

HKEX GUIDANCE LETTER

HKEX-GL115-23 (March 2023)

Subject	Guidance on Specialist Technology Companies
Listing Rules and Regulations	Main Board Chapter 18C

Important note: *This letter does not override the Listing Rules and is not a substitute for advice from qualified professional advisers. If there is any conflict or inconsistency between this letter and the Listing Rules, the Listing Rules prevail. You may consult the Listing Division on a confidential basis for an interpretation of the Listing Rules, or this letter. Unless otherwise specified, defined terms in the Listing Rules shall have the same meanings in this letter.*

Purpose

1. This letter provides guidance for Specialist Technology Companies with, or seeking, a listing on the Exchange pursuant to Chapter 18C (“Chapter 18C”) of the Main Board Listing Rules (“Rules”).
2. The definitions used in this guidance letter are the same as those set out in the Rules.

Guidance

A. Specialist Technology Industries

3. Rule 18C.01 defines “Specialist Technology Industry” and “an acceptable sector of a Specialist Technology Industry” as an industry or an acceptable sector (as the case may be) that is included in a list of Specialist Technology Industries set out in guidance published on the Exchange’s website, as updated from time to time.
4. Rule 18C.03(1) states that an applicant applying for listing under Chapter 18C must demonstrate that it meets the definition of a Specialist Technology Company, and is both eligible and suitable for listing as either a Commercial Company or a Pre-Commercial Company.
5. Rule 2.04 states that the Exchange may waive, modify or not require compliance with the Listing Rules in individual cases (to suit the circumstances of a particular case), as a variety of circumstances may exist which require it to make ad hoc decisions.
6. Rule 8.04 states that both the issuer and its business must, in the opinion of the Exchange, be suitable for listing.

List of Specialist Technology Industries

7. The list of Specialist Technology Industries and the non-exhaustive¹ acceptable sectors that the Exchange considers to fall within each of these industries are set out as follows:

Acceptable sector	Description
(a) Next-generation information technology	
<i>Software, platform and infrastructure solutions powered by cloud computing and big data analytics</i>	
Cloud-based services	<p>The application of cloud computing in as-a-service business models through the access and use of servers, networks, storage capacity, development tools and applications via the internet, including:</p> <ul style="list-style-type: none"> • <u>Software as a service (SaaS)</u>: the delivery of software applications over cloud infrastructure enabling companies to conduct their operations using the application • <u>Platform as a service (PaaS)</u>: the delivery of a platform for the creation of software in the form of virtualisation, middleware, and/or operating systems, which is then delivered over cloud infrastructure • <u>Infrastructure as a service (IaaS)</u>: the delivery of cloud computing infrastructure (i.e. servers, storage, and networks) as an on-demand service
Artificial intelligence (“AI”)	<p>The development of AI technology, including:</p> <ul style="list-style-type: none"> • <u>Technology and infrastructure enabling AI</u>: the development of open-source development platforms, computing, and data services • <u>AI-empowered algorithm programming</u>: image recognition, audio-visual learning, natural language processing (NLP), machine learning, and deep learning • <u>AI solutions</u>: the design and provision of AI solutions used in different industry verticals
(b) Advanced hardware and software	
<i>The development of new hardware and software using advanced technology</i>	
Robotics and automation	<p>The development of robots, automated systems, and enabling technologies, including:</p> <ul style="list-style-type: none"> • <u>Robot technology</u>: the engineering of robots, computer software and machines for the improved performance of tasks and/or automation processes

¹ The list is non-exhaustive in nature given an applicant falling outside the list may still be considered as “within an acceptable sector of a Specialist Technology Industry” (see paragraphs 10 to 13) and may be updated from time to time (see paragraph 14).

Acceptable sector	Description
	<ul style="list-style-type: none"> • <u>Internet of Things (IoT) technology</u>: machine-to-machine communications designed to monitor events, process data and determine actions • <u>Smart home applications</u>: home automation designs involving human-robot interaction and/or human-appliance interaction • <u>Smart product designs</u>: design and manufacturing of sensor-driven, WiFi-enabled, self-learning or programmable products
Semiconductors	<p>The development of technology for applications along the semiconductor value chain, including:</p> <ul style="list-style-type: none"> • <u>Production inputs</u>: materials, manufacturing equipment, electronic design automation (EDA) and core intellectual property (IP) • <u>Design</u>: logic and physical design, and validation and verification • <u>Fabrication</u>: conversion of designs into chips and semiconductor devices • <u>Advanced packaging</u>: flip-chip packaging, 3D packaging and wafer-level packaging
Advanced communication technology	<p>The development of connectivity technologies used in the transfer of information and/or connection of devices, including:</p> <ul style="list-style-type: none"> • <u>Next-generation wireless communication systems</u>: fifth-generation (5G) and beyond technology enabling high-speed and high-volume data transfers over wireless technology infrastructure and applications • <u>Satellite communication</u>: satellite-enabled telecommunications, broadcasting and data communications
Electric and autonomous vehicles	<p>The manufacturing and/or deployment of autonomous vehicles and electric vehicles, and development of enabling technologies, including:</p> <ul style="list-style-type: none"> • <u>Electric vehicles</u>: the use of new energy solutions in all-electric or battery electric vehicles (BEVs) • <u>Autonomous vehicles</u>: vehicles and trucks equipped with self-driving solutions • <u>Location technology</u>: sensors and technology enabling the detection or calculation of the geographical position of a person, mobile device or vehicle
Advanced transportation technology	<p>The development of transportation technology (excluding electric and autonomous vehicles), and deployment of smart mobility systems, including:</p> <ul style="list-style-type: none"> • <u>Transportation technology</u>: new modes of transport (including electric aircraft) and drone technology • <u>Intelligent transportation systems</u>: the application of information and communication technology in road transport, traffic management and safety and mobility systems (including ridesharing)

