technology adoption, and commercialisation.

We will further strengthen our role as a "super-connector" by promoting the transformation and upgrading of GBA companies through innovative technologies developed in Hong Kong, while propelling technologies from the region onto the global stage.

應科院於深圳福田區香港科學園深圳分園開設的新辦事處於2024年1月啟用,加快與內地省市的創科合作,特別是在大灣區,透過科研人才培訓、技術應用及商業化等方面,促進產業轉化創新。

應科院亦會進一步加強「超級聯繫人」的角色,推動大灣區企業應用香港研發的創新科技轉型升級,以香港為科技基地,將科研成果輻射至國際市場。

▶ ASTRI set up new office in the Hong Kong Science Park Shenzhen Branch in the Futian District of Shenzhen
應科院在深圳福田區香港科學園深圳分園開設辦事處。

GBA in Focus
聚焦大灣區

Leveraging Hong Kong's strategic advantages in the GBA, we have actively expanded our presence in the region's I&T landscape. In January 2024, ASTRI co-organised the "GBA iForum" in Dongguan with the Federation of Hong Kong Industries (FHKI), Hong Kong Productivity Council (HKPC) and Dah Sing Bank, collaborating with industry partners to explore emerging opportunities in the GBA's development.

During the forum, ASTRI signed a Memorandum of Understanding (MoU) with Dongguan Songshan Lake Hi-Tech Industrial Development Zone to promote the collaboration between Hong Kong and Dongguan. This initiative aims to help companies in both regions seize new opportunities for synergistic I&T development in the GBA. The event featured an exhibition showcasing ASTRI's latest technologies in advanced manufacturing, smart mobility, and urban resilience solutions. The forum attracted nearly 1,000 corporate representatives and delegates from Hong Kong, Macao, and Guangdong, highlighting ASTRI's commitment to driving I&T development in the GBA.

應科院藉著香港在大灣區的戰略優勢,積極擴大我們在區內的創新科技影響力。在2024年1月,應科院與香港工業總會、香港生產力促進局和大新銀行合作在東莞舉辦了「大灣區(東莞)工商界高峰論壇及交流會」,匯集業界合作夥伴,共探大灣區發展新機遇。

藉着這次論壇,應科院及松山湖高新科技開發區簽署了合作備忘錄,推動港莞協作,助力兩地企業把握大灣區科創協同發展的新機遇。高水平的展覽也是活動重要的組成部分,為應科院提供展示最新技術的機會,包括先進製造、智慧出行和增強城市韌性的創新解決方案等。活動吸引了近1,000名來自香港、澳門和廣東的企業代表和代表團參與。

▶ ASTRI signed an MoU with Dongguan Songshan Lake Hi Tech Industrial Development Zone at "GBA iForum"
應科院與松山湖高新科技開發區於會上簽署合作備忘錄。

▶ Ir Sunny Lee (left), Chairman, ASTRI and the Hon Sunny Tan (right), Chairman, Hong Kong Productivity Council joined the "GBA iForum" in January 2024
應科院主席李惠光工程師(左)及香港生產力促進局主席陳祖恒議員(右)於2024年1月參與「大灣區(東莞)工商界高峰論壇及交流會」。

Partnership with Suzhou
推進與蘇州合作

The Suzhou Municipal People's Government established the Dedicated Fund for "ASTRI Yangtze River Delta Centre for Technology Transfer" in Suzhou to support the transfer of research and development (R&D) deliverables and joint R&D collaboration between ASTRI and enterprises in Suzhou.

In October 2023, Mr Xin Changxing, Secretary of the CPC Jiangsu Provincial Committee, led a delegation to ASTRI and witnessed MoU signing among ASTRI, the National Integrated Circuit Design Automation Technology Innovation Center and Jiangsu Industrial Technology Research Institute to foster technological collaboration, attract international talent, and jointly develop research projects.

To further strengthen bilateral I&T exchange, ASTRI organised two seminars in Suzhou Industrial Park and Xiangcheng district, in May and November 2023 respectively, demonstrating its cutting-edge technologies in various fields.

蘇州市人民政府成立了「應科院長三角成果轉化中心蘇州專項支持資金」，以支持應科院與蘇州企業之間的研發成果轉化和聯合研發嶄新科技。

2023年10月，江蘇省委書記信長星先生率領江蘇省代表團到訪應科院，見證應科院與國家集成電路設計自動化技術創新中心及江蘇省產業技術研究院簽訂合作備忘錄，推動科研合作、引進海外人才及聯手開展研究項目。

為了進一步加強兩地之間的科技交流，應科院於2023年5月及11月，分別在蘇州工業園區和相城區舉辦了兩場科技交流會，展示了應科院在不同領域的尖端技術。

Accompanied by Professor Sun Dong (fifth from left, front row), Secretary for Innovation, Technology and Industry, HKSAR Government and Mr Ivan Lee (fourth from left, front row), Commissioner for Innovation and Technology, HKSAR Government, Mr Xin Changxing (centre, front row), Secretary of the CPC Jiangsu Provincial Committee, led a delegation to ASTRI in October 2023
2023年10月，在香港特區政府創新科技及工業局局長孫東教授（前排左五）及創新科技署署長李國彬先生（前排左四）陪同下，江蘇省委書記省人大常委會主任信長星先生（前排中）率領的江蘇省代表團來訪應科院。

Dr Denis Yip (left), CEO of ASTRI signed an MoU with Mr Zhang Qiao, Vice Mayor of the Suzhou Municipal People's Government, to support the upgrade and transformation of industries in Yangtze River Delta region through ASTRI's technology transfer capabilities
應科院行政總裁葉成輝博士（左）與蘇州市副市長張橋先生（右）簽署合作備忘錄，透過應科院的技術轉化能力，支援長三角地區產業升級轉型。

Beijing Collaborations
開拓與北京創科合作

ASTRI has been actively engaging with local government departments, technology enterprises, higher education institutions and business partners in Beijing to explore collaboration opportunities and contribute to the country's I&T development.

In July 2023, ASTRI led a delegation to visit China Shipbuilding Trading Company Limited and the Aerospace Information Research Institute of Chinese Academy of Sciences in Beijing, exploring the I&T cooperation in communication equipment, sensor integration systems, big data analysis, and other technologies. In September 2023, we reached a trilateral consensus to jointly advance R&D projects in both regions.

In September 2023, ASTRI and the "Hong Kong Beijing Applied Science Innovation Centre" signed an MoU to promote technology exchanges and transformation, enhancing I&T collaboration between Hong Kong and Beijing.

In addition, ASTRI and Beijing Economic and Technological Development Area organised a "Technology Exchange Seminar" in December 2023, drawing over 700 experts and leaders. It aims to promote I&T exchanges and cooperation between Beijing and Hong Kong, and establish mechanisms in BDA for the commercialisation of R&D outcomes.

By leveraging the strengths of both regions, this partnership aims to inspire future technology advancements, enhance cooperation among government, industry, academia and research institutions and facilitates the integration of ASTRI's innovative technologies with Mainland application scenarios. Ultimately, this partnership will drive nationwide progress in new industrialisation and create broader opportunities for technological collaboration.

ASTRI積極與北京地方政府部門、科技企業、高等教育機構和商業夥伴探索合作機會，為國家的科技創新發展作出貢獻。

2023年7月，應科院代表團訪問中國船舶工業貿易有限公司和中國科學院「空天信息創新研究院」，探討在通訊設備、傳感器集成系統、大數據分析等技術的科技合作，其後於同年9月達成了三方共識，共同推進兩地的研發項目。

2023年9月，應科院與「港京應用科技創新中心」簽訂合作備忘錄，進一步促進技術交流和轉化，加強北京和香港的創科合作。

此外，應科院與北京經濟技術開發區聯合主辦「北京經開區科技交流會」，吸引了700多位專家和領導參加，推動更多的京港科技交流合作，並在經開區制定科研應用落地轉化機制。

通過充分發揮兩地優勢，雙方的合作夥伴關係旨在激發未來的技術進步，加強「政產學研」之間的合作，並促進應科院創新技術與內地應用場景的融合，最終驅動全國新型工業化發展，開展更廣闊的科技合作機遇。

Ir Sunny Lee, Chairman of ASTRI (right) and Dr Denis Yip, CEO of ASTRI (left) visited Beijing in September 2023
應科院主席李惠光工程師及應科院行政總裁葉成輝博士於2023年9月到訪北京。

Ms Yang Xiuling (centre), Director of the Beijing Municipal Commission of Development and Reform, led a delegation to ASTRI and was received by Ir Sunny Lee (right), Chairman of ASTRI and Dr Denis Yip (left), CEO, ASTRI
北京發改委主任楊秀玲女士（中）率領代表團到訪應科院，並由主席李惠光工程師（右）及行政總裁葉成輝博士（左）接待。

ASTRI organised a "Technology Exchange Seminar" in Beijing Economic and Technological Development Area in December 2023
應科院在2023年12月舉行「北京經開區科技交流會」。

ASTRI and the "Hong Kong Beijing Applied Science Innovation Centre" signed an MoU to further promote innovation and technology exchange
應科院與「港京應用科技創新中心」簽訂合作備忘錄，進一步推廣科技交流和創新。

Step Up Promotions
加強推廣

ASTRI has actively participated in tech fairs held in Mainland China to promote its innovation and technologies. These include the Mobile World Congress (MWC) Shanghai, PT Expo Beijing, and China International Optoelectronic Expo Shenzhen.

In 2023/24, ASTRI received a number of incoming Mainland missions, including Beijing Municipal Development and Reform Commission, Beijing Municipal Political Consultative Conference Delegation, Guangdong People's Government, Nanshan District People's Government of Shenzhen, Nanjing Municipal Science and Technology Bureau, Hangzhou Municipal Science and Technology Bureau. Through these meetings and exchanges, we have deepened technological collaboration with Mainland provinces and cities.

應科院積極參與在內地舉行的科技展覽會，推廣我們研發的創新技術。這些展覽包括上海世界移動通信大會、中國國際信息通信展覽會（北京）以及中國國際光電博覽會（深圳）。

在2023/24年度，應科院接待了內地多個代表團，包括北京市發展和改革委員會、北京市政協代表團、廣東省人民政府、深圳南山區人民政府、南京市科學技術局、杭州市科學技術局，並通過這些會面和交流，深化應科院與內地省市和不同夥伴之間的科技合作。

Mainland Journey Continues
進一步擴大內地創科版圖

Looking ahead, ASTRI will expedite and deepen our expansion in Mainland China, fostering closer I&T partnerships among the government, industry, academia, and research sectors of both regions. As a dual connector, we will promote homegrown technologies to access the Mainland market, while commercialising technologies co-developed with mainland partners for the global market.

展望未來，應科院將加快並深化擴張內地業務，促進「政產學研」更緊密的科技創新合作。作為雙向聯繫者，我們將促進本土研發創新科技開拓內地市場，同時協助與內地合作夥伴共同開發的嶄新技術商業化，面向全球市場。

Leveraging the BIP Asia, ASTRI showcased its extensive patent portfolio to global IP industry players
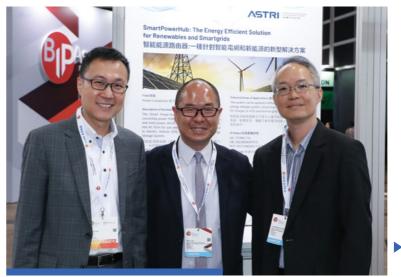應科院於「亞洲知識產權營商論壇」向環球知識產權業界，展示其豐富的知識產權組合。

PROMOTING HONG KONG'S I&T ADVANTAGES
推廣香港創科優勢

ASTRI is dedicated to cementing Hong Kong as a prominent global hub for innovation and technology (I&T). With over 1,100 patents granted and 1,500 technologies transferred to diverse industries, we are exceptionally proud of our accomplishments to date. In fiscal year 2023/24, we have stepped up our efforts to promote the city's I&T advancements at home and abroad, successfully translating these promoting efforts into tangible business outcomes. Looking ahead, we strive to bring Hong Kong's homegrown innovative solutions to the world.

應科院致力鞏固香港作為國際創新科技中心的地位，迄今獲授超過**1,100**項專利，並向各行各業轉移了**1,500**項技術，我們對這些成就引以為傲。在**2023/24**財政年度，我們加大力度在世界各地推廣香港創新科技優勢，並成功把這些推廣工作轉化為實質業務。展望未來，我們會繼續為香港研發的創新解決方案爭取機遇走向全球。

IP Showcase
知識產權展示

ASTRI showcased five cutting-edge innovations and their associated patents at the prestigious Business of IP Asia Forum (BIP Asia) in December 2023. The platform provided a global stage for ASTRI to engage with IP professionals and business leaders, spotlighting our contributions to technological advancement. ASTRI also conducted a dedicated sharing session to promote our rich portfolio of patents and invite industry stakeholders to explore potential collaborations.

ASTRI's R&D achievements have received widespread recognition, and our patent projects draw considerable compliments from the industry. With 20 technology patents, ASTRI ranked 42nd among the top 60 non-profit research institutions and government agencies in the world with the most US patents in 2023, as published by the (American) National Academy of Inventors, putting ASTRI ahead of all other research institutes in Hong Kong on the list.

In addition, according to the *Hong Kong Patent Landscape Report*, released on 31 August 2023 by the Federation of Hong Kong Industries and the Hong Kong Productivity Council, ASTRI performed well in global Patent Cooperation Treaty (PCT) patent inventions with a Derwent Strength Index (DSI) of 42.1, the highest among other organisations, reflecting the excellent average quality of ASTRI's patent portfolio, which is one of the strongest in Hong Kong as stated in the report.

ASTRI will continue to pioneer innovative technologies and enhance their applications in industries, promoting research and development to help Hong Kong become a top global I&T centre.

應科院於2023年12月舉行的「亞洲知識產權營商論壇」(BIP Asia)上展示了五項尖端創新科技的相關專利項目。此論壇讓我們有機會向全球知識產權專家和商界領袖互動交流，聚焦應科院各項創新科技。應科院於會上的分享環節介紹了我們豐富的技術專利，邀請業界持份者共探潛在合作機會。

應科院的科研成果一直備受各界肯定，我們的專利項目廣獲好評。美國國家發明家科學院公佈2023年全球60所獲頒最多美國專利的頂尖非盈利研究機構和政府機構名單中，應科院以20項技術專利名列第42位，在本港科研機構中排名最高。

此外，根據香港工業總會和香港生產力促進局於2023年8月31日發佈的《香港專利分析研究》報告，應科院在全球專利合作條約（PCT）專利發明申請方面表現突出，其專利強度指數（DSI）達到42.1，在眾多機構中評分最高，反映了應科院專利組合的平均品質出眾超凡，是香港其中一家擁有最強專利組合的機構。

應科院將會繼續以領航科技創新、擴大產業應用為目標，推動研發創新技術，助力香港發展成為國際頂尖的創科中心。

Smart City Tech
智慧城市科技

InnoEX provides a platform for industry stakeholders, policymakers, and the public to experience and engage with innovative solutions, fostering collaboration and knowledge exchange to drive the growth of the I&T ecosystem in Hong Kong. Leverage this annual event, ASTRI demonstrated real-world and forward-thinking technologies for the smart city, underscoring our commitment to technological advancement and excellence.

「香港國際創科展」(InnoEX) 為業內持份者、政策制定者和公眾提供平台，讓他們體驗和加深認識各類創新解決方案，促進合作和知識交流，推動香港創新科技生態圈的發展。應科院藉此年度盛會展示具前瞻性的智慧城市應用技術，彰顯我們精益求精、不停進步的科研態度。

Top Technologies Shine
頂尖科技廣受歡迎

Organised by the Innovation and Technology Commission (ITC) of the HKSAR Government, InnoCarnival 2023 was held at the Hong Kong Science Park with the theme of "GoSmart! GoTech! Go Green!". ASTRI provided an immersive experience of the future smart city and green technologies, including 5G cloud robots, intelligent material classification, AI-generated art, AR/VR mixed reality, and other advanced technologies. Our interactive activities captured the attention of thousands of visitors who delved into our technologies.

香港特區政府創新科技署主辦的「創新科技嘉年華2023」(InnoCarnival) 於香港科學園舉行,主題為「智慧生活 綠色科技」。應科院為參加者提供了 有關未來智慧城市和綠色科技的沉浸式體驗,包括5G雲端機械人、智能 材料分類、AI生成藝術、AR/VR混合實境等先進技術。我們的互動式活動 吸引數以千計的參觀者注意,深入了解我們的科研成果。

▶ ASTRI showcased the "5G Cloud Robotics System" and other advanced technologies at InnoCarnival 2023, drawing attention from Professor Sun Dong (fourth from right), Secretary for Innovation, Technology and Industry, HKSAR Government and Mr Ivan Lee (third from right), Commissioner for Innovation Technology, HKSAR Government
應科院於「創新科技嘉年華2023」上展示「5G雲端機械人」系統,吸引香港特區政府創新 科技及工業局局長孫東教授(右四)及創新科技署署長李國彬先生(右三)到場參觀。

▶ Ir Sunny Lee, Chairman of ASTRI, experienced the latest Metaverse technology
應科院董事局主席李惠光工程師於會上體驗最新的元宇宙科技。

Drawing attention at CES
消費電子展受關注

ASTRI actively participated in major international technology events to increase global recognition of our R&D capabilities and the commercialisation potential of our achievements.

At the renowned Consumer Electronics Show in Las Vegas in January 2024, we proudly showcased a selection of our latest cutting-edge technologies, drawing the attention of tech-savvy industry players from across the globe.

應科院積極參與國際大型科技活動,讓全球業界加深認識我們的研發能力 和科研成果商業化的巨大潛力。

在2024年1月在美國拉斯維加斯舉行的「國際消費電子展」上,應科院展示 多項尖端技術,吸引全球各地科技業界的關注。

A More Connected World
世界聯繫更緊密

The Mobile World Congress Barcelona in February 2024 is a strategic platform for fostering innovation and connectivity through technology commercialisation. Alongside ecosystem partners, ASTRI presented a diverse range of solutions aimed at advancing the 5G landscape. From revolutionary network architectures to breakthrough applications, ASTRI's contributions underscored our commitment to shaping the future of global connectivity.