Acceptable sector	Description
Aerospace technology	<p>The development of technology used in the research, exploration and utilisation of space, including:</p> <ul style="list-style-type: none"> • <u>Spacecraft development</u>: the development of space launch vehicles, satellites, space stations and related components • <u>Space exploration</u>: space imaging, earth imaging and robotic spacecraft • <u>Utilisation of space in defence capabilities</u>: space-based services and assets for security and defence purposes
Advanced manufacturing	<p>The development of technology in production activities that depend on automation, computation, software, sensing, and/or networking, including:</p> <ul style="list-style-type: none"> • <u>Additive manufacturing</u>: 3D printing and mass-scale customisation for industrial and manufacturing processes • <u>Digitalised manufacturing</u>: applications of sensors and 3D vision technology in manufacturing processes
Quantum information technology and computing	<p>Software, hardware and services developed based on the principles of quantum information science and technology, including:</p> <ul style="list-style-type: none"> • <u>Quantum computing</u>: quantum computing software and/or hardware, and the provision of access to quantum computers via commercial cloud-based platforms • <u>Quantum communication</u>: science and technology applied to quantum-secured communication networks • <u>Quantum precision measurement</u>: the application of quantum mechanics and quantum electrodynamics to precision measurement physics
Metaverse technology	<p>The development of technology (including hardware, software and infrastructure) that enables the following applications:</p> <ul style="list-style-type: none"> • <u>Virtual reality (VR)</u>: technology providing a lifelike simulation of reality synthetically or virtually • <u>Augmented reality (AR)</u>: technology enhancing human experience through the combination of the physical and digital worlds • <u>Brain-computer interfaces (BCIs)</u>: computer-based systems translating brain signals into commands that are relayed to an output device to carry out a desired action

Acceptable sector	Description
(c) Advanced materials	
<i>The production or integration of new or significantly improved materials to enhance the performance of traditional materials</i>	
Synthetic biological materials	The development of new materials that are genetically encoded and generated through the integration of synthetic biology and materials science. Examples include biopolymers, fibres, optical materials, adhesives and other materials for specialist applications
Advanced inorganic materials	The development of advanced functional inorganic materials science and technology for the following applications: <ul style="list-style-type: none"> • <u>Special glass</u>: smart switchable glass technology such as smart windows and display • <u>Special metals and alloys</u>: metals and alloys for specialist applications or with special properties • <u>Special ceramics</u>: advanced ceramics made from inorganic non-metallic compounds
Advanced composite materials	The development of high-performance composite materials and advanced processing techniques for composite materials. Examples include carbon matrix composite materials and advanced polymers
Nanomaterials	The development and application of technology to enable the manipulation of materials conducted at a nanoscale, including: <ul style="list-style-type: none"> • <u>Manufacturing of end products using nanotechnology</u>: nanostructured filters, coatings and additives • <u>Development of nanotechnology</u>: the manufacturing and testing of equipment for nanoscale measurement and/or manipulation of materials
(d) New energy and environmental protection	
<i>The production of energy from natural sources and the development of networks and infrastructure to support such production and other processes for improving environmental sustainability and resource use and/or energy efficiency</i>	
New energy generation	The development of technology enabling new, clean or renewable energy generation, including solar and wind power, hydropower, hydrogen energy, wave powered electricity generation and biofuel
New energy storage and transmission technology	The development of energy transmission and distribution technology, and deployment of infrastructure dedicated to the generation and storage of new energy (including clean or renewable energy and hydrogen energy) including: <ul style="list-style-type: none"> • <u>New energy storage systems</u>: battery technologies and long duration energy storage • <u>New energy transmission and distribution networks</u>: power grid management and development and smart grid developments

Acceptable sector	Description
New green technology	<p>The development of technology-driven solutions for environmental conservation or remediation, or technologies that enhance resource- and/or energy-efficiency including:</p> <ul style="list-style-type: none"> • <u>Environmental remediation</u>: soil washing, soil vapour extraction and thermal desorption • <u>Emissions reduction</u>: hydrogen and carbon capture and storage
(e) New food and agriculture technologies	
<i>Food and agriculture technologies applied to agriculture, farming and food processing activities</i>	
New food technology	<p>The development of technology for food production and processing, including:</p> <ul style="list-style-type: none"> • <u>Artificial meat, sustainable protein technology, and synthetic biology in food technology</u>: production of novel ingredients including cultured meat, plant-based meat and egg substitution, sustainable protein, genome engineering, livestock genetics and macronutrient products • <u>Food waste reduction</u>: new technology enabling food waste reduction, shelf-life enhancement and monitoring
New agriculture technology	<p>The application of technology in the production of agricultural machinery, equipment and supplies, including:</p> <ul style="list-style-type: none"> • <u>Agricultural biotechnology and crop efficiency technology</u>: genetic engineering of crops and crop nutrition diagnostics • <u>Agricultural synthetic biology</u>: the application of synthetic biology in crop production, fertilisers and pesticides and animal feedstock • <u>Farming technology</u>: hydroponic crop farming, vertical farming, insect farming and microbe growing systems

8. A Biotech Company (as defined in Chapter 18A (“Chapter 18A”) of the Rules) relying on a Regulated Product (as defined in Chapter 18A) as the basis of its listing application must submit an application under Chapter 18A instead of Chapter 18C. A Biotech Company relying on a Regulated Product as the basis of its listing application that fails to satisfy the requirements under Chapter 18A (and the relevant guidance) is not permitted to submit an application under Chapter 18C.
9. A company in the biotech industry that does not base its listing application on a Regulated Product may apply to list under Chapter 18C as long as it meets the definition of a Specialist Technology Company.

Applicants that do not fall within the scope of the existing list of Specialist Technology Industries and acceptable sectors

10. An applicant falling outside the list of Specialist Technology Industries or acceptable sectors as set out in paragraph 7 may be considered as “within an acceptable sector of a Specialist Technology Industry” for the purpose of the definitions of “Specialist Technology Company” and “Specialist Technology” if it can demonstrate that:
 - (a) it has high growth potential;
 - (b) its success can be demonstrated to be attributable to the application, to its core business, of new technologies and/or the application of the relevant science and/or technology within that sector to a new business model, which differentiates it from traditional market participants serving similar consumers or end users; and
 - (c) research and development significantly contributes to its expected value and constitutes a major activity and expense.
11. An applicant falling outside the list of Specialist Technology Industries or acceptable sectors as set out in paragraph 7 must submit a pre-IPO enquiry to the Exchange to seek confidential guidance on whether it can be considered as “within an acceptable sector of a Specialist Technology Industry” before submitting a listing application under Chapter 18C.
12. In making its assessment, the Exchange will take into account all relevant facts and circumstances. To enable the Exchange to make a prompt assessment, an applicant should include in its submission all relevant facts with a meaningful and balanced discussion of its core business, technologies and innovations. The applicant should avoid making selective disclosures focusing only on favourable facts. Doing so is also likely to prolong the Exchange’s assessment.
13. The Exchange will consult with the SFC, and seek its approval, before determining such a potential applicant to be “within an acceptable sector of a Specialist Technology Industry” and so eligible to submit a listing application under Chapter 18C.

Updating of guidance on Specialist Technology Industries and acceptable sectors

14. The Exchange will update the list of Specialist Technology Industries and acceptable sectors from time to time, as necessary, after consultation with the SFC and with its approval. One of the circumstances in which it may do so is following, or to accompany, the listing of an applicant from a new industry / sector. However, the Exchange reserves the right not to update the Guidance Letter in these circumstances if, for example, the applicant has characteristics that are not generally applicable to other companies in its industry / sector.

Exchange's discretion to reject an application

15. The Exchange retains the discretion to reject an application for listing from an applicant within an acceptable sector as set out in paragraph 7 if it displays attributes inconsistent with the principles set out in paragraphs 10(a) to (c), provided that in such context, subparagraph (b) is replaced by "its success can be demonstrated to be attributable to the application, to its core business, of the relevant Specialist Technology".

Companies with multiple business segments

16. Where an applicant has multiple business segments, some of which do not fall within one or more acceptable sectors of the Specialist Technology Industries, the Exchange will, for the purpose of determining whether the company is "primarily engaged" in the relevant business (as referred to in the definition of "Specialist Technology Company"), take into account the following factors:
 - (a) whether a substantial portion of the total operating expenditure of the company and staff resources (including their time and the number of staff with relevant expertise and experience) was spent on the research and development of, and the commercialisation and/or sales of, Specialist Technology Products in the company's Specialist Technology business segment(s)² for at least three financial years prior to listing;
 - (b) whether the basis for investors' valuation and the expected market capitalisation of the company is based primarily on the company's Specialist Technology business segment(s), rather than its other business segments or assets unrelated to its Specialist Technology business segment(s);
 - (c) whether the proposed use of proceeds for listing would primarily be applied to its Specialist Technology business segment(s);
 - (d) the proportion of the revenue (if any) generated by the Specialist Technology business segment(s) relative to the total revenue of the company; and
 - (e) the reason for retaining the non-Specialist Technology business segment(s) and the history of the company's operations.
17. The factors set out in paragraph 16 are included for guidance only and are not intended to be exhaustive. The Exchange will adopt a holistic approach taking into account all the information provided and all relevant circumstances to determine whether it is satisfied that the company is "primarily engaged" in the relevant business.

² For companies with multiple business segments, the business activities attributable to a Specialist Technology business segment are expected to constitute one or more operating and/or reporting segments under the applicable accounting and financial reporting standards (for example see IFRS 8).

B. Other criteria for Specialist Technology Companies

18. Note to Rule 18C.03(1) states that the Exchange will publish guidance on its website, as amended from time to time, on any additional eligibility or suitability criteria for a Specialist Technology Company.
19. An applicant applying for listing under Chapter 18C must satisfy the following criteria:
 - (a) **Use of proceeds (Pre-Commercial Companies only):** a Pre-Commercial Company applicant must have as its primary reason for listing the raising of funds for the research and development of, and the manufacturing and/or sales and marketing of, its Specialist Technology Product(s) to bring them to commercialisation and achieving the revenue threshold as required under Rule 18C.03(4);
 - (b) **Ownership continuity:** ownership continuity and control in the 12 months prior to the date of the listing application, and up until the time immediately before the offering and/or placing becomes unconditional.