「世界移動通訊大會」(MWC)於2024年2月在西班牙巴塞隆拿舉行,提供 策略平台促進創新和聯繫,藉此推動科技商業化應用。應科院在會上與 生態圈合作夥伴展示了一系列旨在推進5G發展的解決方案。從革命性的 網絡架構到突破性的應用方案,應科院的貢獻彰顯了我們塑造聯通全球 未來的承諾。

▶ ASTRI showcased pioneering technologies at MWC that holds the potential to redefine how we interact, communicate, and experience the digital world
應科院在「世界移動通訊大會」上展示了具開創性的技術,有望重新定義我們在數碼世界 中互動、溝通和體驗的方式。

Record-breaking Awards
獎項破紀錄

ASTRI's I&T excellence was recognised through an impressive array of accolades at the 48th International Exhibition of Inventions Geneva. Among our remarkable achievements, we were honoured with a "Special Award for Innovation – King Abdulaziz University", two "Gold medals with the Congratulations of the Jury", six gold medals, and 25 silver and bronze medals, making us one of the most awarded organisations among Hong Kong delegations.

Furthering our success, ASTRI won 10 awards at Asia Exhibition of Innovations & Inventions in Hong Kong, including "Gold Medals with Congratulations of Jury", "1st Prize of Inventions Geneva Awards" along with two gold and six silver medals.

應科院於「第48屆日內瓦國際發明展」中獲得多項殊榮,彰顯我們追求卓越 創新科技的文化。應科院合共勇奪34個科研獎項,包括「特別創意大獎」、 兩項「評審團嘉許金獎」、六項「金獎」,以及25項「銀獎」及「銅獎」, 奪獎成績為歷年之冠,亦是香港代表團獲獎最多的機構之一,成就非凡。

承接佳績,應科院於香港舉行的第三屆「亞洲創新發明展覽會」中榮獲 10個獎項,包括「評審團嘉許金獎」、「日內瓦發明一等獎」、兩項「金獎」, 以及六項「銀獎」。

▶ Professor Sun Dong, Secretary for Innovation, Technology and Industry, HKSAR Government, congratulated the winning teams in person
香港特區政府創新科技及工業局局長孫東教授親身恭賀得獎團隊。

Outbound Missions
海外考察團

ASTRI organised a series of outbound missions and outreach activities to North America, Europe, and ASEAN countries to "tell the good stories of Hong Kong" far and wide, promoting the city's I&T advantages.
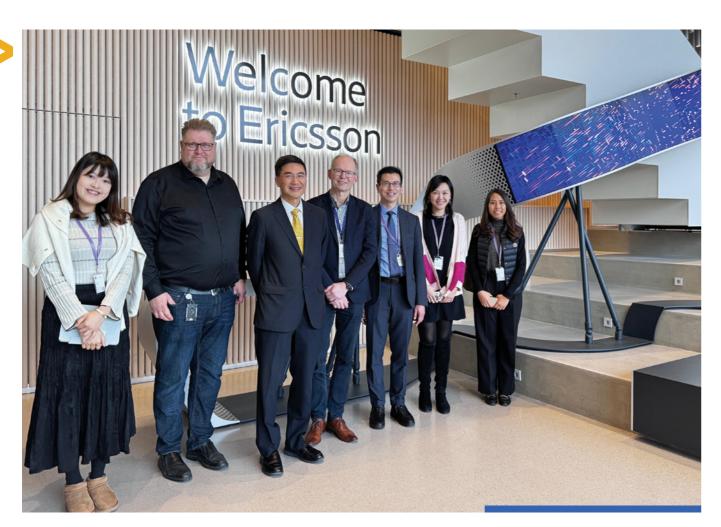
The ASTRI team embarked on a visit to two internationally acclaimed high-tech innovation cities, Helsinki, and Stockholm in November 2023 to gain a deep understanding of the development of the I&T ecosystem in the Nordic countries, encompassing government, industry, academia, and research sectors. The visit not only expanded our international cooperation but also ensured that we remain aligned with the latest global trends in I&T.

Our technology exchange trip turned to North America in January 2024, focusing on advancements in AI, 5G, IoT, and autonomous driving. We visited several tech giants at the forefront of technological innovation and engaged in discussions with industry experts. These exchanges provided us with fresh insights that will further inspire the development of a smart mobility ecosystem in Hong Kong, enabling us to create a more intelligent, convenient, and interconnected travel experience for the future.

應科院組織了一系列海外考察團及推廣活動，分別走訪北美、歐州和東盟國家「說好香港故事」，推廣香港在創新科技方面的優勢。

應科院團隊在2023年11月前往芬蘭赫爾辛基和瑞典斯德哥爾摩這兩座國際知名的高新科技城市，深入了解北歐國家創新科技生態圈包括「政產學研」的發展。是次訪問不僅擴大了國際合作，亦確保我們與全球創新科技趨勢保持一致。

2024年1月，我們轉到北美進行科技交流之旅，聚焦人工智能、5G、物聯網和自動駕駛等領域的最新發展。我們參觀了數家科技走在前沿的科技巨企，並與業界專家進行討論，啟發我們加快發展智慧出行生態圈，為未來創造更智能、便捷、互聯的出行體驗。

Dr Denis Yip (third from left), alongside Mr Gilford Law (third from right), Director-General, Hong Kong Economic and Trade Office, London, HKSAR Government, and Ms Amy Wong (right), Deputy Director-General, Hong Kong Economic and Trade Office, London, HKSAR Government, visited two Nordic countries in November 2023. During their visit, they engaged with various tech companies, including Ericsson, to explore collaboration opportunities
應科院行政總裁葉成輝博士(左三)連同香港駐倫敦經濟貿易辦事處處長羅華桉先生(右三)及香港駐倫敦經濟貿易辦事處副處長黃凱鈴女士(右一)於2023年11月到訪兩個北歐國家進行考察，並與多家科技企業包括Ericsson的代表會面，探索合作機遇。

The trip to Thailand in March 2024 was very fruitful with contract, agreements and MoUs signed
2024年3月的泰國之旅成果豐碩，應科院與多家機構簽署合約、協議和合作備忘錄。

Tapping Belt and Road Countries
拓展「一帶一路」市場

As a strong supporter of the Belt and Road initiative, ASTRI is making great strides in expanding its I&T collaboration network with ASEAN countries in 2023/24.

Our CEO Dr Denis Yip led another successful visit to Thailand in March 2024 to formalise ASTRI's collaboration with the National Science and Technology Development Agency (NSTDA) and the National Credit Bureau Company Limited through the signing of contracts and MoUs. These agreements paved the way for a wide-ranging research collaboration in cutting-edge technological fields such as smart mobility, FinTech, and AI, with the aim of fostering thriving innovation ecosystems in both regions. ASTRI also reached a new milestone by sealing an R&D collaboration agreement on wallbox technology with CHOSEN Digital, a promising Thai startup.

To construct a solid I&T ecosystem, government agencies, enterprises and universities are equally important. During our trip to Singapore in July 2023, we visited Ministry of Trade and Industry of Singapore, National Research Foundation, Enterprise Singapore, Innovation Partner for Impact and SGInnovate to understand their work focus and tactics in formulating the most effective RIE (Research, Innovation, Enterprise) strategy. Our meetings with Career and Attachment Office at Nanyang Technological University (NTU) and the Graduate Academy of A*STAR were highly successful, and we look forward to welcoming the first batch of interns from NTU this summer. This marks an excellent starting point for ASTRI's global talent network to expand further.

應科院大力支持「一帶一路」倡議，並於2023/24年度中，在拓展與東盟國家的創新合作方面取得重大進展。

應科院行政總裁葉成輝博士於2024年3月再次帶領團隊訪問泰國，通過簽署合同和備忘錄，正式確立與泰國國家科技發展局(NSTDA)和泰國國家信用局(NCB)的合作關係。這些協議為雙方在智慧出行、金融科技和人工智能等尖端技術領域開展廣泛的研究合作做好準備，藉此促進兩地蓬勃的創新科技生態圈的發展。我們還與當地發展前景秀麗的初創公司CHOSEN Digital達成協議，就電動汽車充電技術進行研發合作。

要構建良好的創科生態系統，政府、企業和大學的參與同樣重要。2023年7月的新加坡之旅，我們拜訪了新加坡貿易和工業部、新加坡國立研究基金會、新加坡國際企業發展局、Innovation Partner for Impact和SGInnovate，了解他們的工作重點，以及制定「研究、創新、企業」發展策略的要訣。我們亦與新加坡南洋理工大學的事業發展辦公室和新加坡科技研究局（A*STAR）畢業生學院的負責人會晤，成效昭著。今個夏天應科院將會迎來首批新加坡南洋理工大學實習生，讓我們拓展全球人才網絡的計劃邁出重要一步。

Overseas Expansion Continues
繼續拓展海外業務

Collaborations with the I&T ecosystems in Finland, Singapore, Spain, Sweden, Thailand, and the United States are currently on the agenda. Looking ahead to fiscal year 2024/25, emphasis will also be on Southeast Asian countries to explore opportunities for ASTRI's business footprint.

目前，我們已與芬蘭、新加坡、西班牙、瑞典、泰國及美國的創新科技生態圈合作。在2024/25財政年度，我們將重點開拓東南亞市場，冀發掘更多科技合作機遇。
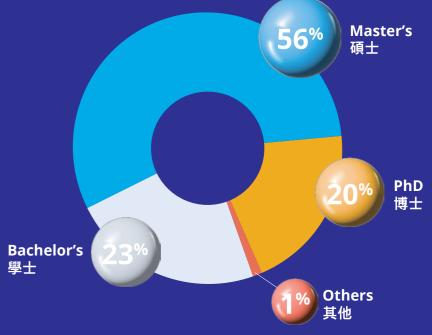
NURTURING I&T TALENT
培育創科人才

ASTRI's foundation is its people. Our personnel comprise teams of dedicated professionals with strong academic background and extensive exposure. Over 80 per cent of our team is engaged in R&D work, bringing expertise that spans a broad array of technological fields.

ASTRI's comprehensive initiatives to develop the innovation and technology (I&T) talent pool include training, collaboration, industry engagement, and talent management strategies.

人才是應科院的重要發展支柱。我們的團隊由擁有良好教育背景及豐富工作經驗的專業人士組成。科技人員佔整體員工八成以上，他們的科技知識領域十分廣泛，肩負研發創新科技的工作。應科院全面的人才計劃結合培訓、合作、業界參與和人才管理策略，旨在壯大創科人才庫。

Academic qualifications of R&D staff
研發人員學歷分佈

Excluding headquarters non-R&D staff and interns
不計總部非研發人員及實習生

- **56%** Master's 碩士
- **20%** PhD 博士
- **23%** Bachelor's 學士
- **1%** Others 其他

Employee Numbers by Functional Area
員工人數(按功能劃分)

As at 31st March 2024
截至2024年3月31日

Headquarters 總部	**101**
Advanced Electronic Components and Systems 先進電子元件及系統	**128**
Artificial Intelligence and Trust Technologies 人工智能及可信技術	**135**
Communications Technologies 通訊技術	**124**
Innovative Mind 創新思維	**53**
IoT Sensing and AI Technologies 物聯網感測與人工智能技術	**69**
Others 其他	**34**
Research Talent Hub 研究人才庫	**107**
Total 總計	**751**

Remarks: Included 20 R&D staff employed under ASTRI Science and Technology Research (Shenzhen) Company Limited
備註：包括受聘於應科院科技研究(深圳)有限公司的20名科研人才

ASTRI Work-Study Programme (PhD)
兼讀博士生工作計劃

ASTRI has partnered with the Hong Kong University of Science and Technology (HKUST) and the University of Hong Kong (HKU) to launch a groundbreaking Work-Study Programme (PhD). This initiative allows qualified candidates to work as full-time R&D staff at ASTRI while pursuing a part-time PhD at HKUST or HKU. Participants engage in cutting-edge research across various fields, such as artificial intelligence, big data, wireless communications, smart cities, and advanced materials, alongside their R&D projects at ASTRI, shortening the study period.

This collaborative framework aims to nurture a new generation of talent adept at commercialising research outcomes while equipping them with essential knowledge and credentials for future career advancements. Aligned with the HKSAR Government's strategic vision for I&T development, this programme contributes to the expansion of the talent pool.

In 2023/24, a total of 12 staff participated in this programme, with 10 studying at HKUST and two at HKU.

應科院與香港科技大學（科大）及香港大學（港大）合辦兼讀博士生工作計劃。合資格申請人將會受聘於應科院成為全職研發人員，並於科大或港大兼讀博士課程，參與重點前沿科研領域如人工智能、大數據、無線通訊、智慧城市及先進材料等研究，同時進行應科院相關研發項目，縮短修讀年期。

此計劃有助培育擅於把研究成果商業化的新一代人才，並為未來職業發展裝備所需的知識和資歷。配合香港特區政府對香港創科發展的願景，此項計劃為壯大人才庫作出貢獻。

於2023/24年度，共有12名員工參與此計劃，當中10人於科大就讀，另兩人於港大進修。

Nearly 100 students joined our 2023 Summer Internship Programme and participated in a range of activities including Tech Talks, networking events, and sports days. In addition, we arranged company visits to Bank of China Hong Kong, Cyberport, Hewlett Packard Enterprise (HPE), Hong Kong Monetary Authority, IBM, Microsoft Hong Kong, and Hong Kong Science and Technology Parks Corporation
近100名學生參與應科院暑期實習計劃2023，參與一系列活動包括科技演講、聯誼活動及不同類型的運動日。此外，我們亦安排學生參觀多家企業及機構，包括中銀香港、數碼港、Hewlett Packard Enterprise（HPE）、香港金融管理局、IBM、微軟香港及香港科技園公司等。

Top Technology Scholar Programme
精英科技人才招聘計劃

ASTRI's Top Technology Scholar Programme, launched in March 2022, has attracted more than 80 I&T talents. The programme continues to draw recent master's and doctoral degree holders who have graduated within the past two years. Selected talents who meet their first-year performance targets will receive a promotion and pay rise.

Participants are engaged in important research projects at ASTRI, many of which are carried out in collaboration with enterprises and organisations in the Greater Bay Area. ASTRI will also arrange visits to start-up companies and provide Mainland or overseas training and exchange opportunities for the participants. This initiative aims to prepare future generations with a strong foundation and broader perspectives, enriching the future development of I&T in Hong Kong.

「精英科技人才招聘計劃」自 2022 年 3 月推出以來已成功吸引超過 80 位創科人才加盟，並繼續招聘畢業兩年以內的碩士生和博士生，在首年達成工作目標的學員將獲得晉升和加薪。

學員參與應科院的重要研發項目，包括與大灣區的企業和組織合作的項目。應科院會安排學員參觀初創企業、到內地或海外培訓和交流，為未來新世代建立穩固基礎、拓闊視野，豐富香港未來創新科技的發展。

A total of 30 talents joined ASTRI's Top Technology Scholar Programme in 2023/24
30名學員參加了2023/24年度「精英科技人才招聘計劃」。

Summer Internship Programme
暑期實習計劃

ASTRI's annual Summer Internship Programme is crucial to our talent development strategy, providing students with an immersive experience in Hong Kong's I&T ecosystem. In 2023/24, a record high number of about 3,000 applications were received and we doubled our intake, welcoming nearly 100 students from leading universities in Hong Kong, Mainland China, and overseas for the eight-week programme.

Under the guidance of experienced researchers, interns gain hands-on experience and exposure to real-world projects in ASTRI's six core areas: smart city, FinTech, new industrialisation and intelligent manufacturing, digital health, application specific integrated circuits, and metaverse. Students learn about project development, technology research, client development, and knowledge transfer, exploring the possibility of pursuing a career in research institutions.

「暑期實習計劃」是應科院人才發展策略的重要組成部分，讓學生親身體驗香港創科生態圈。在2023/24年度，我們一共收到逾3,000份申請，破歷年紀錄；我們遂把錄取人數翻倍，迎來近100位來自香港、內地和海外知名大學的學生，參與為期八周的實習計劃。

在資深科研人員的指導下，實習生親身參與應科院的研發項目，涵蓋六大核心領域，包括：智慧城市、金融科技、新型工業化和智能製造、數碼健康科技、專用集成電路和元宇宙。實習生從項目開發、技術研究、客戶拓展到知識轉化都能獲益，並探索投身科研行業的可能性。
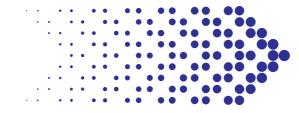
FinTech Future Leader Academy
金融科技未來領袖學院

Alongside the summer internship programme, ASTRI's FinTech Future Leader Academy offers participants opportunities to gain in-depth knowledge of FinTech development and industry insights through internships at ASTRI. By attracting and nurturing young talent, ASTRI aims to contribute to the expansion of the I&T talent pool for asserting Hong Kong as an international financial centre.

除了「暑期實習計劃」外，應科院「金融科技未來領袖學院」也為學員提供實習機會，深入了解金融科技發展和行業動態。應科院期望透過這些計劃吸引和培育年輕人才，壯大創科人才庫，鞏固香港國際金融中心地位。

Members of the FinTech Future Leader Academy visited the Hong Kong Monetary Authority to learn more about the city's financial infrastructure and its rich portfolio of FinTech products
「金融科技未來領袖學院」暑期實習生到訪香港金融管理局，了解香港的金融基建，以及各類金融科技產品和服務。

Step Up Recruitment Efforts
加強招聘工作

ASTRI actively participated in various campus activities organised by local and non-local universities to foster relationships with talented students, promoting Hong Kong as the world's leading I&T hub and attracting top talent to join us.

Throughout the year, ASTRI collaborated with universities in Hong Kong, Mainland China and Singapore, participating in 18 career fairs and seven recruitment talks. These events provided opportunities for students to interact with our representatives and gain insights into potential career paths within ASTRI.

應科院積極參與由本地和非本地大學舉辦的各項校園活動，推廣香港作為全球領先創科中心，吸引頂尖人才加入應科院。

在過去一年，應科院與香港、內地及新加坡的大學合作，參與了 18 場職業博覽會和七場招聘會。這些活動為學生提供了與應科院代表互動的機會，深入了解我們的工作和晉升階梯。

ASTRI has stepped up recruitment efforts in the universities in 2023/24
應科院於2023/24年度加強在大學的招聘工作。

Professional Development
專業發展

ASTRI offers professional development programmes and continuous education opportunities for individuals in the I&T industry, including seminars, conferences, and certification courses to keep professionals up to date with the latest developments and best practices. ASTRI also facilitates networking events and platforms for individuals to connect with industry leaders, professors, and potential clients.

Through these multifaceted approaches, ASTRI effectively nurtures I&T talent by providing researchers with opportunities to acquire knowledge, develop skills, gain practical experience, and build networks within the industry.

應科院為已在創科行業工作的人士提供專業發展和持續進修機會，包括舉辦研討會、會議和證書課程，助專業人士掌握行業最新發展和最佳實踐。此外，應科院舉辦交流活動，讓他們與行業領袖、教授和潛在客戶建立聯繫。

通過多方面的人才策略，應科院為科研人員提供獲取知識、發展技能、取得實踐經驗及建立行業網絡的機會，有效培育創科人才。

Talents are our key assets
人才是應科院的重要資產。

Connecting ASTRIANs
聯繫員工

ASTRI's commitment to its workforce is a cornerstone of our success. We organised diverse activities to foster a positive work environment and cultivate a strong sense of community among dedicated staff. These activities include health and wellness workshops, engaging craft classes, festive workshops and delectable snacks to sustain energy level and enhance motivation.

ASTRI actively encourages our employees to participate in external corporate competitions, providing them with a platform to demonstrate their skills and teamwork, ignite their competitive spirit, and foster camaraderie and collaboration among team members. With a supportive and engaging work environment, ASTRIANs can thrive and make valuable contributions to our organisation.

重視員工是應科院賴以成功的基石。我們藉舉辦不同活動，營造正向的工作環境，並培養員工的歸屬感。這些活動包括身心健康工作坊、手工藝課程、節慶工作坊，以及美味可口的小吃等，以維持能量水平並增強動力。

我們積極鼓勵員工參加企業競賽，為他們提供平台展示技能和發揮團隊合作精神。這不僅激發他們的良性競爭精神，也加強成員之間的友誼和默契。在互相扶持的工作環境中，「應科人」(ASTRIANs)能夠充分發揮所長、茁壯成長，並作出寶貴貢獻。

ASTRI formed the "Artificial Intelligence Dragon" dragon boat team to participate in the "2023 Police Dragon Boat Club (PDBC) Charity Race", organised by the PDBC. They competed for the first "Community Shield - Digital Policing Cup". During weeks of training, ASTRIANs not only improved their physical fitness but also built teamwork and cooperation
應科院組成「人工智能」龍舟隊，參加由警察龍舟會舉辦的「2023年警察龍舟會慈善龍舟賽」，爭奪首次舉辦的「社區盾 - 數碼警政盃」。經過數星期訓練，參與同事不但提升體能，更培養出團隊合作精神。

PIONEERING STRIDES IN INNOVATION
創新里程碑

ASTRI continues to support "Hong Kong Smart City Blueprint" by collaborating with various government departments, focusing on enhancing Building Information Modelling (BIM), improving transportation infrastructure maintenance efficiency and driving the C-V2X development. Key technologies include 5G, high-precision 3D reconstruction, high-speed moving sensing and advanced AI.

應科院通過與各政府部門合作，協助落實「香港智慧城市藍圖」，重點是加強建築訊息模擬（BIM）、提高交通基礎設施維修效率和推進車聯網的發展。關鍵技術包括5G、高精度3D重建、高速移動傳感和先進人工智能。

CORE TECHNOLOGIES
主要研究範疇

> **Smart Connectivity (5G and beyond)**

> **Smart Mobility (C-V2X / CAV and transportation system monitoring and inspection)**

> **Smart Living (ConTech, PropTech and EdTech)**

> 智慧網絡 **(5G及下一代移動通訊技術)**

> 智慧出行 車聯網/聯網自動駕駛及 公共交通監測系統

> 智慧生活 **(建築、房地產及教育科技)**

SMART CITY
智慧城市

OVERVIEW
概況

Hong Kong is striving to position itself as Asia's foremost technologically advanced city. ASTRI plays a pivotal role in supporting the HKSAR Government's vision, dedicating its expertise to advancing this ambitious goal. Centre to these efforts are ASTRI's smart city initiatives, which focus on pioneering the development of innovative tools and platforms. These advancements facilitate seamless interoperability among various smart city technologies, leveraging robust 5G capabilities to enhance the functionality and efficiency of existing smart solutions.

香港致力成為亞洲最先進的科技城市，應科院發揮關鍵作用，藉專業知識支持香港特區政府實現這宏大願景和目標。應科院以智慧城市倡議為核心，專注開發創新工具和平台，促進各智慧城市之間的互聯互通，善用強大的**5G**能力，增強現有智慧解決方案的功能和效率。

INNOVATIONS
技術突破

Smart Connectivity
智慧網絡

ASTRI has been actively engaging in research and development on 5.5G to 6G technologies, such as 5G non-terrestrial networks (5G NTN), and 5G integrated access and backhaul (5G-IAB), which can enable global wireless connectivity and support new applications. ASTRI has enhanced 5G base station and 5G Core functions and developed a configurable 5G NTN terminal to provide an end-to-end 5G NTN solution and evolution, while the development of advanced 5G-IAB systems for wireless backhaul has been a crucial enabler for the widespread deployment and adoption of 5G networks worldwide, providing flexible and high performance backhaul solutions.

We developed a 5G base station that supports integrated access link and multi-hop wireless backhaul link using BATS network coding technology. The solution can quickly achieve continuous network coverage, using wireless connections between base stations to build single-hop or multi-hop wireless backhaul. Network coding technology provides efficient, reliable, stable, and secure information transmission for the backhaul link.

Collaborating with various government departments, the project set up "honeypots" in major network systems to attract cyber attacks which subsequently formed a threat intelligence platform "HoneyNet". By using AI and big data analysis, the "HoneyNet" captures and analyses actionable intelligence for organisations to take preventive actions.

應科院積極參與5.5G到6G技術的研發工作，如5G非地面網（5G NTN）和5G綜合接入和回傳（5G-IAB），可以實現全球無線連接並支持新的應用。應科院通過增強 5G 基站和 5G 核心網功能，並開發可配置的 5G NTN 終端以支持 NTN 功能和演進，而用於無線回程的先進 5G-IAB 系統的開發是為全球廣泛部署和採用 5G 網絡的關鍵技術之一，提供了靈活且高效能的回程解決方案。

我們開發了一個支持集成接入鏈路和多跳無線回程鏈路、使用BATS網絡編碼技術的5G基站。這解決方案可快速實現網絡的連續覆蓋，利用基站之間的無線連接，構建單跳或多跳無線回傳。而網絡編碼技術則為回傳鏈路提供高效、可靠、穩定和安全的資訊傳輸。

此外，應科院與多個政府部門合作，在主要網絡系統設置「蜜罐」，吸引駭客攻擊，從而組成龐大的情報搜集的「蜜網」，利用大數據和人工智能技術作分析和預測，以助精準地預防網絡威脅。

Smart Mobility
智慧出行

▶ A Unity Drive autonomous vehicle powered by ASTRI's C-V2X technology is being tested on public road in HKSTP during weekends. The artwork on the car was created by renowned local artist and illustrator, Missquai
一清創新自動汽車使用了應科院研發的車聯網技術，每逢周末在科學園進行路試，車身承載著本地藝術家及插畫師Missquai的設計心思。

ASTRI has made significant strides in enhancing public transportation safety in 2023/24 through collaborations with industry partners and support from the Smart Traffic Fund and the Innovation and Technology Fund. We have been studying the establishment of a connected autonomous driving system by supporting mobile vehicle networking technology and roadside infrastructure facilities, with most relevant tests and reports completed and some functional modules implemented and passed the mid-term review.

With the support of the West Kowloon Cultural District Authority and Kwoon Chung Bus Holdings Limited, ASTRI is developing Hong Kong's first autonomous shuttle bus to operate on public roads. This autonomous shuttle bus will conduct open road test in the West Kowloon Cultural District, with a trial route covering M+ and the Hong Kong Palace Museum. It aims to provide practical data for the future implementation of autonomous driving technology on public roads in Hong Kong, facilitating the development of smart mobility solutions.

在2023/24年度，應科院通過與行業合作夥伴的協作，以及在智慧交通基金和創新及科技基金支持下，在提高公共交通安全方面取得了重大進展。我們正在研究藉著支援自動駕駛車聯網技術和路側基礎設施來建立網聯自動駕駛系統。大部分相關測試和報告已經完成，一些功能模塊也已經實現並通過了中期評審。

應科院獲得西九文化區管理局、冠忠巴士等支持，開發香港首輛於公共道路上運行的無人駕駛自動穿梭巴士。該自動駕駛穿梭巴士將會在西九文化區進行道路測試，試行路段為M+至香港故宮文化博物館等，為香港未來在公共道路採用自動駕駛技術提供實用數據，以助進行智慧出行解決方案的研發。

Smart Railways
智慧鐵路

▶ The escalator gap clearance inspection tool co-developed by MTR and ASTRI won a Silver Medal in the International Exhibition of Inventions Geneva
港鐵公司及應科院聯合研發的扶手電梯罅隙測量儀器於「日內瓦國際發明展」中獲得銀獎。

The MTR Corporation is committed to making good use of technology to promote smart railway operations management and intelligent maintenance. MTR signed a Memorandum of Understanding with ASTRI on 14 June 2023 to deepen the collaboration between the two parties and continue to commence new projects, including the use of precise automatic optical inspection technology to monitor railway safety, joint research and development of a portable escalator gap clearance inspection tool and application of digital twin for enhancing the operation efficiency of maintenance centre. In the future, MTR and ASTRI will continue to jointly research, develop and apply new technologies to build a smarter railway system.

港鐵公司一直致力善用科技，推動智慧鐵路營運、車務管理和智能維修。港鐵公司於2023年6月14日與應科院簽訂合作備忘錄，深化雙方合作並繼續展開新合作項目，包括運用精準的自動光學檢測技術監察行車安全、聯合研發扶手電梯罅隙測量儀器，及應用數字學生提高未來維修中心的效率等。雙方亦會共同研發及應用不同的新技術，聯手打造「智慧鐵路」。

Smart Living
智慧生活

Smart Construction and Property Management
智慧建築及物業管理

▶ In March 2024, at the "OSH Innovation & Technology Expo", ASTRI showcased a variety of construction technologies designed to improve site safety. Professor Steve Chuang (centre), a Board Member of ASTRI, demonstrated the capabilities of an AR Helmet, highlighting its potential benefits for the industry
應科院在2024年3月舉行的「職安健創新及科技博覽」上展示各式有助提升地盤安全的建築科技。應科院董事局成員莊子雄教授(中)展示擴增實境頭盔的功能，突顯它對行業帶來的潛在益處。

ASTRI is transforming construction and property management through IoT and AI technologies. A data sharing platform (Data Lake) is being developed to establish industry standards, analyse data for potential safety risks, and assist developers in risk assessment. Digital twin and LLM technologies visualise and manage the construction process, providing real-time data. An intelligent knowledge base integrating regulations offer an AI assistant to enhance standardisation and reliability. In addition, we developed a stereoscopic depth sensing Edge AI system leveraging edge computing, deep learning, and object detection. Trialed on heavy construction vehicles such as lift cranes, it improves safety, operation standards, productivity, and efficiency in construction sites. ASTRI also developed a cloud platform enabling comprehensive construction safety solutions and promoting the use of our AR helmet for onsite operations.

In property operation, multi-factor authentication technology (such as card-reading, fingerprint, facial recognition) is being used to enhance personnel access safety. Online registration and offline verification are improving visitor management efficiency. ASTRI also developed new method for the fast screening of microplastics in food and water, and smart water metering system in a public estate.

應科院正在通過整合先進的物聯網和人工智能技術，革新建築管理和物業營運。我們正開發數據共享平台（數據湖），以建立行業標準、分析數據以識別潛在安全風險，助業界進行風險評估。數字學生和大語言模型技術將用於可視化和管理建築過程，提供實時數據。這個整合政府和行業法規的智能知識庫有如人工智能助理，提高建築工地管理的標準化和可靠性。我們開發了利用邊緣計算、深度學習和物體檢測的立體深度感測邊緣人工智能系統，並已在重型建築車輛如起重機上進行試驗，有效提升建築工地的安全度、合規度、生產力和效率。此外，我們開發了雲平台，實現全面的建築安全解決方案，並推廣在工地使用我們研發的擴增實境(AR)頭盔。

在物業營運方面，業界使用多重身份驗證技術（如讀卡、指紋、人臉識別）來提高人員進出安全；而線上註冊和線下驗證則可提高訪客管理效率。應科院還開發了快速篩查食品和水中微塑料的嶄新方法，和適用於公共屋邨的智能水錶系統。

Smart Education
智能教育

ASTRI developed a smart integrated therapeutic learning system application in collaboration with an organisation supporting children with special education needs (SEN). The platform combines the Applied Behavioural Analysis (ABA) therapy model with AI and Internet of Things (IoT) technology to record students' performance and provide therapists with measurable learning results. The recommendation engine analyses treatment progress and automatically customises students' training plans. The system enables one-to-many teaching mode by analysing multimodal IoT data collected during class allowing therapists to adjust learning tasks in real-time based on system recommendations.

應科院與一家支援有特殊教育需要（SEN）兒童的機構合作，開發了智能綜合治療學習系統應用程式。該平台結合應用行為分析（ABA）治療模型與人工智能（AI）和物聯網（IoT）技術，記錄學生的表現並為治療師提供可衡量的學習成果，再加上「建議引擎」分析治療進度，自動制訂學生培訓計劃。該系統通過分析上課期間收集的多模態物聯網數據，實現「一對多」的教學模式，讓治療師能夠按系統建議實時調整學習任務。

PARTNERSHIP AND COMMERCIALISATION
合作夥伴及市場化項目

ASTRI is working closely with partners and customers for technology development and commercialisation. These include:

應科院與不同夥伴和客戶緊密合作，進行技術開發和商業化應用。這些項目包括：

Smart Connectivity
智慧網絡

> Our 5G technologies partners include Intel, Rohde & Schwarz, Quanta Cloud Technology (QCT), Baicells Technologies, SageRAN, Astella Technologies, Shannon & Turing Technology Limited, Wewenet, among others.
>
> We have also developed a 5G private network and applications for the disciplined services, Hong Kong Airport Authority, MTR Corporation and Peng Cheng Laboratory.

> 在通訊科技方面，我們的5G技術合作夥伴包括Intel、羅德史瓦茲、雲達科技、佰才邦、廣東世炬、星騁科技有限公司、香農圖靈科技有限公司、微雲網科技有限公司等。
>
> 我們還與紀律部隊、香港機場管理局、港鐵公司和鵬城實驗室等開發了5G專網和應用。

Smart Mobility
智慧出行

> ASTRI signed a Memorandum of Understanding (MoU) with the MTR Corporation on 14 June 2023, aiming to promote smart railway operations management and intelligent maintenance, as well as transforming the commuting experience through innovative technologies.
>
> We collaborated with the Hong Kong Transport Department, Citybus, Lenovo and other organisations on C-V2X/CAV technology and are expanding our global market presence by working with leading smart mobility companies such as, Huawei, Baidu, and QCraft, aiming to deploy C-V2X/CAV in the Middle East and Europe.

> 應科院於2023年6月14日與港鐵公司簽署合作備忘錄，旨在善用科技推動智慧鐵路營運、車務管理和智能維修，提升市民通勤體驗。
>
> 應科院與香港運輸署、城巴、聯想、招商新智科技有限公司、Unity Drive、深圳智慧城市集團合作的C-V2X/CAV 技術；並與領先的智慧出行公司（華為、百度、QCraft）一起開拓全球市場，目標是在中東和歐洲應用車聯網和聯網自動駕駛技術。

Smart Living
智慧生活

> ASTRI has signed an MoU with the Housing Bureau on 14 November 2023 to establish a strategic partnership, aiming at exploring innovative technology solutions for enhancing construction efficiency and safety, as well as optimising property management processes. The first batch of technologies under study includes: Smart Optical Sensing for High Precision Modular Integrated Construction (MiC) Positioning, Enhanced 5G Coverage for Remote Crane Control and Universal AI Predictive Maintenance System for Lifts.
>
> We also partnered with Sanfield (Management) Limited, a subsidiary of Sun Hung Kai Properties Limited, to develop and implement an innovative integrated elevator shaft AI monitoring system.
>
> Besides, ASTRI collaborated with a local university to develop a smart wristband that collects physiological data from SEN students to monitor their emotional changes in real-time. The platform is widely used in education institutions locally and in Singapore, while the smart wristband has been tested in Singapore and is ready for trials in Hong Kong.