The Exchange will apply the same guidance as it has published on the ownership continuity and control requirement as set out in Rules 8.05(1)(c), 8.05(2)(c) and 8.05(3)(c) for the purpose of this ownership continuity requirement.

The Exchange may grant waivers on a case-by-case basis from the ownership continuity requirement with respect to a Specialist Technology Company that is listed by way of a De-SPAC Transaction; and
 - (c) **Revenue growth (Commercial Companies only):** a Commercial Company is normally expected to demonstrate a year-on-year growth of revenue throughout the track record period with allowance for temporary declines in revenue (for example, due to economic, market or industry-wide conditions or other factors which were temporary and outside of the applicant's control). For this purpose, only revenue satisfying the requirement of the Note to Rule 18C.03(4) will be recognised. The reasons for, and remedial steps taken (or to be taken) to address, any downward trend in the Commercial Company's annual revenue must be explained to the Exchange's satisfaction and disclosed in its listing document.
20. Applicants should note that the criteria set out in paragraph 19 are neither exhaustive nor binding, and the Exchange will take into account all relevant circumstances in its assessment of the eligibility and suitability of an applicant for listing, including the attributes set out in paragraph 10 (as modified by paragraph 15 where applicable).

C. R&D expenditure

21. Rules 18C.04(2) and (3) set out requirements as to the minimum amount of expenditure on the research and development of its Specialist Technology Product(s) that a Specialist Technology Company must make prior to listing. Note 1 to Rule 18C.04 states that the Exchange will publish guidance on its website, as amended from time to time, on the items that qualify as: (a) expenditure on research and development and (b) total operating expenditure for the purpose of that rule.
22. Rule 18C.19 requires a Pre-Commercial Company to include in its interim (half-yearly) and annual reports details of its research and development and commercialisation activities during the period under review, including a summary of expenditure on its research and development activities.
23. For the purpose of calculating the amount of expenditure on the research and development (“R&D”) under Rules 18C.04 and 18C.19:
 - (a) the amount of R&D expenditure for a period includes costs that are directly attributable to the Specialist Technology Company’s R&D activities during the period, including development costs for the period that have been capitalised as intangible assets for accounting purposes, but excluding general, administrative or other costs that are not clearly related to R&D activities;
 - (b) apart from the costs described in sub-paragraph (a) above, the Exchange expects the amount of R&D expenditure to primarily comprise the following costs:
 - (i) the costs of personnel engaged in R&D activities;
 - (ii) the depreciation, service fees or other directly attributable costs of equipment or facilities used in R&D activities (including data centre operating costs, cloud-based service fees, rentals, utilities and maintenance costs);
 - (iii) the amortisation of intangibles used in R&D activities (to the extent the related R&D costs being capitalised as intangibles have not been included in paragraph 23(a) above); and
 - (iv) the costs of materials consumed in R&D activities.

The R&D expenditure should also include the costs of R&D conducted by others on the company’s behalf (including consulting or testing fees).

If any other type of costs apart from those listed above is included as qualifying R&D costs, the basis on which such costs are directly attributable to the company’s R&D activities must be clearly explained; and

- (c) the amount of R&D expenditure should exclude:
 - (i) the initial recognition of any fixed assets relating to the company's R&D activities (e.g. capital expenditures for acquiring an R&D centre); and
 - (ii) any expense of a finance nature.
- 24. For the purpose of calculating the total operating expenditure under Rule 18C.04(2), the total operating expenditure for a period is the sum of (a) the total expenses of the company as reflected in the financial statements of the company during the period, excluding cost of sales and any expense of a finance nature, and (b) any such costs that have not been recognised as expenses during the period but qualify as R&D expenditure as described in paragraphs 23(a) and 23(b) above.
- 25. The Appendix to this letter sets out some illustrative examples of the calculation of the R&D expenditure ratio under Rules 18C.04(2) and (3).
- 26. An applicant must include a detailed breakdown of its R&D expenditure in its listing document (see paragraph 70(h)).

D. Third party investment requirements

- 27. Rule 18C.05 stipulates that a Specialist Technology Company listing applicant must have received meaningful investment from sophisticated independent investors.

Independence requirement

- 28. The independence of a sophisticated independent investor will be determined as at the date of signing of the definitive agreement for the relevant investment in an applicant, and up to listing.
- 29. The following persons will not be considered as sophisticated independent investors for the purpose of Rule 18C.05:
 - (a) core connected person(s) of the applicant, provided that a sophisticated investor who is a substantial shareholder of the applicant can be considered as a sophisticated independent investor if it is a core connected person only because of the size of its shareholding in the applicant (subject to paragraph 29(b) below);
 - (b) controlling shareholder(s) (or person(s) within the group of persons who are considered as controlling shareholders) of the applicant; and
 - (c) the founder(s) of the applicant and their respective close associates.