> 應科院與房屋局於2023年11月14日簽署合作備忘錄，建立策略夥伴關係，共同探索創新科技解決方案，以提高建造效率及安全、優化物業管理流程。首批展開研究的技術包括：創新組裝合成建築（MiC）精準定位、5G遠程起重機控制系統、通用人工智能電梯預測性維護系統。
>
> 應科院還與新鴻基地產有限公司的附屬公司新輝（管理）有限公司合作，開發並應用嶄新的集成升降機井口AI監控系統。
>
> 此外，應科院與本地一所大學合作開發了一款智能手環，收集具特殊學習需要（SEN）學生的生理數據，實時監測他們的情緒變化。該平台在本地和新加坡的教育機構得到廣泛應用，而智能手環已在新加坡進行了測試，並準備在香港進行試用。

Projects Commenced in 2023/24*
2023/24年度開展的研發項目*

SiC-based High-density Inverter Drive for New Energy	應用於新能源的碳化硅基高密度逆變驅動模塊
Trusted Data Framework for Data Exchanges	數據交易的可信數據框架
Trial: Universal AI Predictive Maintenance System for Lifts	試用：電梯通用人工智能預測維護系統
Trial: Multi-Band 5G Standalone Private Network for Public Safety	試用：多頻段獨立5G公共安全通訊專網
Enhancement of Time Synchronization and Quality of Service in 5G Base Station	5G基站時間同步和服務質量的增強
Study on Mitigation Mechanisms for Large Propagation Delays and Base Station Baseband Hardware Requirements for 5G Non-Terrestrial Networks	5G非地面網絡較長傳播時延的緩解機制以及基站基帶硬件要求的研究
Evolved 5G Core for Smart Manufacturing	面向智能製造的演進5G核心網
Blockchain Enabled 5G Feasibility Study	區塊鏈應用於5G可行性研究
Study of Enhancement in 5G Base Station for Reduced Capability New Radio Devices	針對縮減能力用戶設備的5G基站增強研究
Evaluation of 5G Core Enhancements for supporting Non-Terrestrial Networks	評估5G核心網功能增強 支持非地面網絡
Generative Pretrained Large Traffic Model for Multi-modal Traffic Data Understanding	基於多模態交通數據理解的生成式預訓練交通大模型
5G Dual Connectivity Millimeter Wave Radio Access Network	5G雙連接毫米波無線接入網絡
5G Base Station for Satellite Communications	衛星通訊5G基站
Advanced 5G Systems for Wireless Backhaul	支持無線回傳的先進5G系統
Advanced Smart Mobility Road-Side and Edge System	先進的智慧交通路側及邊緣系統
Dynamic Allocation for Large-Scale Multi-Agent Systems	大規模多智能體系統的動態分配
Sensing Fusion for Event Based Monitoring System	基於事件的傳感融合監控系統
Building Effective and Ecological Digital Twin Buildings with Portable Sensors and Generative Models	使用便攜式感測器和生成式模型構建高效可持續的數字孿生建築
Intelligent Sensing System for Coastal Surveillance	智慧近岸監視系統
Field-Portable Sensing System for Microplastic in Water Supply	用於供水微塑膠檢測的現場便攜式傳感器系統
Edge AI based Sparse Point Cloud Perception	基於邊緣 AI 的稀疏點雲感知
GenAI for Chinese Writing Review	基於生成人工智能的中文寫作評估系統
Optical probe for precision fruits	精密水果光學探頭
Smart Sensing System for Continuous Surface Water Monitoring	用於地表水連續監測的傳感器系統
3D sensing & recognition for transparent object	透明物體的3D感測與識別

FINTECH
金融科技

OVERVIEW
概況

FinTech is a cornerstone of the financial sector's continued growth. Advanced FinTech solutions make financial services faster, more reliable, and more secure. As a key R&D institution in Hong Kong, ASTRI provides innovative solutions tailored for traditional and virtual banks, regulators, and insurance companies, shaping the future of FinTech in Hong Kong and beyond.

金融科技是金融產業持續發展的基石，先進的金融科技方案使金融服務更快、更可靠、更安全。作為香港主要的研發機構，應科院專為傳統及虛擬銀行、監管機構、保險公司量身定制創新解決方案，塑造香港以至全球金融科技的未來。

We are committed to driving the sector's growth into a new era and contributing to cementing Hong Kong's status as an international financial hub. ASTRI's FinTech solutions leverage artificial intelligence (AI), big data, blockchain and cybersecurity technologies, and provide valuable proof-of-concepts that benefit the entire financial industry.

Moving forward, ASTRI will continue to provide technical support for regulators and institutions in the new era of digital currency, tokenised assets, and green finance, while researching new technologies for cross-border data access and data exchanges.

我們致力推動金融產業邁向新時代，為香港鞏固國際金融中心地位作出貢獻。應科院的金融科技解決方案結合人工智能、大數據、區塊鏈和網絡安全科技，並提供有價值的概念驗證，讓整個金融業受益。

展望未來，在數碼貨幣、代幣化資產和綠色金融的新時代，應科院將繼續為監管機構和金融機構提供科技支援，並開展有關跨境數據存取與數據交換科技的研發工作。

CORE TECHNOLOGIES
主要研究範疇

> **Federated Learning**	> 聯盟式學習
> **Alternative Credit Scoring**	> 替代信用評估
> **Central Bank Digital Currency**	> 央行數碼貨幣
> **AI Chatbot & OCR**	> **AI**聊天機器人、光學字元辨識
> **Proprietary ChatGPT**	> 專屬版**ChatGPT**
> **AI ESG Report Analytical Engine**	> 人工智能**ESG**報告分析

INNOVATIONS
技術突破

In fiscal year 2023/24, ASTRI has developed several innovative technologies tailored for financial industry:

在2023/24財政年度，應科院研發了多項專為金融業而設的創新科技：

Privacy Enhancing Platform for Alternative Credit Scoring
替代信用評分的私隱增強平台

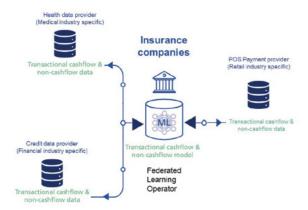Supported by banks and institutions, ASTRI developed a platform with federated learning technology to provide credit assessment on small businesses while able to protect privacy by using alternative data provided by third-party data providers. The project was successfully completed in September 2023 and garnered several global awards.

應科院與多家銀行及機構合作，藉「聯盟式學習」技術保護私隱，以第三方供應商提供的替代數據為中小微企提供信用評分解決方案。項目首階段已於2023年9月順利完成，並榮獲多個國際獎項。

Advanced Federated Learning for Insurance Applications
適合保險業應用的先進聯盟式學習平台

ASTRI collaborated with the insurance regulator to develop a federated learning platform to provide additional insights for the insurance industry to create new products and promote inclusive financing.

ASTRI and the insurance regulator are working on finalising the details of the white paper, as well as preparing testing and trials with insurance companies and their data providers with real data for the developed platform.

應科院與保險業監管機構合作，為保險相關應用開發了聯盟式學習平台，為保險公司提供額外資訊，促進產品創新，並推動普惠金融在保險業的發展。

應科院正與保險業監管機構討論有關發表白皮書的細節，及與保險公司及其數據提供方測試聯盟式學習平台，為下一步引入真實數據運行作好準備。

Universal Information Extraction (UIE) for Financial Documents Analysis and ESG Intelligence
用於金融文檔及環境、社會和管治報告分析的通用訊息提取技術

ASTRI developed an AI analytics engine with various analytics tools that employ Natural Language Inference, Universal Information Extraction and few-shot learning technologies to achieve high efficiency, scalability, and generalisability. The AI analytics engine for bank loan document review has been integrated into the on-premise IT system of collaborating partners, achieving a 90% accuracy rate in the User Acceptance Test. The AI analytics engine for ESG report analysis has been deployed on the Amazon Web Services cloud to perform ESG information extraction, compliance inspections and improvement suggestions. The deployed engine serves financial institutes, investors, regulators, and other stakeholders. Its flexible architecture allows for easy extension to handle a wide range of unstructured data analysis tasks beyond its current applications.

應科院開發了人工智能(AI)分析引擎，採用了各種分析工具，包括自然語言推理(NLI)、通用訊息提取(UIE)和少量樣本學習技術，具備高效、高可擴展性和通用性的特點。用於銀行貸款文件審核的人工智能分析引擎已加載在合作夥伴的內部資訊科技系統，在用戶驗收測試 (UAT) 中達到90%的準確度。用於ESG報告分析的AI分析引擎亦部署在亞馬遜網絡服務(AWS) 雲端上使用，以抽取ESG訊息、進行合規檢查及提供改進建議等。該引擎服務金融機構、投資者、監管其他持份者，其靈活架構可輕鬆擴展，處理各種非結構化數據分析任務，超越目前的應用範圍。

PARTNERSHIP AND COMMERCIALISATION
合作夥伴及市場化項目

In 2023/24, ASTRI partnered with a wide range of public and private organisations to drive innovation and efficiency through the adoption of its groundbreaking solutions. Key projects include:

應科院於本年度與多家公營和私營機構合作，通過採用嶄新解決方案來推動服務創新和提高效率，主要項目包括：

CBDC Sandbox
央行數碼貨幣沙盒

In collaboration with Hong Kong Monetary Authority (HKMA), ASTRI launched a retail Central Bank Digital Currency (CBDC) Sandbox. This sandbox enables local banks and FinTech companies to develop and perform trials of CBDC applications. Participants such as Bank of China (HK), Hang Seng Bank, and Alipay Financial Services (HK) Limited conducted trials for various applications, including prepaid services, government grants, and merchant reward coupons. The trial report was published in "e-HKD Pilot Programme – Phase-1 Report" in October 2023.

應科院香港金融管理局合作，推出了零售層面央行數碼貨幣（CBDC）沙盒，讓本地銀行和金融科技公司開發和試驗CBDC應用。中國銀行（香港）、恒生銀行和支付寶金融服務（香港）有限公司等機構參與並試驗不同應用場景，包括預付服務、政府資助、商戶優惠券等。試驗結果詳見2023年10月發佈的《「數碼港元先導計劃第一階段」》報告。

Federated Learning Platform
聯盟式學習平台

ASTRI successfully engaged Lalamove and FreightAmigo in partnerships with Standard Chartered Bank, for the federated learning platform. This collaboration created a new showcase on applying the latest federated learning technology to help the banking industry and SMEs. By leveraging cutting-edge privacy-enhancing technologies within a federated learning platform, we can effectively address the growing availability of data and advancements in AI while maintaining robust protection for sensitive information.

應科院成功促成Lalamove和FreightAmigo分別與渣打銀行建立合作夥伴關係，展示嶄新的「聯盟式學習」平台如何協助銀行和中小企。「聯盟式學習」平台應用了最尖端的私隱增強技術，讓我們可有效應用日漸普及的數據和人工智能科技，同時盡最大努力保護敏感資訊。

AI ESG Report Analysis
人工智能ESG報告分析

ASTRI provided an AI ESG report analysis solution to assist Deloitte colleagues in understanding company and industry ESG behaviours and norms more efficiently, enabling them to better serve their customers.

應科院提供人工智能ESG報告分析解決方案，協助德勤員工有效地了解公司和業界的ESG行為和規範，藉以更好地為客戶服務。

Projects Commenced in 2023/24*
2023/24年度開展的研發項目*

Universal Information Extraction (UIE) for Financial Documents Analysis and ESG Intelligence	通用訊息提取技術用於金融文檔分析及ESG智能
Trial: Scalable Honeynet Platform for Actionable Threat Intelligence	試用：可擴展蜜網平台以提取行動型威脅情報

*Funded by the Innovation and Technology Fund
*創新及科技基金資助

NEW INDUSTRIALISATION AND INTELLIGENT MANUFACTURING
新型工業化及智能製造

CORE TECHNOLOGIES
主要研究範疇

> **Machine Vision**
> **Cyber-Physical Systems**
> **Sensing**
> **Intelligent Energy / Power Electronics**
> **5G + TSN (Time-Sensitive Networking) System**
> **5G Cloud Robotics**

> 機器視覺
> 信息物理系統
> 傳感
> 智能能源 / 功率電子
> **5G + TSN (時間敏感網絡)系統**
> 5G雲機器人

OVERVIEW
概況

The industrial sector is undergoing swift transformation by leveraging AI, robotics and data-centric solutions. Over the years, ASTRI has developed readily applicable AI options for manufacturers and launched platforms, tools and solutions, for this makeover, especially in Hong Kong and the rest of Greater Bay Area. These advanced technologies are the foundation for fully-digitised intelligent factories, resulting in smoother operations and higher production efficiency, propelling enterprises towards intelligent production and injecting new impetus for high-quality economic development.

藉着善用人工智能、機器人技術和以數據為中心的解決方案，工業界正急速轉型。應科院多年來研發可供製造業應用的人工智能方案，並已推出相關平台、工具及解決方案，全力協助香港以至大灣區其他城市工業轉型。這些精密先進的技術有助建立全面數碼化的智能工廠，令整體運作更暢順、生產效率更高，推動企業邁向智能生產，為高質量經濟發展注入新動力。

INNOVATIONS
技術突破

In fiscal year 2023/24, ASTRI developed several innovative technologies tailored for new industrialisation and intelligent manufacturing:

在2023/24財政年度，應科院研發了多項專為新型工業化及智能製造而設的創新科技：

5G+TSN (Time-Sensitive Networking) System
5G+TSN (時間敏感網絡)系統

ASTRI's "5G+TSN (Time-Sensitive Networking) System" revolutionises connectivity in smart factories by delivering a unified and deterministic network infrastructure. This innovative solution enables manufacturers to streamline operations and enhance efficiency by consolidating multiple production lines into one single network.

By integrating time-sensitive networking capabilities into 5G technology, ASTRI ensures consistent and predictable communication across all connected devices and systems, enabling seamless coordination and synchronisation in the manufacturing environment. This breakthrough solution not only simplifies network management but also paves the way for unprecedented levels of automation and optimisation in the Industry 4.0 era.

應科院的「5G+TSN (時間敏感網絡)系統」透過提供統一且具備確定性的網絡基礎設施，徹底改變了智能工廠的連接方式。這項創新解決方案讓製造商能夠透過將多條生產線整合到一個網絡中，從而簡化營運並提高效率。

通過將時間敏感網絡功能整合到 5G 技術中，應科院確保所有連接設備和系統之間的通訊一致且可預測，從而在製造環境中實現無縫協調和同步。這項突破性的解決方案，不僅簡化了網絡管理，還為工業 4.0 時代前所未有的自動化和優化鋪路。

Smart Manufacturing - Quality Inspection
智能製造 — 品質檢測

To address the problem of insufficient data, ASTRI developed "TrainLite - a small data artificial intelligence learning platform for defect detection" to assist manufacturers in developing AI learning models with limited data and realise production line automation at a lower cost, improve production efficiency and quality. ASTRI is currently cooperating with a large online shopping platform in Hong Kong and has completed technical feasibility verification. It won a Special Award for Innovation at the 48th International Exhibition of Inventions Geneva in 2023.

針對數據不足的問題，應科院的研發團隊開發「TrainLite—用於缺陷檢測的小數據人工智能學習平台」，協助生產商以有限數據開發人工智能學習模型，並以較低成本實現生產線自動化品質檢查，提高生產效率及質素。現時應科院與一家本港大型網購平台合作，並已完成技術可行性驗證。研發成果於2023年獲得第48屆「日內瓦國際發明展」特別創意大獎。

5G Cloud Robotics
5G雲機器人

The 5G Cloud Robotics project assists manufacturers in installing expandable and cloud-controlled automated robots at a lower cost, which can perform complex industrial tasks efficiently and accurately.

The core of the ASTRI 5G Cloud Robotics System lies in its seamless integration of 5G connectivity, which provides ultra-fast and low-latency communication between robots and the cloud infrastructure. This enables real-time data exchange and instant response capabilities. 5G and Sensor Fusion Positioning enable high-precision positioning with indoor and outdoor coverage for industrial applications.

These robots are capable of autonomously navigating complex environments, performing intricate tasks, and adapting to dynamic situations with human-like precision. The data collected by these robots are seamlessly transmitted to the cloud, where powerful algorithms and AI models process and analyse the information in real-time. This platform can be utilised in industries such as manufacturing, logistics, healthcare, and public services, enhancing efficiency and productivity while reducing human intervention and risk.

5G雲機器人方案能夠協助製造商以更低的成本安裝可擴展和雲端控制的自動化機器人，從而有效且準確地執行複雜的工業任務。

應科院的5G雲機器人系統的核心在於其5G連接的無縫整合，為機器人和雲端基礎設施之間提供超高速和低延時的通訊，具備實時數據交換和即時響應能力。5G 和傳感器融合定位技術可為工業應用提供室內外覆蓋的高精度定位。

這些機器人能夠於複雜環境中自主導航，執行複雜的任務，並以類似人類的精確度適應動態情況。這些機器人收集的數據被無縫傳輸到雲端，強大的演算能力和人工智慧模型能夠即時處理和分析訊息。該平台可應用於製造業、物流業、醫療保健和公共服務等行業，提高效率和生產力，同時降低人為干預和風險。

PARTNERSHIP AND COMMERCIALISATION
合作夥伴及市場化項目

ASTRI is actively transferring advanced AI technologies to manufacturers for quality inspection in various areas. We explored pick-and-place technologies for warehouse automation and developed advanced deep learning techniques, including lifelong AI platforms, edge-based sparse point cloud perception systems and 3D sensing for transparent objects.

In collaboration with a local e-commerce company, ASTRI is developing a visual system for grocery bin picking to automate identification, selection, and pick-and-place coordination of groceries. This contributes to unmanned stores and fully-automated warehouses, improving operational efficiency and accuracy. The first two stages of R&D are completed, with the third stage expected to be completed this year.

應科院正積極將最先進的人工智能技術轉移給製造商進行各個領域的品質檢測。我們探索用於倉庫自動化中的拾取和放置技術，並開發了先進的深度學習技術，包括終身人工智能平台、基於邊緣的稀疏點雲感知系統，以及適用於透明物體的3D傳感。

此外，我們正與一家電商合作開發雜貨箱揀選視覺系統，以自動識別、選擇雜貨，並推算出其拾取和放置座標，有助實現無人商店及全自動貨倉，提升營運效率和準確性。首兩個研發階段已經完成，預計今年內完成第三階段研發。

Projects Commenced in 2023/24[*]
2023/24年度開展的研發項目[*]

Location Service Enabled 5G System for New Industrialisation	面向新型工業化的位置服務賦能5G系統
Mid-end Semiconductor Wafer Inspection Systems	中段半導體晶圓檢測系統
Metasurface Diffractive Waveguide for Near-eye Display	用於近眼顯示的超表面衍射光波導
Evolved 5G Core for Smart Manufacturing	面向智能製造的演進5G核心網

*Funded by the Innovation and Technology Fund
*創新及科技基金資助

DIGITAL HEALTH
數碼健康

ASTRI strives to develop digital health solutions and has achieved breakthroughs in various research areas, such as biomedical imaging, facilitating more tailored treatments for patients. In addition, through the development of innovative applied health and medicine technologies, spanning health monitoring, medical diagnosis and medical computing, ASTRI helps promote the growth of the healthcare industry for public benefit.

Currently, these innovative technologies have been adopted by hospitals, care centres and other healthcare service providers. R&D projects encompass the telehealth technology platform, elderly tracking and monitoring technology, intelligent preventive healthcare system, and non-invasive health screening devices.