30. The Exchange retains the discretion to deem any other person to be not independent for the purpose of Rule 18C.05 based on the facts and circumstances of an individual case. For example, a person who has an acting-in-concert agreement or arrangement with the founder(s) or controlling shareholder(s) of a Specialist Technology Company normally will not be considered as independent.

Definition of sophisticated investor

31. The Exchange will assess whether an investor is sophisticated for the purpose of Rule 18C.05 on a case-by-case basis by reference to its relevant investment experience, and its knowledge and expertise in the relevant field, which could be demonstrated by its net assets, assets under management (“AUM”), size of its investment portfolio or track record of investments, where applicable.
32. For this purpose, the Exchange would generally consider the following as examples, for illustrative purposes only, of the types of investors that would be considered sophisticated:
- (a) an asset management firm with AUM of, or a fund with a fund size of, at least HK\$15,000,000,000;
 - (b) a company having a diverse investment portfolio size of at least HK\$15,000,000,000;
 - (c) an investor of any of the types above with AUM, fund size or investment portfolio size (as applicable) of at least HK\$5,000,000,000 where that value is derived primarily from Specialist Technology investments; and
 - (d) a key participant in the relevant upstream or downstream industry with a meaningful market share and size, as supported by appropriate independent market or operational data.
33. “Investment portfolio” for the purpose of paragraphs 32(b) and 32(c) means the aggregate value of investments in investee companies as determined under the prevailing accounting standards. The Exchange is also prepared to consider other measures of investment values that may not be reflected in the investor’s financial statements, such as the fair value of an investment supported by an independent valuation. The Exchange would not consider consolidated subsidiaries to be investee companies.
34. A fund managed by a fund manager that has AUM of an amount that meets the threshold set out in paragraph 32(a), or a wholly-owned subsidiary of an entity referred to in paragraph 32(a) or 32(b), would qualify as a sophisticated investor for the purpose of Rule 18C.05.

35. The Exchange may still consider investors of a type that is not included in the illustrative examples in paragraph 32 above as sophisticated, on a case-by-case basis, having regard to the specific circumstances of an applicant. In such situations, the applicant should demonstrate, in the particular circumstances of its individual case, that these investors have relevant investment experience, knowledge and expertise.
36. The applicant must disclose the size (and the basis for determination) of the AUM, the fund or the investment portfolio (as the case may be) and any other information relevant to the sophisticated independent investors in the listing document to substantiate that they have the relevant investment experience, knowledge and expertise to be considered sophisticated. Where the actual size of the AUM, fund or investment portfolio and such other relevant information cannot be disclosed with precision for confidentiality reasons, the Exchange will consider accepting alternative disclosures appropriate to the circumstances on a case-by-case basis, taking into account the factors set out in the relevant guidance that the Exchange has published³. Such information should be given as of:
- (a) a date which is no more than six months prior to the date of signing of the definitive agreement for the investors' relevant investment in the applicant; and
 - (b) a date which is no more than six months prior to the date of the listing application.

Minimum investment requirement

37. As an indicative benchmark, an applicant applying to list under Chapter 18C and meeting the following requirements will generally be considered as having met the requirement of having received meaningful investment for the purpose of Rule 18C.05:
- (a) **Investment from Pathfinder SIIIs:** investments from a group of two to five sophisticated independent investors (each having invested in the applicant at least 12 months before the date of the listing application) ("Pathfinder SIIIs") that satisfy the following:
 - (i) such Pathfinder SIIIs, in aggregate, (1) hold such amount of shares or securities convertible into shares equivalent to 10% or more of the issued share capital of the applicant as at the date of its listing application and throughout the pre-application 12-month period; or (2) have otherwise invested an aggregate sum of at least HK\$1,500,000,000 in the shares or securities convertible into shares of the applicant at least 12 months prior to the date of the listing application (excluding any subsequent divestments made on or before the date of the listing application); and

³ See Guidance Letter HKEX-GL98-18 (Guidance on disclosure in listing documents – listing applicants' names; statistics and data quoted; listing document covers; non-disclosure of confidential information; and material changes after trading record period) (as amended from time to time) and any other relevant guidance as implemented by the Exchange from time to time.

- (ii) at least two such Pathfinder SII (1) each hold such amount of shares or securities convertible into shares equivalent to 3% or more of the issued share capital of the applicant as at the date of its listing application and throughout the pre-application 12-month period; or (2) each have otherwise invested at least HK\$450,000,000 in the shares or securities convertible into shares of the applicant at least 12 months prior to the date of the listing application (excluding any subsequent divestments made on or before the date of the listing application).
- (b) **Investment from all sophisticated independent investors:** investments from all sophisticated independent investors result in them holding, in aggregate, such amount of shares or securities convertible into shares equivalent to at least the percentage of the issued share capital of the applicant (before exercise of any over-allotment option) at the time of listing set out in the table below:

Expected market capitalisation of the applicant at the time of listing	Minimum total investment from all sophisticated independent investors as a percentage of the issued share capital of the applicant (before exercise of any over-allotment option) at the time of listing	
	Commercial Companies	Pre-Commercial Companies
HK\$6,000,000,000 or more but less than HK\$15,000,000,000 (Commercial Companies)	20%	25%
HK\$10,000,000,000 or more but less than HK\$15,000,000,000 (Pre-Commercial Companies)		
HK\$15,000,000,000 or more and less than HK\$30,000,000,000	15%	20%
HK\$30,000,000,000 or more	10%	15%

Securities convertible into shares

38. In the case of a sophisticated independent investor holding securities convertible into shares in an applicant (such as convertible or exchangeable bonds, notes or loans or convertible preference shares), only the investment in the securities to be converted at or before listing will be counted when considering whether the meaningful investment requirement is met.
39. The applicant must disclose in the listing document the number of shares to be converted from such convertible securities at or before listing (and the corresponding investment amount) to demonstrate that it has met the meaningful investment requirement.