應科院致力研發數碼健康解決方案,並已在多個研究範疇取得突破,例如生物醫學影像技術,有助病人獲得更適切的診療服務。此外,應科院推出多項嶄新的應用健康或醫療科技,涵蓋健康監測、醫療診斷、醫療運算等領域,協助推動醫療保健界的發展,讓市民受惠。

現時,這些創新技術已獲多家醫院、護理中心和醫療服務供應商採用。研發項目涵蓋遙距健康照顧及護理平台、長者追蹤和監測技術、智能預防醫療系統、非入侵性健康檢查設備等。

CORE TECHNOLOGIES
主要研究範疇

> **Miniaturised Diagnostic Devices**
> **Medical Image Analytics**
> **Bioinformatics Computing**

> 小型診斷設備
> 醫療圖像分析
> 生物信息學計算

OVERVIEW
概況

Changes in demographics, service needs, and patient expectations have put pressure on Hong Kong's healthcare system. Globally, there is a pressing need for healthcare innovation to tackle issues such as an ageing population, the burden of chronic diseases, and rising healthcare costs. To address these challenges and uphold the quality of healthcare, there is a growing market demand for digital health solutions. ASTRI is committed to advancing the development of digital health solutions to improve healthcare accessibility, enhance treatment efficacy, and reduce costs.

人口結構、服務需求和患者期望改變,為香港醫療系統來帶壓力。全球都需要醫療保健創新,以解決人口老化、慢性疾病負擔和醫療成本上升的問題。為了應對這些挑戰及保持醫療保健質量,市場對數碼醫療解決方案的需求不斷增長。應科院致力發展數碼健康解決方案,以提高醫療保健的普及性、提升患者的治療效果並降低醫療成本。

INNOVATIONS
技術突破

In fiscal year 2023/24, ASTRI developed several innovative technologies tailored for digital health:

在2023/24財政年度,應科院就數碼健康的發展,開展研發多項創新科技:

Miniature Ultrasonic Probe Diagnosis Device for Digestive Endoscopy
消化道超聲微探頭診斷設備

ASTRI is developing a miniature ultrasonic probe diagnostic device for the digestive tract to enhance the accuracy of detecting tumour lesions through enhancing the penetration depth of ultrasound and improving image quality. We are in the second phase of research and development, including the continued development of innovative technologies, optimisation of ultrasound image quality, electromagnetic compatibility testing, and hardware upgrades.

應科院正研發消化道微型超聲波探頭診斷裝置,透過增強超聲波穿透深度和改善成像質量,提升檢測腫瘤病變準確度。我們正在進行第二階段的研發,包括創新技術的持續研發、超聲波圖像質量優化、電磁兼容測試及硬件改版等。

Sensing Fusion Platform for Accurate and Smart Dispensing
用於精準智能配藥的融合感測平台

We engineered an ultra-light see-through type head-mounted display (HMD) equipped with sensing capabilities. This innovative HMD is specifically designed for drug uploading and dispensing tasks within hospital pharmacy departments. Enhanced with a deep learning-based vision drug identification algorithm, the HMD streamlines the process by providing accurate identification and listing functionalities. Its real-time monitoring of drug types and quantities function minimises drug dispensing errors. As a result, the operational efficiency and accuracy of pharmacy departments are significantly improved.
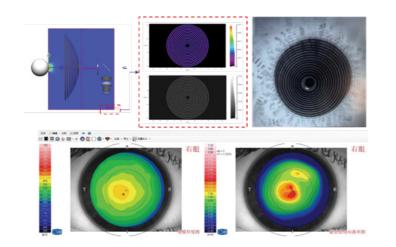
我們開發配備了感測功能的超輕透視式頭戴顯示器(HMD)，專為醫院藥房的藥物上傳和配藥任務而設。HMD內置基於深度學習的藥物識別演算法，提供精確的識別和排列功能，簡化工作流程，又能實時監測藥物種類和數量，減低錯誤分配藥物的機會，大大提升了藥房配藥的操作效率及準確度。

Multi-functional Eye Health Monitoring Device
多功能眼睛健康監測儀器

ASTRI designed and developed a multi-functional eye health monitoring system which can provide anterior and posterior cornea information, anterior segment cross-sectional information, fundus image, axial length, and pupillary examination. End-users can utilise one device to inspect multiple parts of the eye, significantly improving measurement efficiency and reducing overall cost. It is suitable for routine eye monitoring for family and tele-ophthalmology in the future. At present, ASTRI has completed the development of the hardware of the cornea topography, the optical system design of the cornea topography and the ophthalmoscope and is expected to complete the prototype of the entire software and hardware system within this year.

應科院設計及研發了多功能眼部監測系統，可提供角膜前後表面資訊、眼球前端斷層掃描資訊，以及眼底、眼軸及瞳孔數據，用戶可以使用儀器進行多個眼睛部位的檢查，大大地提高測量效率及降低檢測費用，適用於未來家庭健康監測和遙距醫療。目前，應科院已完成開發眼角膜儀的硬件、眼角膜儀及眼底鏡的光學系統設計，並預計年內將完成整個軟硬件系統的原型樣機。

PARTNERSHIP AND COMMERCIALISATION
合作夥伴及市場化項目

In 2023/24, ASTRI's collaboration with hospitals and industry partners has led to significant advancements in digital health solutions. We plan to provide gerontechnology solutions to government departments and non-governmental organisations to enhance the quality of elderly care and nursing services. ASTRI will showcase medical imaging technologies used for eye health examinations through organising technology forums, workshops, and participating in international trade exhibitions, including the China (Beijing) International Youth Eye Health Industry Exhibition (CEYEE).

ASTRI has collaborated with the Hospital Authority to develop a lightweight head-mounted display (HMD) equipped with medication box detection and medication type identification functions. This HMD is planned to be used in the pharmacy of Tin Shui Wai Hospital. ASTRI has also developed computer vision-related technologies, such as XR applications with multi-user access capabilities and medical imaging with advanced algorithmic quality enhancement features.

Smart healthcare is also a key focus area for ASTRI. We are now collaborating with the Social Welfare Department and the Neighbourhood Advice-Action Council to pilot a "Sensing Fusion for Event Based Monitoring System" to assist in daily operations.

在2023/24年度，應科院已和醫院及行業合作夥伴開展合作，並取得重大進展。我們計劃向政府部門及非政府機構提供樂齡科技解決方案，以提升長者照顧及護理服務質素。應科院將透過舉辦技術論壇、工作坊、參加「北京國際青少年眼健康產業展」等國際貿易展覽，展示用於眼部健康檢查的醫學影像技術。

應科院亦已與醫院管理局落實合作，開發了一款輕便的頭戴式顯示器(HMD)，配備藥盒檢測和藥物類型識別功能，計劃在天水圍醫院藥房中使用；應科院亦開發具有多用戶存取功能的 XR 應用程式和具有先進演算法品質增強功能的醫學成像等與電腦視覺相關的技術。

智慧護理也是應科院的重點領域，目前已與社會福利署和鄰舍輔導會開展合作，試行傳感融合事件系統以協助日常運作。

Projects Commenced in 2023/24*
2023/24年度開展的研發項目*

Miniature Ultrasonic Probe Diagnosis Device for Digestive Endoscopy	消化道超聲微探頭診斷設備
Detecting Early Signs of Dementia through Speech Analysis	通過語音分析檢測早期認知障礙症
Multi-functional Eye Health Monitoring Device	多功能眼睛健康監測儀器

*Funded by the Innovation and Technology Fund
*創新及科技基金資助

Approved by the State Ministry of Science and Technology, ASTRI is the commissioning body of the Hong Kong Branch of Chinese National Engineering Research Centre for Application Specific Integrated Circuit System (CNERC) which was established in 2012 to focus on R&D areas such as 3D integrated chips, third-generation semiconductors, AI and Internet of Things (IoT) chips. With over 45 patents in 3D integrated circuits and numerous solutions developed, ASTRI is well-positioned to support the industry.

ASTRI serves as vice chairman and director of the International sub-committee of the China Advanced Semiconductor Industry Innovation Alliance (CASA), playing a crucial role in promoting international collaboration and global technology commercialisation.

In line with the HKSAR Government's policy, ASTRI accelerates the integration of microelectronics technology development and industrial applications. R&D efforts will focus on electronic design automation (EDA), heterogeneous integration technology, mixed-signal, RF and AI chips, and power electronics applications to help the industry seize the opportunities presented by the growing demand for advanced semiconductor technologies.

國家專用集成電路系統工程技術研究中心香港分中心（工程中心）於2012年獲國家科技部批准成立，應科院是工程中心的委託單位。研發領域包括 3D 集成電路、第三代半導體、人工智能和物聯網芯片等。應科院在3D集成電路領域已獲得超過45項專利，並開發了多項解決方案，具備支持行業發展的良好條件。

同時，作為國家第三代半導體產業技術創新戰略聯盟（CASA）副理事長單位和聯盟國際分委會主任單位，在推動國際合作和全球技術商業化方面發揮著關鍵作用。

為配合香港特區政府的政策，應科院加快整合微電子技術發展與產業應用。研發重點包括電子設計自動化（EDA）、異質集成技術、混合訊號、射頻和人工智能芯片以及電力電子應用等領域進行研發，助力業界捉緊市場對先進半導體技術需求日增所帶來的巨大發展機遇。

APPLICATION SPECIFIC INTEGRATED CIRCUITS
專用集成電路

OVERVIEW
概況

Application specific Integrated circuits are crucial for high-tech industries aiming to advance their capabilities in telecommunications, smart city, electronics, and more.

專用集成電路對於提升電訊、智慧城市和電子等領域的高科技產業至關重要。

CORE TECHNOLOGIES
主要研究範疇

> Electronic Design Automation

> Heterogenous Integration Technologies

> Mixed Signals, RF and AI Chips

> Application for Power Electronics

> 電子設計自動化 (EDA)

> 異構集成技術

> 混合訊號、射頻與人工智能晶片

> 電力電子應用

INNOVATIONS
技術突破

In fiscal year 2023/24, ASTRI has achieved breakthroughs in several technologies related to application specific integrated circuits, including:
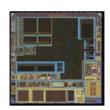
在2023/24財政年度，應科院在多項與專用集成電路相關的技術取得突破，包括：

Ultrasonic Reversing Radar SoC Solution
超聲波倒車雷達SoC解決方案

China is a major automobile production country, producing more than 30 million vehicles every year. As an important safety auxiliary device, the ultrasonic radar system plays an important role in the automotive industry.

ASTRI's core competency in the ultrasonic sensor SoC field lies in a unique echo detection algorithm powered by digital signal processing and auto calibration technology for vehicle-mounted ultrasonic radar.

An auto calibration technology is developed to address unstable transmission issues caused by chip temperature variation, ageing, and environmental factor changes, which is also a breakthrough in ultrasonic sensor SoC design. This invention plays an important role in the vehicle-mounted ultrasonic radar industry, which is in line with the national chip strategy, realising domestic substitution of ultrasonic radar chips by transferring technology to the industry.
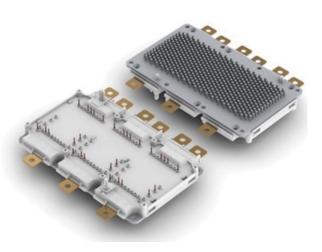
中國是全球重要的汽車生產國，每年生產超過3,000萬輛汽車。作為重要的安全輔助裝置，超聲波雷達系統在汽車產業中發揮重要作用。

應科院在超聲波傳感器系統晶片核心競爭力在於由數碼訊號處理和車載超聲波雷達的自動校準技術的獨特回波檢測演算法。

為了解決由晶片溫度變化、老化和環境因素變化引起的不穩定傳輸問題，應科院開發了一種自動校準技術，這也是超聲波傳感器設計的一大突破。這項發明在車載超聲波雷達行業中扮演着重要角色，符合國家晶片戰略，透過向產業轉移技術，實現超聲波雷達晶片的國產替代。

Advanced Phase-leg Short Circuit Protection for Third-generation Semiconductors
第三代半導體先進半橋短路保護技術

ASTRI's development of advanced phase-leg short circuit protection for third-generation semiconductors significantly contributes to the integrated circuits areas. This technology enhances the reliability and safety of semiconductor devices used in various applications spanning solar inverters, EV chargers, and micro-grid power systems.

By providing robust short circuit protection mechanisms, ASTRI's innovation helps safeguard critical electronic components, thereby improving the overall efficiency and performance of integrated circuits in diverse applications.

應科院開發的半導體先進半橋短路保護技術對第三代半導體在集成電路領域的貢獻顯著。該技術增強了各種應用中半導體設備的可靠性和安全性，該技術應用於太陽能光電變流器、電動汽車充電器和微電網電力系統等領域。

通過提供強大的短路保護機制，應科院的創新有助於保護關鍵電子元件，從而提高集成電路在多種應用中的整體效率和性能。

PARTNERSHIP AND COMMERCIALISATION
合作夥伴及市場化項目

With the support of the Futian Government, ASTRI has kicked off two projects, "Power Management IC for GaN-based Power Converters" and "SiC-based Smart DC Building Power Supply System" at ASTRI's Shenzhen Branch. These projects allow ASTRI to leverage the strength of applied research to increase technology commercialisation in the GBA.

ASTRI is also establishing a long-term partnership with Xiamen University's College of Chemistry and Chemical Engineering, focusing on electrochemistry research. This collaboration will support the development of 3D-IC technologies and AI models based on quantum mechanics and molecular dynamics, leveraging the University's dedicated computer centre.

ASTRI has secured an important customer in Suzhou – C*Core Technology Co Ltd., a leading IC manufacturer in the automotive and consumer electronics sectors. In 2023, a memorandum of cooperation was signed for technology transfer and commercialisation of neural processing unit (NPU) technology. C*Core Technology will continue to collaborate with ASTRI over the next three years to promote the development of AI chip technology for commercialisation.

In addition, ASTRI has collaborated with a microelectronics company in 2023 to develop an ultrasonic sensor System-on-Chip (SoC). This chip will be used in automobiles to effectively reduce traffic accidents caused by blind spots. The key components of the SoC include a central processing unit, a low-noise programmable gain amplifier, a digital signal processor, an analog signal processor and an advanced 14-bit analog-to-digital converter (ADC). The project team will collaborate with the Institute of Science and Technology of UM in Zhuhai to develop the world's most advanced ADC to be integrated into the SoC.

應科院在深圳福田政府的大力支持下啟動了兩個項目：用於第三代半導體GaN器件的多相電源管理晶片開發及基於SiC功率模組的智慧直流樓宇系統開發。

應科院還與廈門大學化學化工學院建立了長期合作關係，專注於電化學研究。這項合作將支援開發3D-IC技術，以及基於量子力學和分子動力學的AI模型，並善用該大學專門的計算機中心。

應科院亦已在蘇州覓得了重要客戶 —蘇州國芯科技股份有限公司是汽車和消費電子領域的領先IC製造商，在2023年，雙方簽署了一份關於神經處理單元（NPU）技術轉移和商業化的合作備忘錄。蘇州國芯將在未來三年繼續與應科院合作，攜手推動 AI晶片技術商業化的發展。

此外，應科院於2023年與一家微電子公司開展合作，開發超聲感測器晶片系統(SoC)。該晶片將可應用於汽車上，有效減低因盲點而造成的交通意外。該SoC晶片包含中央處理器(CPU)、低噪音可編程增益放大器(PGA)、數位訊號處理器(DSP)、類比訊號處理器(ASP)和先進的14位類比數位轉換器(ADC)幾個關鍵部份。項目團隊更將會跨區跟珠海澳大科技研究院合作，開發全球最先進的ADC集成在SoC晶片內。

Projects Commenced in 2023/24[*]
2023/24年度開展的研發項目[*]

Multi-Functional AI Accelerator for Edge Devices	面向邊緣設備的多功能 AI 加速器
Electroplated Sn-Bi Micro-bump for Low Temperature Bonding (ESM)	適用於低溫鍵合的錫鉍微凸塊電鍍
EDA Platform for IP Porting and Migration	用於IP移植和遷移的EDA平台
Feasibility Study of Automatic Motion and Gesture Control System for Robot in Stomach	胃內機器人運動與姿態自動控制系統的可行性研究
A Standalone Active Electromagnetic Interference Filter (AEF) IC Design for 3rd Generation Semiconductor-based Power System	適用於第三代半導體電源系統的獨立有源電磁干擾濾波芯片設計
High-reliable and High-efficient Converter System for Megawatt Level Energy Storage Applications (H2CS)	適用於兆瓦級儲能應用的高可靠性及高效率儲能變流系統（H2CS）
AI-based EDA Tools for 3D-IC Physical Design (AI-ICPD)	基於AI的3D-IC物理設計工具
SiC-based High-density Inverter Drive for New Energy	應用於新能源的碳化硅基高密度逆變驅動模塊

*Funded by the Innovation and Technology Fund
*創新及科技基金資助

CORE TECHNOLOGIES
主要研究範疇

> 5G	> 5G
> AR/VR/MR/XR	> 擴增實境 / 虛擬實境 / 混合實境 / 延展實境
> Blockchain	> 區塊鏈
> Chatbot	> 聊天機器人
> Digital Twin	> 數字學生
> Secure Identity Verification	> 安全身份驗證

METAVERSE
元宇宙

INNOVATIONS
技術突破

In fiscal year 2023/24, ASTRI has developed several innovative technologies tailored for metaverse:

在2023/24財政年度，應科院就元宇宙研發多項相關技術，包括：

OVERVIEW
概況

The metaverse promotes the virtualisation of the world and builds a new model for work and life. ASTRI is committed to developing metaverse-related technologies, including chatbot, blockchain, secure identity verification, digital twin, augmented reality, virtual reality, mixed reality and extended reality, as well as cost-effective metaverse gadgets, such as smart glasses. ASTRI promotes the development of metaverse by working on both hardware and software fronts.

元宇宙推動世界虛擬化，構建全新的工作和生活模式。應科院致力研發元宇宙相關的技術如聊天機器人、區塊鏈、安全身份驗證、數字學生、擴增實境、虛擬實境、混合實境和延展實境等，開發性價比高的元宇宙配套設施如智能眼鏡，從硬件和軟件設備兩方面推動元宇宙的發展。

Secure Metaverse Identity for Business
企業用途的安全元宇宙身份

ASTRI has developed an identity Non-Fungible Token (NFT), a self-sovereign identity, and a zero-knowledge proof identity NFT ownership authentication. We have completed the development of the identity NFT to link the metaverse, blockchain and real-world identities, enhancing the security of business development and privacy protection in the metaverse. The related mobile app is nearly complete.