Indicative benchmark for the investment from Pathfinder SII(s)

40. The Exchange may accept fluctuations in the shareholding of the Pathfinder SII(s) referred to in paragraph 37(a)(i)(1) or (ii)(1), taking into account all the relevant circumstances of a particular case. Such fluctuations will generally be accepted in the following circumstances (these are examples only and are non-exhaustive):
- (a) **Temporary dilution during the pre-application 12-month period:** where the Pathfinder SII(s)' shareholding meets the relevant threshold at the time of listing application and on average (i.e. 12-month average of the shareholding as of each month-end) throughout the pre-application 12-month period; and
 - (b) **Temporary dilution pending top-up investment:** where (i) the Pathfinder SII(s)' shareholding is diluted due to investments made by other investors during the pre-application 12-month period; (ii) the relevant Pathfinder SII (or in the case of the aggregate threshold referred to in paragraph 37(a)(i)(1), at least one Pathfinder SII within the group) has committed irrevocably to top up its investment before the listing application by an amount that would have resulted in the Pathfinder SII(s) meeting the relevant indicative benchmark as at the date of listing application had such top-up been completed; and (iii) the top-up will be completed before the date of listing.
41. The timing of investment by the Pathfinder SII(s) should be determined by reference to the date of irrevocable settlement.
42. The Exchange will consider on a case-by-case basis whether investments in an applicant held by different funds managed by the same fund manager, or by different entities wholly-owned by the same investor, can be aggregated as investments made by one Pathfinder SII for the purpose of the indicative benchmarks referred to in paragraph 37(a). Non-exhaustive factors that the Exchange will take into account include the shareholding structure of the investor entities, and how investment decisions are made.

Indicative benchmark for the investment from all sophisticated independent investors

43. For the purpose of the benchmark on aggregate investment set out in paragraph 37(b) ("Aggregate Investment Benchmark"):
- (a) the Exchange will count investments by sophisticated independent investors made before listing, and any offer shares issued to sophisticated independent investors at the time of listing (whether or not those investors held securities in the Specialist Technology Company before listing) towards the Aggregate Investment Benchmark; and
 - (b) where investments by sophisticated independent investors made before listing and cornerstone investments made by sophisticated independent investors are insufficient to satisfy the Aggregate Investment Benchmark, the Exchange would be prepared to allow an applicant to proceed to listing on the condition that sufficient offer

shares would be allocated to sophisticated independent investors participating as placees under the placing tranche to satisfy the Aggregate Investment Benchmark (“SII Placees”), in which case the listing applicant, the overall coordinator(s) and the sponsor(s) should provide an undertaking in this regard and such undertaking should be disclosed in the listing document.

In such cases:

- (i) the Exchange will only accept placees that clearly fall within the illustrative examples of the sophisticated independent investors (as set out in paragraph 32). To avoid any delay to listing, where an applicant plans to rely on an allocation to be made to a sophisticated independent investor which is a key market participant (as referred to in paragraph 32(d)), the listing applicant must submit the relevant information on such sophisticated independent investor(s) to which it intends to allocate offer shares as placee(s) for the above purpose well in advance so that the Exchange can have sufficient time to assess whether such placee(s) may be regarded as sophisticated independent investors; and
- (ii) the Specialist Technology Company must confirm in the allotment results announcement under Rule 12.08 that the investment from all sophisticated independent investors has met the Aggregate Investment Benchmark, and disclose in the same announcement the identities of the SII Placees, the number of shares held by them and other relevant information of the SII Placees as required to be disclosed under paragraph 36 to substantiate that they have the relevant investment experience, knowledge and expertise to be considered sophisticated. This information should be given as of a date that is no more than six months prior to the date of listing.

Secondary / Dual listings

- 44. For applicants listed on other stock exchanges applying to list under Chapter 18C, the Exchange acknowledges the possibility that the shareholding of sophisticated independent investors at the relevant times (e.g. the time of the Chapter 18C listing application) may not strictly comply with the indicative benchmarks set out in paragraph 37.
- 45. In assessing whether such an applicant has received meaningful investment from sophisticated independent investors for the purpose of Rule 18C.05, the Exchange will consider, on a case-by-case basis, the specific circumstances of the applicant, including, without limitation, the shareholding of sophisticated independent investors before and at the time of the applicant’s overseas listing and at the time of the Chapter 18C listing application.

E. Path to achieving the revenue requirement for a Commercial Company

46. Rule 18C.06 states that a Pre-Commercial Company must demonstrate to the Exchange and disclose in its listing document a credible path to the commercialisation of its Specialist Technology Product(s), as appropriate to the relevant Specialist Technology Industry, that will result in it achieving the revenue requirement as set out in Rule 18C.03(4).

Timeframe, impediments and funding requirements

47. The Exchange will retain the discretion to determine whether the evidence provided by an applicant satisfies the requirement of Rule 18C.06. For this purpose, a Pre-Commercial Company applicant must also:
- (a) explain and disclose, in detail, the timeframe for, and impediments to, achieving the revenue requirement as set out in Rule 18C.03(4); and
 - (b) to the extent that its working capital (after taking into account the listing proceeds) is insufficient to meet its needs before it achieves the revenue requirement as set out in Rule 18C.03(4), describe the potential funding gap and how it plans to further finance its path to achieving such revenue requirement after listing.
48. Pre-Commercial Companies should exercise caution when disclosing the timeframe for, and the path to, achieving the revenue requirement as set out in Rule 18C.03(4), and clearly disclose the relevant risks, impediments and underlying material assumptions involved in making such statements as appropriate to ensure the disclosures are not misleading.

Examples of a credible path to achieving the revenue requirement for a Commercial Company

49. Non-exhaustive examples of a credible path to achieving the revenue requirement for a Commercial Company as required under Rule 18C.06 include:
- (a) binding contracts or non-binding framework agreements, with reasonably sufficient details on the timeframe and milestones for commercialisation, in respect of the Specialist Technology Product(s) that the applicant has in place; and
 - (b) such binding contracts or non-binding framework agreements being arranged with a reasonable number of independent customers for the development, testing or sales of the Specialist Technology Product(s), with a substantial potential aggregate contract value realisable within 24 months from the date of listing. The Exchange may, under exceptional circumstances, accept that a credible path is demonstrated by a binding contract or non-binding framework agreement with an expected timeframe of more than 24 months, in which case an independent customer engaged in such arrangement must also be a highly reputable customer.

50. For the purpose of paragraph 49:
- (a) the independence of a customer will be determined as at the date of signing of the relevant contract or framework agreement with an applicant and up to listing. The Exchange will apply the same criteria as those used for assessing the independence of a sophisticated independent investor (see paragraphs 29 to 30 above) in assessing the independence of a customer; and
 - (b) the Exchange will assess whether a customer is a “highly reputable customer” on a case-by-case basis taking into account all relevant facts and circumstances of an applicant and the relevant Specialist Technology Industry and market. For this purpose, the Exchange would generally consider the following as examples, for illustrative purposes only, of a “highly reputable customer”:
 - (i) a key market participant in the relevant upstream or downstream industry with meaningful market share and size, as supported by appropriate independent market or operational data; or
 - (ii) a State or State corporation as defined under Rule 1.01.
51. The factors referred to in paragraphs 49 and 50 are non-exhaustive examples of a credible path to achieving the revenue requirement for a Commercial Company as required under Rule 18C.06. If the aggregate value of the contracts or agreements that an applicant has entered into is insufficient to achieve the revenue requirement for a Commercial Company or otherwise do not meet all the requirements as set out in paragraphs 49 and 50, a Pre-Commercial Company applicant should describe how it plans to achieve the revenue requirement for a Commercial Company in the listing document.
52. A Pre-Commercial Company applicant may demonstrate its path to achieving the revenue requirement for a Commercial Company through other means with alternative evidence if the examples of the “credible path” in relation to the binding contracts or non-binding framework agreements described in paragraph 49 do not suit the Pre-Commercial Company’s circumstances. For Pre-Commercial Companies targeting retail customers, with whom they may not directly enter into contracts, a credible path to achieving the revenue requirement for a Commercial Company could be demonstrated, for example, by reference to the number of retail customers indicating their interests in the applicant’s Specialist Technology Product(s), as supported by appropriate evidence such as confirmed orders.
53. The Exchange retains the discretion to determine whether the evidence provided by a Pre-Commercial Company applicant satisfies the requirement of Rule 18C.06. The Exchange will adopt a holistic approach taking into account all the information provided and all relevant circumstances to determine whether it is satisfied that the Pre-Commercial Company has demonstrated a credible path to achieving the revenue requirement for a Commercial Company as required under Rule 18C.06.

F. Minimum allocation to independent price setting investors

54. Rule 18C.08 states that at least 50% of the total number of shares offered in the initial public offering (excluding any shares to be issued pursuant to the exercise of any over-allotment option) of a Specialist Technology Company must be taken up by independent price setting investors in the placing tranche (whether as Cornerstone Investors or otherwise).
55. The following persons who satisfy the independence requirement in paragraph 56 will be considered as “independent price setting investors” for the purpose of Rule 18C.08:
 - (a) Institutional Professional Investors (as defined in Rule 18B.01); and
 - (b) other types of investors with AUM, fund size or investment portfolio size of at least HK\$1,000,000,000.
56. A person will not be considered as an independent price setting investor if it is (a) an existing shareholder of the applicant, or a close associate of such an existing shareholder; or (b) a core connected person of the applicant.
57. For the purposes of paragraph 55(b), the meaning of “investment portfolio” is as set out in paragraph 33.
58. A fund managed by a fund manager that has AUM of an amount that meets the threshold set out in paragraph 55(b), or a wholly-owned subsidiary of an entity referred to in paragraph 55(b), would qualify as an independent price setting investor for the purpose of Rule 18C.08.
59. In the case of a Specialist Technology Company listing by way of a De-SPAC Transaction, Rule 18C.08 also applies such that at least 50% of the total number of shares issued by the Successor Company as part of the De-SPAC Transaction (excluding any shares issued to the existing shareholders of the De-SPAC Target as consideration for acquiring the De-SPAC Target) must be taken up by independent price setting investors.
60. In the case of a Specialist Technology Company listing by introduction under Chapter 7 of the Rules, the Exchange will take a holistic approach and consider granting waivers, on a case-by-case basis, from the requirement under Rule 18C.08 if the applicant is able to demonstrate that it is expected to meet the applicable minimum market capitalisation at the time of listing under Rule 18C.03(3), having regard to non-exhaustive factors such as its investor base and historical trading price and turnover (for at least a six-month period) on another stock exchange with sufficient liquidity and a large investor base, where applicable.