應科院開發身份非同質化代幣、自主主權身份技術、身份非同質化代幣擁有權的零知識證明等技術。我們已完成開發身份非同質化代幣，把元宇宙、區塊鏈和現實世界的身份聯繫起來，以加強在元宇宙發展業務的安全性和保護私隱，相關應用程式亦即將完成。

Smart Virtual Agent
智慧虛擬代理

ASTRI developed a comprehensive smart AI platform for AI-powered customer service, enabling virtual customer service agents to provide better human-like feedback, including facial expressions and specific voiceprints.

The technology has been applied to enquiry through mobile application, voicebot for customer service, knowledge graph building, updating and management, and integration with existing customer service platform.
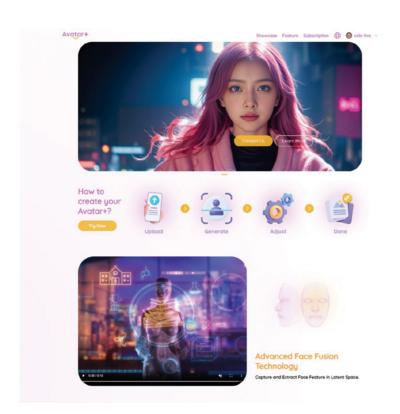
應科院為智慧人工智能客戶服務建立了全面的智慧人工智能平台，使虛擬的人工智能客戶服務能夠以人性化的表情及聲調提供更佳答案。

應用場景包括提供商端客戶服務、透過手機應用程式查詢、用於客戶服務的語音聊天機器人、建構知識圖譜、更新與管理、與現有客戶服務平台結合等。

Virtual KOL Video Production Platform by Deep Neural Network
深度神經網絡技術用於虛擬網絡主播視頻製作平台

ASTRI has developed a cost-effective virtual key opinion leader (KOL) video production platform using deep neural networks. This platform includes a Virtual Key Opinion Leader 3D model generator and a video generation system. By generating 3D morphable models from facial images and integrating them seamlessly into video content, the platform enables users to produce engaging virtual KOL videos effortlessly, revolutionising digital content creation. This technology has been applied in various areas including online teaching, virtual customer service agents, virtual avatars for direct marketing, and virtual news anchors.

應科院使用深度神經網絡開發成本效益高的虛擬網絡主播影片製作平台，該平台由虛擬網絡主播三維模型生成器和視訊生成系統組成。我們的技術可從面部圖像生成三維可塑模型並無縫拼接到影片中，製作平台用戶可以輕鬆製作精彩的虛擬KOL影片，有望徹底改變數碼內容創作的方式。應用場景包括網上教學視頻製作、虛擬網絡主播製作、虛擬人客服視頻生成、虛擬人直銷視頻生成、虛擬新聞主播等。

PARTNERSHIP AND COMMERCIALISATION
合作夥伴及市場化項目

In 2023/24, ASTRI joined hands with partners to innovate business through technologies. Below are major projects undertaken.

ASTRI collaborated with AsiaPac Net Media Limited on multiple projects, include an AI-powered real-time programmatic advertising platform, deep neural network technology for virtual KOL, video production platform, personalised content generation system, enhancing customer experience efficiently and precisely.

We also partnered with Continuous Technologies International Limited, a computer consulting service company, to develop domain-specific conversational AI engines and a fraud detection platform for image documents. PrimeCredit and DBS Bank Hong Kong actively engaged in our fraud detection solution research project.

ASTRI's ChatLaw is an AI-powered private ChatGPT tailored for the disciplined services to make legal information queries. This innovative AI application solution combines documentation intelligence and generative Q&A technologies, providing accurate and relevant references to enhance the operational efficiency of the disciplined services.

Looking ahead, we are developing AI applications based on domain language models to meet the evolving needs in chatbot systems, file directory queries, analysis, and report generation. These applications can also help mitigate risks associated with the use of public language models, such as copyright issues, fraud, and privacy concerns.
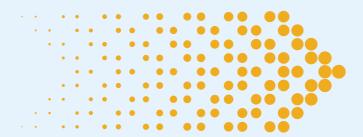
應科院於2023/24年度與不同夥伴合作，藉科技推動業務創新，主要項目包括：

應科院與香港商亞思博數位媒體(AsiaPac)合作，研發了多個項目，包括基於人工智能的實時程序化廣告平台、深度神經網絡技術用於虛擬KOL視頻製作平台、個性化內容生成系統，高效精準提升客戶體驗。

ASTRI與電腦諮詢服務公司Continuous Technologies International Limited合作，目前正開發特定領域的對話式AI引擎和用於圖像文檔的欺詐偵測平台。我們的欺詐偵測解決方案研究項目已獲得安信信貸(PrimeCredit)和星展銀行(香港)(DBS Bank Hong Kong)的積極參與。

ASTRI的ChatLaw是一個AI驅動專屬ChatGPT，為紀律部隊量身定制，用於查詢法律資訊。這個創新的AI應用解決方案結合了文檔智能和生成式問答技術，提供準確相關的參考資料，以提高紀律部隊的運作效率。

展望未來，應科院正開發基於領域語言模型的人工智能應用，以滿足不斷變化的需求，包括聊天機器人系統、文件目錄查詢、分析和報告生成等。這些應用還可以幫助減輕使用公共語言模型帶來的風險，例如版權、欺詐和私隱問題。

THE YEAR AHEAD
來年展望

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In the year ahead, ASTRI will continue to foster comprehensive collaboration across the entire innovation and technology (I&T) value chain, accelerating technology transfer and application in different industries and scenarios, as well as empowering Hong Kong's high-quality development and expanding the reach of homegrown technologies in Mainland China and overseas.

On our silver jubilee in 2025, we plan to organise a series of activities, such as a large-scale summit and exhibition, inviting key international technology leaders to Hong Kong. These events will highlight the milestones achieved in Hong Kong's I&T development and explore future directions. The aim is to establish a vibrant I&T ecosystem, drive knowledge transfer, and further solidify Hong Kong's position as an international I&T hub. The audience will include representatives from government, industry, academia, research institutes, as well as the public.

Central to our strategy is the recognition of our researchers' invaluable contributions as we reflect on accomplishments over the past quarter-century. To raise global recognition of ASTRI's R&D achievements and showcase our capabilities, we will continue to participate in international awards honouring technological innovation.

ASTRI will establish two new technology alliances to foster collaboration in the areas of construction and property technologies, artificial intelligence, and digital technology. These alliances aim to create vibrant ecosystems that promote cooperation between government, industry, academia, and research institutions.

With government subsidy support, we will also organise a series of online-to-offline seminars inviting industry experts to share insights on emerging technologies, such as FinTech, EdTech, microelectronics, and cellular vehicle to everything. Apart from promoting technology transfer and wider technology adoption, these initiatives also aim to provoke public interest in I&T.

在未來一年，應科院將會繼續促進創科產業生態鏈上、中、下游全面合作，加速優秀的科研成果轉化，在不同的產業和場景應用，賦能香港高質量發展，並開拓內地及海外市場。

2025年是應科院的銀禧紀念，我們計劃舉辦大型研討會及展覽等一系列活動，廣邀國際重要創科領袖來港，回顧香港創科發展里程碑，並探索創科未來發展方向，以建立充滿活力的創新科技生態圈、推動知識轉移，進一步鞏固香港作為國際創科中心的地位。除了「政產學研」持份者外，公眾亦是我們的目標對象。

我們其中一個重點是表揚科研人員在過去四分一世紀所作出的寶貴貢獻。我們計劃參加更多表彰科技創新的國際獎項，展示我們的研發實力，讓更多人認識應科院的科研成果。

應科院將成立兩個新的技術聯盟，建立有關建築和房地產科技，以及人工智能和數碼科技的生態圈，促進「政產學研」合作。

我們亦會在政府資助下舉辦多項線上線下研討會，邀請科研團隊及業內專家講解有關金融科技、教育科技、微電子、車聯網等嶄新技術，冀促進技術轉移，讓科研成果落地應用，並提升公眾對創新科技的興趣。

In fiscal year 2024/25, ASTRI will continue to pioneer innovative technologies and enhance applications in industries as one of our goals, promoting research and development (R&D) of innovative technologies to help Hong Kong become a top international I&T centre through the following means:

在2024/25財政年度，應科院會繼續開創創新科技，並加強在各行各業的應用。我們亦會通過以下方式促進創新科技研發，致力協助香港成為全球頂尖的創新科技中心。

> Implement corporate-level initiatives to transfer technologies developed from R&D projects to industry;

推行企業級倡議，把研發項目所開發的技術轉移給業界；

> Encourage collaborative projects to commercialise project deliverables effectively;

鼓勵推展合作項目，有效地把項目成果商業化；

> Enhance R&D collaboration with industry, public organisations, and universities through initiatives like establishing joint laboratories or R&D centres and alliances;

通過成立聯合實驗室、研發中心及技術聯盟等舉措，加強與業界、公營機構和大學的研發合作；

> Collaborate with enterprises and research institutions both domestically in Mainland China and internationally to explore development opportunities in the Greater Bay Area;

與內地及海外企業和科研機構合作，發掘大灣區的發展潛力；

> Develop research capabilities in selected emerging technology areas;

建立特定新興科技領域的研發能力；

> Strengthen institutional R&D infrastructure and research capabilities, and

加強機構的研發基礎設施及科研能力；以及

> Foster the development of local high-technology human capital.

促進本地高科技人力資本的發展。

We look forward to making even more contributions to business and the community at large by developing cutting-edge technologies that can be transferred, commercialised, and utilised across industries.

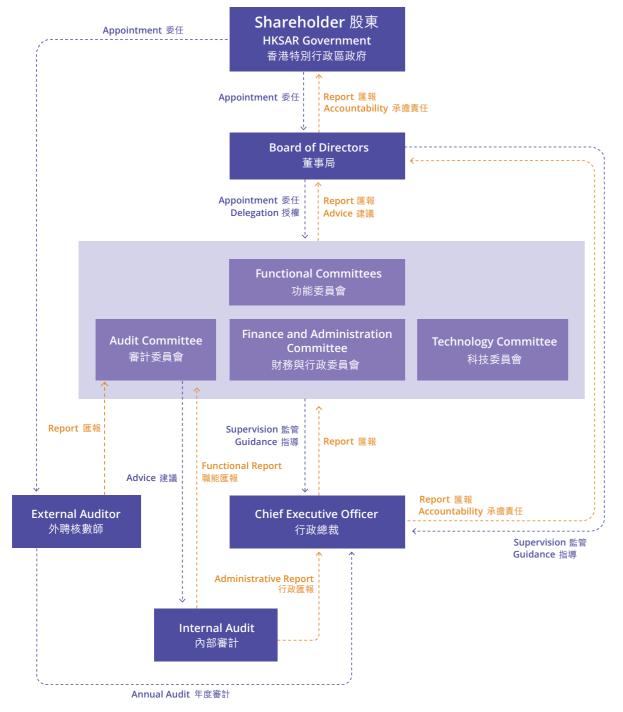我們期待通過開發更多可轉移、商業化和跨行業應用的創新科技，為企業及社會整體作出更多貢獻。

CORPORATE GOVERNANCE
企業管治

CORPORATE GOVERNANCE STRUCTURE
企業管治架構

BOARD OF DIRETORS
董事局

Board Composition
董事局的組成

As of 31 March 2024, composition of the Board includes the Chairman and 19 members, two of whom are official members.

截至2024年3月31日，應科院董事局成員包括主席及19位董事，當中兩位為官守董事。

Chairman 主席
Ir Sunny Lee Wai-kwong BBS, JP
Vice-President (Administration),
City University of Hong Kong
李惠光工程師 銅紫荊星章、太平紳士
香港城市大學副校長（行政）

Official Members 官守董事
Mr Eddie Mak Tak-wai, JP
Permanent Secretary for Innovation,
Technology and Industry, HKSAR Government
麥德偉先生 太平紳士
香港特區政府創新科技及工業局常任秘書長

Mr Ivan Lee Kwok-bun, JP
Commissioner for Innovation and Technology,
HKSAR Government
李國彬先生 太平紳士
香港特區政府創新科技署署長

Members 董事 (In alphabetical order of surname) (以英文姓氏順序排列)

Prof Chan Chun-kwong
Programme Director, MSc in Financial
Technology, Faculty of Engineering,
Professor of Practice in FinTech,
Department of Systems Engineering and
Engineering Management,
The Chinese University of Hong Kong
陳俊光教授
香港中文大學
工程學院金融科技碩士課程主任
系統工程與工程管理學系金融科技實務教授

Prof Christopher Chao Yu-hang
Vice President (Research and Innovation),
Chair Professor of Thermal and Environmental
Engineering,
Director of Policy Research Centre for
Innovation and Technology,
The Hong Kong Polytechnic University
趙汝恒教授
香港理工大學
副校長（研究及創新）
熱能及環境工程講座教授
科技及創新政策研究中心主任

Mr Stephen Chau Kam-kun
Executive Director and Chief Technology Officer,
SmarTone Telecommunications
Holdings Limited
鄒金根先生
數碼通電訊集團有限公司
執行董事及科技總裁

Dr Felix Chow Bok-hin
Executive Chairman and Executive Director,
Niche-Tech Semiconductor Materials Limited
周博軒博士
駿碼半導體材料有限公司
執行主席兼執行董事

Mr Charles Chow Sai-keung
South China and Hong Kong Assurance Leader,
PricewaterhouseCoopers
周世強先生
羅兵咸永道會計師事務所
中國南部及香港審計主管合夥人

Prof Steve Chuang Tzu-hsiung
Founder and Chief Executive Officer,
ProVista Group
莊子雄教授
保力集團 行政總裁

Mr William Ho Tat
Co-Owner and Chief Executive Officer,
HKBN Enterprise Solutions
何達先生
香港寬頻企業方案 持股管理人及行政總裁

Mr Edmund Lee Chi-wai
Chief Executive Officer,
Application Technology Company Limited
李治緯先生
Application Technology Company Limited
行政總裁

Mr Theodore Ma Heng
Managing Partner,
CoCoon Ignite Ventures
馬衡先生
科控資本企業 管理合夥人

Mr Peter Ng Hon-yu
Deputy Head of Hong Kong and Vice President
Enabling Technology Group
ASMPT Technology Hong Kong Limited
吳漢瑜先生
香港先進科技有限公司
促成科技開發組
副主管（香港）及副總裁（技術部）

Dr Alfred Ng Man-cheuk
Executive Director and Chief Executive Officer,
Suga International Holdings Limited
吳民卓博士
信佳國際集團有限公司 執行董事及首席執行官

Mr Jack Ng Wun-kit, JP
School Principal, Pui Kiu Middle School
伍煥杰先生 太平紳士
培僑中學 校長

Ir Dr Samson Tai Kin-hon
Professor of Practice, School of Business,
Hong Kong Baptist University
戴劍寒博士、工程師
香港浸會大學 工商管理學院專業應用教授

Mr Anthony Tong Tat-hay
Managing Partner, Robin Bridge & John Liu
湯達熙先生
喬立本廖依敏律師行 管理合夥人

Prof Martin Wong Ding-fat
Provost and Chair Professor of Computer Science,
Hong Kong Baptist University
黃定發教授
香港浸會大學 常務副校長
計算機科學講座教授

Mr Wilfred Wong Kam-pui, BBS, JP
Managing Director,
RESOLUTIONS HR & Business Consultancy
Company Limited
黃錦沛先生 銅紫荊星章、太平紳士
雋思人才及商務顧問有限公司 常務董事

Ms Ada Wong Yin-man
Executive Director,
Wong's International Holdings Limited
王賢敏女士
王氏國際集團有限公司 執行董事

FUNCTIONAL COMMITTEES
功能委員會

Three Functional Committees assist the Board in managing ASTRI. The Finance and Administration Committee oversees ASTRI's financial and administrative matters; the Technology Committee oversees ASTRI's research initiatives; and the Audit Committee ensures both internal and external audit processes are properly carried out. To the right are the committee memberships as of 31 March 2024:

董事局成立了三個功能委員會，以協助董事局管治應科院：財務與行政委員會監察應科院財務及行政事宜；科技委員會監察應科院研究項目；審計委員會則確保內部及外部審計程序妥善執行。右方是截至2024年3月31日各委員會的成員名單：

Finance and Administration Committee (FAC)
財務與行政委員會

Prof Chan Chun-kwong (Chairman)
陳俊光教授（主席）

Mr Ivan Lee Kwok-bun, JP [1]
李國彬先生 太平紳士 [1]

Mr Stephen Chau Kam-kun
鄒金根先生

Dr Felix Chow Bok-hin
周博軒博士

Mr Edmund Lee Chi-wai
李治緯先生

Mr Theodore Ma Heng
馬衡先生

Mr Jack Ng Wun-kit JP [2]
伍煥杰先生 太平紳士 [2]

Mr Anthony Tong Tat-hay
湯達熙先生

Mr Wilfred Wong Kam-pui BBS, JP
黃錦沛先生 銅紫荊星章、太平紳士

Retired Member 退任委員

Ms Rebecca Pun Ting-ting, JP [3]
潘婷婷女士 太平紳士 [3]

Technology Committee (TC)
科技委員會

Mr Peter Ng Hon-yu (Chairman) [2]
吳漢瑜先生（主席）[2]

Mr Ivan Lee Kwok-bun, JP [1]
李國彬先生 太平紳士 [1]

Prof Christopher Chao Yu-hang
趙汝恒教授

Prof Steve Chuang Tzu-hsiung
莊子雄教授

Mr William Ho Tat
何達先生

Ir Sunny Lee Wai-kwong BBS, JP
李惠光工程師 銅紫荊星章、太平紳士

Mr Theodore Ma Heng
馬衡先生

Dr Alfred Ng Man-cheuk
吳民卓博士

Prof Martin Wong Ding-fat [2]
黃定發教授 [2]

Retired Members 退任委員

Mr Stephen Ho Wai-chung (Chairman) [2]
何偉中先生（主席）[2]

Ms Rebecca Pun Ting-ting, JP [3]
潘婷婷女士 太平紳士 [3]

Ir Prof Joseph Ng Kee-yin [4]
吳其彥教授、工程師 [4]

Audit Committee (AC)
審計委員會

Mr Charles Chow Sai-keung (Chairman)
周世強先生（主席）

Mr Ivan Lee Kwok-bun, JP [1]
李國彬先生 太平紳士 [1]

Mr William Ho Tat
何達先生

Mr Edmund Lee Chi-wai
李治緯先生

Dr Alfred Ng Man-cheuk
吳民卓博士

Ir Dr Samson Tai Kin-hon
戴劍寒博士、工程師

Ms Ada Wong Yin-man
王賢敏女士

Retired Member 退任委員

Ms Rebecca Pun Ting-ting JP [3]
潘婷婷女士 太平紳士 [3]

Movements of Directors
董事局成員變動

New Directors 新委任董事	Date of Appointment 委任日期
Mr Ivan Lee Kwok-bun, JP 李國彬先生 太平紳士	12 June 2023 2023年6月12日
Mr Jack Ng Wun-kit, JP 伍煥杰先生 太平紳士	21 October 2023 2023年10月21日
Prof Martin Wong Ding-fat 黃定發教授	21 October 2023 2023年10月21日

Retired Directors 退任董事	Date of Retirement 退任日期
Ms Rebecca Pun Ting-ting, JP 潘婷婷女士 太平紳士	17 April 2023 2023年4月17日
Ir Prof Joseph Ng Kee-yin 吳其彥教授、工程師	1 June 2023 2023年6月1日
Mr Stephen Ho Wai-chung 何偉中先生	21 October 2023 2023年10月21日

Meetings and Attendance
會議及出席率

The Board and the Functional Committees convene meetings on a regular basis. Special meetings will be held as and when necessary. The following are attendance records of ASTRI Board and Functional Committee meetings held during the year:

董事局及功能委員會定期舉行會議，並於有需要時召開特別會議。以下是董事局會議及各功能委員會會議的出席紀錄：

Board Meetings 董事局會議	21/6/2023	22/9/2023	18/10/2023 (Special Meeting) （特別會議）	15/12/2023	27/3/2024
Total number of directors during the period 期內董事局成員人數	19	19	19	20	20
Total number of directors present at meeting 董事出席人數	18	17	12	17	20
Total number of apologies 缺席人數	1	2	7	3	0
Percentage in attendance 出席率	95%	89%	63%	85%	100%

FAC Meetings 財務與行政委員會會議	15/6/2023	6/9/2023	24/11/2023	8/3/2024
Total number of FAC members during the period 期內財務與行政委員會成員人數	8	8	9	9
Total number of FAC members present at meeting 財務與行政委員會成員出席人數	6	6	9	7
Total number of apologies 缺席人數	2	2	0	2
Percentage in attendance 出席率	75%	75%	100%	78%

TC Meetings 科技委員會會議	23/6/2023	8/9/2023	14/12/2023	5/3/2024
Total number of TC members during the period 期內科技委員會成員人數	9	9	9	9
Total number of TC members present at meeting 科技委員會成員出席人數	7	7	7	8
Total number of apologies 缺席人數	2	2	2	1
Percentage in attendance 出席率	78%	78%	78%	89%

AC Meetings 審計委員會會議	15/6/2023	24/8/2023	30/11/2023	7/3/2024
Total number of AC members during the period 期內審計委員會成員人數	7	7	7	7
Total number of AC members present at meeting 審計委員會成員出席人數	6	6	5	7
Total number of apologies 缺席人數	1	1	2	0
Percentage in attendance 出席率	86%	86%	71%	100%

Governance and Control
管治及監察

As a publicly funded R&D centre, ASTRI is committed to upholding the highest standards of corporate governance. In line with our mission, we work in the best interests of our stakeholders and the taxpayers of Hong Kong.

ASTRI's corporate governance policies and principles are clearly laid out in our Corporate Governance Manual (the "Manual"). The Manual guides the efforts of the Board and Senior Management to ensure that ASTRI always operates in a transparent and accountable manner. It includes comprehensive guidelines on:

作為一所政府資助的應用科技研發機構,應科院承諾恪守最高的企業管治標準。我們秉承使命,竭誠維護持份者及香港納稅人的最佳利益。應科院的企業管治手冊("手冊")清楚列明企業管治政策和原則,協助董事局和管理層以透明、負責之準則經營應科院。手冊詳載以下守則:

Organisation and management structure
公司組織及管理架構

HR policies and staff conduct
人力資源政策及員工操守

Financial management and controls
財務管理及監控

Internal controls and external reporting
內部監控及外部匯報

Risk management
風險管理

The Manual is updated from time to time to incorporate developments needed to improve ASTRI's operations, and to reflect the changing business environment.

應科院因應企業發展需要改善運作及營商環境的變化,不時更新手冊。

Internal audit
內部審計

ASTRI's Internal Audit Department (IAD) was set up in 2003 under the Audit Committee (AC). Via the AC, the IAD assists the Board with corporate governance matters by providing it with information about and assurance regarding ASTRI's internal controls.

ASTRI's Internal Audit Charter, endorsed by the AC, affirms the IAD's independence, sets out its responsibilities, and defines the scope of its authority.

The IAD conducts internal audit reviews in accordance with a three-year risk-based rolling plan, approved annually by the AC. In these reviews, the IAD assesses the adequacy and effectiveness of ASTRI's internal control processes and procedures, as well as compliance with them.

During the reporting year, the IAD had been conducting internal audit reviews on a number of auditable areas such as secretariat management, contract management and project management. On the auditable areas completed, the relevant controls were largely in place. During the reporting year, the IAD submitted two half-yearly reports on the abovementioned reviews to the AC. The IAD periodically follows up the implementation status of the recommendations it makes.

應科院於2003年成立內部審計部,向董事局審計委員會匯報。內部審計部透過審計委員會向董事局提供有關應科院內部監控的資訊及保證,協助董事局處理企業管治事宜。

經審計委員會審批的應科院內部審計章程確認內部審計部的獨立性、規定其職責,並界定其職權範圍。

內部審計部根據審計委員會每年批准的風險為本三年滾動計劃進行內部審計審查,內部審計部會評估應科院內部監控流程及程序的充分性和有效性,以及相關遵守情況。

在報告年度內,內部審計部對應科院業務多個可審計範疇進行了內部審計審查,包括秘書處管理、合約管理與項目管理。在完成的審計項目中,內部審計部認為應科院已制定適當的監控措施。在報告年度內,內部審計部提交兩份半年度審查報告予審計委員會審議,以交代上述範疇的審查結果。內部審計部定期跟進所提出建議的實施情況。

Compliance
合規

Since April 2007, the Board has appointed the Head of Internal Audit to the role of Compliance Officer. The Compliance Officer's role is to assist the Board, via the AC, with compliance matters relating to internal and external procedures and regulations. The Compliance Officer receives reports from departmental compliance officers and submits quarterly compliance reports to the AC.

董事局於2007年4月委任內部審計主管擔任合規主任。合規主任的職責是透過審計委員會協助董事局處理與內部和外部程序及規例有關的合規事宜。合規主任負責接收部門合規主任的報告，並向審計委員會提交季度合規報告。

Safeguards against Conflicts of Interest
防範利益衝突

ASTRI has comprehensive internal controls in place designed to safeguard against conflicts of interest. The Code of Conduct is regularly reviewed and updated to ensure that potential conflicts are always declared and adequately managed. All ASTRI employees are required to make an annual declaration to confirm that they have read, understood and are compliant with the Code.

應科院設有全面的內部監控措施來防範利益衝突。應科院定期檢討並更新員工行為守則，以確保潛在衝突能夠妥為申報並處理。應科院全體員工每年均需作出申報，確認已細閱、理解並遵守守則。

Workplace Policy
工作環境守則

ASTRI has zero tolerance for discrimination and harassment. We organise regular seminars on relevant policies and regulations, with the aim of promoting equal opportunities and preventing discrimination and harassment in the workplace.

應科院絕不容忍任何歧視和騷擾事故。為提倡平等機會，並防止工作環境中出現歧視和騷擾，應科院定期舉行研討會講解相關政策及條例。

Quality Management System
品質管理系統

Quality is paramount in all ASTRI's research deliverables. To this end, ASTRI has adopted the ISO 9001 Quality Management standard, which helps us deliver consistently high-quality research to our clients and partners. In June 2023, international quality assurance body Bureau Veritas Certification conducted an ISO 9001 surveillance audit on ASTRI's operations. The audit certified that ASTRI's operations were fully compliant with the standards, with zero non-conformance.

應科院對所有研究成果均以品質為先。因此，應科院採用ISO 9001品質管理標準。憑藉ISO 9001標準，應科院可向客戶及合作夥伴交付一貫高品質的研究成果。2023年6月，國際品質認證機構必維國際檢驗集團對應科院業務執行ISO 9001監督審計。審計結果確認應科院的業務完全符合標準，並無違規事故。

Risk Management
風險管理

ASTRI has a Risk Management (RM) process to identify, evaluate and mitigate risks. The process is governed by an RM Policy and is facilitated by the IAD. The RM Policy sets out the roles and responsibilities of different parties, and provides an overview of the RM process. A Risk Register is maintained to keep track of various risks identified, covering the following broad thematic categories:

應科院設有風險管理流程，以識別、評估並減低風險。該流程受風險管理政策規管，並由內部審計部促進實施。風險管理政策規定不同人員及部門的角色和責任，並概述風險管理流程。應科院設有「風險登記冊」，以追蹤已識別的各種風險。「風險登記冊」涵蓋以下廣泛主題：

> Compliance 合規

> Corporate communications and relations 企業傳訊及關係

> Corporate governance and ethics 企業管治及道德

> Finance 財務

> Health and safety, premises and facilities 健康及安全、物業及設施

> Human resources 人力資源

> Information technology 資訊科技

> Reporting 匯報機制

> Research and development 研究及發展

> Strategy and partnership 策略及合作夥伴關係

* Risk updates are reported to the AC on a quarterly basis. 每季向審計委員會滙報最新的風險。

Information Security Management System
資訊保安管理系統

ASTRI has adopted the ISO/IEC 27001 Information Security Management standard for its R&D activities in Financial Technologies (FinTech) in order to safeguard the confidentiality, integrity and availability of the information it handles. Adoption of the standard is also helping us to mitigate cybersecurity risks and improve our cyber-defence capabilities.

An external consultancy company performs vulnerability assessment and penetration tests on ASTRI's Information Technology infrastructure and network equipment every year to ensure our security controls remain effective. In October 2023, certification body SGS Hong Kong Limited conducted an ISO 27001/IEC 27001 surveillance audit of ASTRI's operations and found zero non-conformance. ASTRI is continuing to improve and strengthen its data, information and operations security practices, as well as staying abreast of the latest technologies for combatting cybersecurity risks.

應科院已就金融科技研發項目採用ISO/IEC 27001資訊保安管理標準，以保障資訊保密，不會被人篡改或竊取。採用此標準有助應科院減低網絡保安風險，同時改善防範風險能力。

應科院每年僱用外部顧問公司，對屬下資訊科技基建及網絡設備進行漏洞評估及入侵測試，藉以確保保安監控措施仍然有效。2023年10月，認證機構香港通用檢測認證有限公司對應科院業務進行ISO/IEC 27001監督審計，並無發現違規事故。應科院正不斷改進及加強數據、資訊及業務保安，緊貼最新科技，以遏止網絡保安風險。

GO GREEN
走向綠色未來

Climate change is a global challenge. In 2023/24, ASTRI introduced several innovative technologies to assist public and private organisations in their green transformation efforts, and to enhance various public services for the benefit of the community. We were honoured to receive the Hong Kong Sustainable Development Innovation and Technology Awards, recognising ASTRI's outstanding achievements in the research and development of green transportation and food health technologies.

Furthermore, ASTRI inaugurated a "FinTech and ESG Alliance" in February 2024 to promote technological collaboration and commercialisation, bolstering Hong Kong's status as a leading global green FinTech hub. ASTRI was also accredited under the "ESG Pledge Scheme", recognising our commitment to implementing and promoting sustainable development.

Looking ahead, we will gradually formulate our goals, strategies and initiatives related to "Environment, Social, and Governance" (ESG) in our annual report, ensuring they are presented in a more detailed and systematic manner.

氣候變化是全球面對的挑戰，應科院於2023/24年度推出多項嶄新科技，協助公私營機構綠色轉型，以及提升各類公共服務，令大眾受惠。我們更榮獲「香港可持續發展創新科技大獎」，表彰應科院在研發綠色交通和食品健康科技方面的卓越成就。

此外，應科院於2024年2月成立了「金融科技與永續發展聯盟」，促進更多技術協作和科研成果商業化，助力香港發展成為綠色金融科技樞紐。應科院亦獲「ESG約章」行動的認證，確認其在踐行和促進可持續發展的決心。

展望未來，我們將逐步制定有關「環境、社會和管治」(ESG) 的目標、策略和推行措施，並更詳盡及有系統地在年報中匯報。

Tech Highlights 焦點科技

ESG Report Analysis Solution
ESG報告分析解決方案

We are working with Deloitte to build a solution for AI ESG report analysis. The solution provides company ESG compliance checking, the industry benchmark, and net-zero strategy analysis to help regulators / investors understand the company's ESG behaviours more efficiently and effectively.

我們與德勤合作建立人工智能分析引擎，提供企業ESG合規檢查、行業基準與淨零策略分析，協助監管者和投資者更容易和有效率地了解企業的ESG行為。

Tree Health Monitor
樹木健康檢測儀

ASTRI developed a method to monitor tree health using ultrasound. If the hollowness of the trunk and roots reaches a certain level, it will notify the relevant departments via IoT to follow up.

應科院研發以超聲波監測樹木健康，若樹幹和樹根的空心率高至一定程度，便經由物聯網通知相關部門跟進處理。
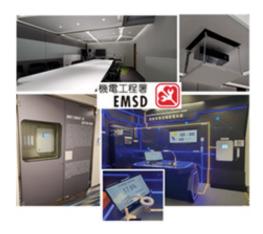
DC Power Distribution System
直流電配電系統

ASTRI developed "SiC-based Power Supply System for Smart Building Application" which can save up to 18% of energy compared to similar AC power supply system. The Electrical and Mechanical Services Department of the HKSAR Government has already implemented this technology in its headquarters' conference rooms.

應科院研發了「應用於智能建築中的碳化矽電源系統」，與交流電供電系統相比，可節省高達18%能源。機電工程署總部大樓的會議室已率先採用。

Microplastic Screening: Monitoring Pollution Based on Microscopic Hyperspectral Imaging
便攜式微塑膠篩查儀 基於顯微高光譜成像的污染監測

By using a portable and affordable hyperspectral imaging device, this invention contributes to fast screening and identification of microplastic particles, which are too small to be removed from the water in sewage treatment plants and can enter the human body through food and drinks, potentially affecting health.

通過使用便攜式且價格合理的高光譜成像設備，本發明有助於快速篩查和識別微塑膠顆粒。這些微塑膠顆粒太小所以無法從污水處理廠的水中去除，它們可以通過食物和飲料進入人體，有機會影響健康。

GREEN AWARDS
綠色獎項

Hong Kong Sustainable Development Innovation and Technology Awards 2023
2023香港可持續發展創新科技大獎

> **Distinction Award – Green Transportation Innovation and Technology**
> 綠色交通卓越獎
>
> Gantry-Free Electronic Road Pricing (ERP) Solution
> 無閘架電子道路收費(ERP)方案

> **Excellent Award – Food Safety Innovation and Technology**
> 食品健康優秀獎
>
> Cold Food Import Safety Management Platform (CFISM)
> 冷藏食品進口安全管理平台(CFISM)

KEY PERFORMANCE INDICATORS

Level of Industry Income	2023/24 Target	2023/24 Actual
Industry contribution (HK$ million)	77.23 (24.9%)	59.10[1] (20.5%)
Industry income (HK$ million)	54.50	95.43
Level of income received from the industry[2]	49.20%	53.3% 64.8%[#] 52.4%[##]
R&D Projects		
Number of ongoing R&D projects as at end of the reporting period	73	72
Number of ongoing R&D projects as at end of the reporting period involving industry participation[3]	44	32[4]
Number of companies participating in these ongoing R&D projects[5]	60	76
Utilisation of Research Output of ITF-funded R&D Projects		
Number of licensing agreements signed	24	34
Number of contract research projects undertaken[6]	53	70
Public Sector Trial Scheme Projects		
Number of ongoing Public Sector Trial Scheme projects as at end of the reporting period	3	8
Number of organisations benefitting from these Public Sector Trial Scheme projects[7]	3	9
Other Performance Indicators		
Number of patents filed (number of inventions)	60 (32)	60 (32)[8]
Number of patents granted	55	69[8]
Number of academic / industry awards received	30	62

1 More customers preferred to have customised solutions through collaborating with ASTRI in the form of non-ITF Contract Research than engaging in the ITF projects especially Partnership Research Programme, therefore affecting the industry contribution of new projects.

2 Level of income received from the industry (%) is calculated by:

$$\frac{(1)\ \text{Industry Contribution Pledged}^{\wedge} + (2)\ \text{Other Source of Financial Contribution Pledged}^{\wedge} + (3)\ \text{Commercialisation Income Received}^{*}}{(4)\ \text{Approved Project Expenditure}^{\wedge}} \times 100\%$$

* Commercialisation income received refers to income arising from licensing, contract services, royalties and others (e.g. sale of IPs etc.) but excluding those from public sector trial projects, seed projects and public sector platform projects with sponsorship waived by Commissioner for Innovation and Technology (CIT).

^ Excluding public sector trial projects, seed projects and public sector platform projects with sponsorship waived by CIT.

64.8% if sponsorship/industry contribution from other government funding schemes is calculated;

52.4% if the aforementioned sponsorship/industry contribution and the relevant project cost is calculated.

3 Refer to the number of ongoing R&D projects as at 31 March 2024 involving industry contribution.

4 More customers preferred to have customised solutions through collaborating with ASTRI in the form of non-ITF Contract Research, therefore affecting the number of ongoing R&D projects involving industry participation.

5 Refer to the number of sponsorship companies participating in ongoing R&D projects as at 31 March 2024.

6 Refer to the number of projects in which a company pays the full costs for the project.

7 Refer to the number of public organisations involving in trials under ongoing and completed public sector trials projects in fiscal year 2023/24.

8 The number of patents granted and filed in Hong Kong in fiscal year 2023/24 are 34 and 36 respectively.

關鍵績效指標

業界收入水平	2023/24 目標	2023/24 實際
業界投入資金（百萬港元）	77.23 (24.9%)	59.10[1] (20.5%)
業界收入（百萬港元）	54.50	95.43
從業界所得收入水平[2]	49.20%	53.3% 64.8%[#] 52.4%[##]
研發項目		
於報告期末「在研項目」總數	73	72
於報告期末業界參與的「在研項目」總數[3]	44	32[4]
參與「在研項目」的公司總數[5]	60	76
創新及科技基金所資助研發項目研究成果的運用		
已簽訂授權合約總數	24	34
已承接合約研究項目總數[6]	53	70
公營機構試用計劃項目		
於報告期末的公營機構試用計劃項目總數	3	8
公營機構試用計劃項目惠及的機構總數[7]	3	9
其他表現指標		
申請專利總數（發明總數）	60 (32)	60 (32)[8]
獲得專利總數	55	69[8]
獲頒學術／業界獎項總數	30	62

1 更多客戶傾向以「非創新及科技基金合約研發項目」的形式與應科院合作，以獲得量身定制的解決方案，而非參與創新及科技基金項目（特別是「夥伴研究計劃」），因此影響了業界投入資金參與新項目。

2 從業界所得收入水平(%) 計算如下：

$$\frac{(1)\ \text{業界承諾投入資金}^{\wedge} + (2)\ \text{其他承諾財務資助}^{\wedge} + (3)\ \text{已收取商業化收入}^{*}}{(4)\ \text{獲批項目支出}^{\wedge}} \times 100\%$$

* 已收取商品化收入為因授權、合約服務、版權費及其他事項（如出售知識產權等）而得的收入，惟不包括自創新科技署署長豁免贊助的公營機構試驗項目、種子項目及公營機構平台項目所得收入。

^ 不包括創新科技署署長豁免贊助的公營機構試驗項目、種子項目及公營機構平台項目。

64.8%，如果將來自其他政府資助計劃的贊助／業界投入資金計算在內；

52.4%，如果將上述贊助／業界投入資金及相關項目成本計算在內。

3 指於2024年3月31日涉及業界投入資金的「在研項目」總數。

4 更多客戶傾向以「非創新及科技基金合約研發項目」的形式與應科院合作，以獲得量身定制的解決方案，因而影響了涉及業界參與「在研項目」總數。

5 指於2024年3月31日參與「在研項目」的贊助公司數目。

6 指公司悉數支付項目成本的項目。

7 指在2023/24財政年度已完成項目的「公營機構試用計劃」以及於報告期末「在研項目」中涉及的公營機構總數。

8 於2023/24財政年度，在香港已獲得及申請的專利數目分別為34項和36項。

2023/24
FINANCIAL REPORT
財務報告

OVERVIEW
概況 >>

For 2023/24 fiscal year, the consolidated income and expenditure of ASTRI amounted to HK$680,178,193 and HK$679,180,865 respectively, resulting in a surplus of HK$997,328.

The funds from the Government comprised HK$154,168,281 from recurrent subvention, HK$40,695,306 from Innovation and Technology Fund ("ITF") for reimbursement of administrative overheads, HK$260,514,361 from ITF project funds, HK$6,305,479 from ITF General Support Programme ("GSP"), HK$20,661,654 from ITF Public Sector Trial Scheme ("PSTS"), HK$26,876,474 from ITF Research Talent Hub, HK$19,583,783 from ITF for Chinese National Engineering Research Centre for Application Specific Integrated Circuit System (Hong Kong Branch) and HK$15,202,741 from Smart Traffic Fund. In 2023/24 fiscal year, the income from the industry amounted to HK$132,717,628. The total administrative expenses amounted to HK$202,922,357 (comprised of administrative expenses of HK$202,574,347 and finance cost of HK$348,010 under subvention), which represented an increase of HK$22,372,645 (12.4%) compared with the previous year.

ASTRI's operation remained steady with prudent financial management throughout the year. The total expenditure of the ITF, GSP and PSTS projects amounted to HK$354,979,823, of which 73% of the expenditure was spent on manpower and 27% of the expenditure was spent on equipment, other direct costs and administrative overheads.

The total expenditure mainly represented the actual cash outflow incurred during the year for 85 full projects, 41 seed projects, six GSP projects and nine PSTS projects. Meanwhile, the Research Talent Hub expenditure amounted to HK$26,876,474, representing the actual cash outflow of salary payment for research talents engaged in 43 full projects and 12 seed projects.

The consolidated financial statements of ASTRI for the year ended 31 March 2024 have been audited by independent auditors with unqualified audit opinion, an extract of the Consolidated Statement of Income and Expenditure, Consolidated Statement of Comprehensive Income and Consolidated Statement of Financial Position are set out on pages iv - vi.

應科院在2023/24財政年度的綜合收入和支出分別為港幣680,178,193元及港幣679,180,865元，所得盈餘為港幣997,328元。
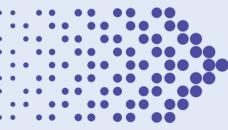
來自政府款項包括經常性資助港幣154,168,281元；創新及科技基金發還行政費港幣40,695,306元；創新及科技基金的項目研發經費港幣260,514,361元；創新及科技基金的一般支援計劃資助港幣6,305,479元；創新及科技基金的公營機構試用計劃資助港幣20,661,654元；創新及科技基金的研究人才庫資助港幣26,876,474元；創新及科技基金向國家專用集成電路系統工程技術研究中心(香港分中心) 提供的資助港幣19,583,783元；及智慧交通基金資助港幣15,202,741元。在2023/24財政年度內從業界所得的收入為港幣132,717,628元。總行政支出為港幣202,922,357元(包括歸屬資助之行政支出港幣202,574,347元及財務成本港幣348,010元)，比去年同期增加港幣22,372,645元(增幅12.4%)。

應科院全年保持穩定的經營狀況，並繼續秉持審慎的理財方針。創新及科技基金的項目研發、一般支援計劃資助和公營機構試用計劃資助項目的總支出為港幣354,979,823元，當中73%用於人力資源，27%用於儀器、其他直接開支及行政費。

總支出主要為本年度85個正式項目、41個種子項目、六個一般支援計劃項目和九個公營機構試用計劃項目的實際現金支出。同時，研究人才庫支出為港幣26,876,474元，為研究人才參與43個正式項目和12個種子項目的實際薪酬支出。

應科院截至2024年3月31日止年度的綜合財務報表經由獨立核數師審計，並獲發無保留審計意見書。綜合收支表、全面收益表及綜合財務狀況表的摘要載於第iv至vi頁。

Consolidated Statement of Income and Expenditure and Comprehensive Income
綜合收支表及全面收益表

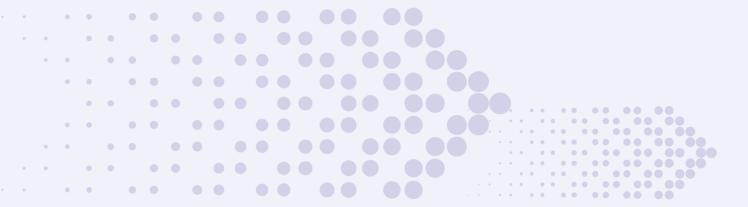| Year ended 31 March 2024 截至2024年3月31日止年度	2024 (HK$ 港元)	2023 (HK$ 港元)
SUBVENTION 資助		
Income from Government subvention 政府資助收入	154,168,281	151,634,894
Administrative expenses 行政支出	(202,574,347)	(179,757,097)
Finance cost 財務成本	(348,010)	(486,673)
Deficit on subvention 資助虧損	(48,754,076)	(28,608,876)
FUNDING SUPPORT FROM INNOVATION AND TECHNOLOGY FUND 創新及科技基金資助		
Reimbursement of administrative overheads 發還行政費	40,695,306	29,703,843
	(8,058,770)	1,094,967
PROJECT FUNDING FROM INNOVATION AND TECHNOLOGY FUND AND INDUSTRY CONTRIBUTIONS 創新及科技基金及業界投入資金		
Project fund income 項目資金收入		
- Innovation and Technology Fund 創新及科技基金	260,514,361	208,958,248
- Industry contributions 業界投入資金	66,595,649	86,824,570
Project expenditure 項目支出	(327,110,010)	(295,782,818)
Balance on project funding 項目資金餘額	-	-
Project fund income - General Support Programme 項目資金收入 - 一般支援計劃		
- Innovation and Technology Fund 創新及科技基金	6,305,479	2,257,397
- Industry contributions 業界投入資金	902,680	554,000
Project expenditure 項目支出	(7,208,159)	(2,811,397)
Balance on project funding 項目資金餘額	-	-
Project fund income - Public Sector Trial Scheme 項目資金收入 - 公營機構試用計劃		
- Innovation and Technology Fund 創新及科技基金	20,661,654	6,055,292
Project expenditure 項目支出	(20,661,654)	(6,055,292)
Balance on project funding 項目資金餘額	-	-
Project fund income - Research Talent Hub 項目資金收入 - 研究人才庫		
- Innovation and Technology Fund 創新及科技基金	26,876,474	10,836,194
Project expenditure 項目支出	(26,876,474)	(10,836,194)
Balance on project funding 項目資金餘額	-	-
PROJECT FUNDING FROM MINISTRY OF SCIENCE AND TECHNOLOGY OF THE PEOPLE'S REPUBLIC OF CHINA 中華人民共和國科學技術部的項目基金		
Project fund income 項目資金收入	-	(500)
Project expenditure 項目支出	-	500
Balance on project funding 項目資金餘額	-	-

Consolidated Statement of Income and Expenditure and Comprehensive Income (Continued)
綜合收支表及全面收益表 (續)

Year ended 31 March 2024 截至2024年3月31日止年度	2024 (HK$ 港元)	2023 (HK$ 港元)
PROJECT FUNDING FROM SMART TRAFFIC FUND AND INDUSTRY CONTRIBUTIONS 智慧交通基金及業界投入資金		
Project fund income 項目資金收入		
- Smart Traffic Fund 智慧交通基金	15,202,741	6,461,050
- Industry contributions 業界投入資金	1,686,300	1,313,700
Project expenditure 項目支出	(16,889,041)	(7,774,750)
Balance on project funding 項目資金餘額	-	-
FUNDING SUPPORT FROM INNOVATION AND TECHNOLOGY FUND FOR CHINESE NATIONAL ENGINEERING RESEARCH CENTRE FOR APPLICATION SPECIFIC INTEGRATED CIRCUIT SYSTEM (HONG KONG BRANCH) 創新及科技基金給國家專用集成電路系統工程技術研究中心（香港分中心）的資助		
Expenditure incurred in relation to Funding Support from Innovation and Technology Fund 與創新及科技基金資助有關的支出	(19,583,783)	(18,939,299)
Amount for reimbursement 發還款項	19,583,783	18,939,299
	-	-
RESERVE FUND 儲備資金		
Reserve Fund - income 儲備資金 - 收入	3,452,486	2,016,547
Reserve Fund - expenditure 儲備資金 - 支出	(3,452,486)	(2,016,547)
	-	-
OTHER INCOME, NET 其他淨收入		
Other income 其他收入	63,532,999	36,703,360
Other expenses 其他支出	(50,947,062)	(26,625,881)
	12,585,937	10,077,479
AMOUNT RETURN TO THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION 退還香港特別行政區政府款項	(3,410,207)	(3,985,018)
SURPLUS BEFORE TAX 稅前盈餘	1,116,960	7,187,428
INCOME TAX EXPENSE 所得稅支出	(119,632)	(93,507)
SURPLUS FOR THE YEAR 本年度盈餘	**997,328**	**7,093,921**
OTHER COMPREHENSIVE LOSS THAT MAY BE RECLASSIFIED TO SURPLUS OR DEFICIT IN SUBSEQUENT PERIODS 在以後會計期可能重新分類作盈餘或虧損的其他全面虧損		
Exchange differences arising on translation of foreign operation 外幣報表換算差額	(178,981)	(101,633)
TOTAL COMPREHENSIVE INCOME FOR THE YEAR 本年度全面總收入	**818,347**	**6,992,288**

Consolidated Statement of Financial Position
綜合財務狀況表

As at 31 March 2024 於2024年3月31日	2024 (HK$ 港元)	2023 (HK$ 港元)
NON-CURRENT ASSETS 非流動資產		
Property, plant and equipment 物業、機器及設備	17,216,435	14,413,703
Right-of-use assets 使用權資產	29,913,599	45,757,410
	47,130,034	**60,171,113**
CURRENT ASSETS 流動資產		
Accounts receivable, contract assets, prepayments and deposits 應收賬款、合約資產、預付款項及按金	33,457,185	19,749,855
Amount due from the Government of the Hong Kong Special Administrative Region 應從香港特別行政區政府收回款項	85,413,796	59,828,004
Tax recoverable 可退回稅項	201,762	-
Cash and cash equivalents 現金及現金等值	252,920,802	304,607,953
	371,993,545	**384,185,812**
CURRENT LIABILITIES 流動負債		
Accounts payable, contract liabilities, other payables and accruals 應付賬款、合約負債、其他應付款項及應計項	116,796,118	79,867,110
Deferred government grants 遞延政府資助	20,621,384	20,663,663
Receipts in advance 預收款項	164,829,267	217,460,030
Amount due to the Government of the Hong Kong Special Administrative Region 應付予香港特別行政區政府款項	4,591,820	1,563,300
Lease liabilities 租賃負債	21,111,177	23,990,364
Tax payable 應付稅項	-	72,855
Provision 撥備	17,820,975	-
	345,770,741	**343,617,322**
NET CURRENT ASSETS 流動資產淨值	**26,222,804**	**40,568,490**
TOTAL ASSETS LESS CURRENT LIABILITIES 總資產減流動負債	**73,352,838**	**100,739,603**
NON-CURRENT LIABILITIES 非流動負債		
Lease liabilities 租賃負債	4,340,215	17,693,382
Provision 撥備	2,116,180	16,968,125
	6,456,395	**34,661,507**
Net Assets 資產淨值	**66,896,443**	**66,078,096**
EQUITY 股權		
Share capital 股本	2	2
Reserves 儲備	66,896,441	66,078,094
Total Equity 股權總值	**66,896,443**	**66,078,096**

Note:

> These financial statements have been prepared in accordance with Hong Kong Financial Reporting Standards (which include all Hong Kong Financial Reporting Standards, Hong Kong Accounting Standards and Interpretations) issued by the Hong Kong Institute of Certified Public Accountants and the Hong Kong Companies Ordinance. They have been prepared under the historical cost convention and are presented in Hong Kong dollars ("HK$").

The financial information relating to the years ended 31 March 2024 and 31 March 2023, included in the Consolidated Statement of Income and Expenditure and Comprehensive Income, and the Consolidated Statement of Financial Position set out on pages iv - vi, is not part of the Company's statutory consolidated financial statements for those years but is derived from them. Further information relating to those statutory financial statements required to be disclosed in accordance with section 436 of the Hong Kong Companies Ordinance is as follows:

As the Company is a private company, the Company is not required to deliver its financial statements to the Registrar of Companies and has not done so.

The Company's auditor has reported on the consolidated financial statements of the Group for both years. The auditor's reports were unqualified; did not include a reference to any matters to which the auditor drew attention by way of emphasis without qualifying its reports; and did not contain a statement under sections 406(2) or 407(2) or (3) of the Hong Kong Companies Ordinance.

備註：

> 本財務報表乃根據香港會計師公會頒佈的香港財務報告準則（包括所有香港財務報告準則、香港會計準則及詮釋）及香港公司條例編製。本財務報表根據歷史成本慣例編製，並以港元呈報。

以上第iv至vi頁之綜合收支表及全面收益表以及綜合財務狀況表截至2024年3月31日及2023年3月31日止年度的財務資料，並不構成本公司有關年度的法定綜合財務報表，但這些財務資料均取自有關財務報表。有關該等法定財務報表須根據香港公司條例第436條作進一步披露的資料如下：

本公司是私人公司，因此毋須向公司註冊處遞遞其財務報表，亦從未遞交過。

本公司的核數師已就本集團兩年的綜合財務報表作出報告。核數師呈交的無保留報告，並不包括該核數師在不作保留意見之情況下，以強調方式促請有關人士垂注任何事宜的提述，亦無載有根據香港公司條例第406(2)或407(2)或(3)條所作出的陳述。

ANNUAL REMUNERATION OF STAFF IN THE ORGANISATION'S TOP THREE TIERS
應科院最高三層員工的全年薪酬 >>

Post 職位	Annual Remuneration* 全年薪酬* （HK$ 港元）	Annual Remuneration* 全年薪酬* （HK$ 港元）	Number of staff members 員工人數
First tier 第一層 Chief Executive Officer 行政總裁	$4,182,160	<1,000,000	3
		1,000,001 - 1,500,000	0
Second tier 第二層 Three senior executives 三名高級行政人員	$5,889,060	1,500,001 - 2,000,000	2
		2,000,001 - 2,500,000	5
		2,500,001 - 3,000,000	0
Third tier 第三層 Nine functional leaders/ senior technology experts 九名部門主管／ 高級技術專家	$16,063,360	3,000,001 - 3,500,000	2
		3,500,001 - 4,000,000	0
		4,000,001 - 4,500,000	1

* The information covers actual remuneration (including base salary, salary adjustment, performance-linked pay, variable payment and cash award - Inventor Award) from 1 April 2023 to 31 March 2024 received by staff at the top three tiers who were in service as of 31 March 2024. It also covers the actual remuneration of –

(a) staff appointed during the financial year – One New Chief Director was appointed on 25 March 2024, and
(b) staff departed during the financial year – Chief Technology Officer departed on 23 November 2023 and One Senior Director departed on 3 June 2023.

The figures have been rounded to the nearest HK$10.

* 有關資訊包括截至2024年3月31日應科院最高三層在職員工，於2023年4月1日至2024年3月31日的實際薪酬（包括基本薪酬、薪酬調整、與表現掛鈎薪酬、可變薪酬和現金獎勵，即創新發明獎）。有關資訊還包括以下員工的實際薪酬─

(a) 財政年度中加入的員工─於2024年3月25日加入的一名新任首席總監；及
(b) 財政年度中離開的員工─於2023年11月23日離開的首席科技官，及於2023年6月3日離開的高級總監。

數字經四捨五入至十位數。

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