G. Liquidity arrangements for applicants listed on another stock exchange

61. Rules 18C.10 and 18C.11 set out requirements on the free float and offer size of a Specialist Technology Company.
62. Irrespective of whether their listings in Hong Kong are accompanied by an offer, applicants with securities listed on another stock exchange (which are, or represent, shares in the same class as the shares for which listing is sought on the Exchange) must have due regard to whether there will be an open market in the securities for which listing is sought and, where necessary, must make appropriate arrangements to facilitate the liquidity of their shares to meet Hong Kong market demand.
63. This is to ensure that the trading of the securities for which listing is sought is conducted in a fair and orderly manner and in the case of a listing accompanied by an offer, this will also be one of the factors that the Exchange will take into account when assessing whether the size of the offer may give rise to orderly market concerns (see Rule 18C.11).
64. In addition, Specialist Technology Companies seeking to list by introduction must continue to comply with existing guidance on liquidity arrangements to meet Hong Kong market demand during the initial period of listing⁴.

H. Disclosure requirements

65. Rule 18C.12 states that a Specialist Technology Company must disclose in its listing document any information required by the Exchange that is due to it being a Specialist Technology Company.
66. The following guidance for Specialist Technology Companies supplements the guidance which the Exchange has published relating to disclosure in listing documents applicable to all listing applicants. A listing document of a Specialist Technology Company that does not follow this guidance may be considered not substantially complete as required under the Listing Rules and may be returned.
67. In view of the complexity and technicality involved in Specialist Technology Companies' businesses, applicants are encouraged to use diagrams or flowcharts to explain their business models, Specialist Technology Products and key non-Specialist Technology Products. They are also reminded to present fair, balanced and accurate information to potential investors.

⁴ See Guidance Letter HKEX-GL53-13 (Guidance on liquidity arrangements for issuers seeking to list by introduction where the securities to be listed are already listed on another stock exchange) (as amended from time to time) and any other relevant guidance as implemented by the Exchange from time to time.

68. In addition to the information specifically required under the Rules and this guidance letter, a Specialist Technology Company must disclose all relevant information in the listing document to demonstrate that it meets the definition of a Specialist Technology Company, the suitability and eligibility criteria and the requirements for listing as set out in Chapter 18C and this guidance letter.
69. Non-exhaustive examples of such disclosures include: (a) the Specialist Technology Industry and the acceptable sector (as referred to in Section A above) that it falls within; and (b) the identity, timing of investment, shareholding and/or investment amount (where applicable) of the relevant sophisticated independent investors for the purpose of the third party investment requirements (as referred to in Section D above).
70. The following disclosure should also be made in a listing document which falls under Chapter 18C, where applicable:

	Key area	Disclosure recommendations
(a)	Information on pre-IPO investments	<p>(i) In addition to the existing disclosure requirements on pre-IPO investments⁵, an applicant should also disclose the implied pre-money and post-money valuations of each round of pre-IPO investment in a table</p> <p>(ii) reasons for material fluctuations in valuation (1) as compared to the immediate previous round of pre-IPO financing; and (2) between the proposed IPO valuation and the valuation in the latest round of pre-IPO financing, such as key development of the products and business milestones</p>
(b)	Burn rate	<p>Disclose in the Summary and other relevant sections:</p> <p>(i) <u>Historical burn rate</u></p> <p>The burn rate throughout the track record period, with the basis for determination and reasons for any substantial expenditure explained</p> <p>(ii) <u>Future burn rate</u></p> <ul style="list-style-type: none"> • a reasonable period of time, with basis, that the applicant can maintain its viability with existing cash balance and the IPO proceeds • when the applicant expects to raise its next round of financing based on the burn rate • assumptions in relation to the future burn rate, which should be reasonable taking into account specific facts and circumstances

⁵ See Guidance Letter HKEX-GL43-12 (Guidance on Pre-IPO Investments) (as amended from time to time) and any other relevant requirements as implemented by the Exchange from time to time.

	Key area	Disclosure recommendations
(c)	Cash operating cost	<p>(i) <u>Historical cash operating cost</u></p> <p>Disclose an estimate of cash operating costs, including costs relating to research and development incurred in the development of the Specialist Technology Products and costs associated with:</p> <ol style="list-style-type: none"> (1) workforce employment (2) direct production costs, including materials (if it has commenced production) (3) research and development (4) product marketing (if any) (5) non-income taxes, royalties and other governmental charges (if any) (6) contingency allowances (7) any other significant costs <p><i>Note: A Specialist Technology Company must:</i></p> <ul style="list-style-type: none"> • <i>set out the components of cash operating costs separately by category;</i> • <i>explain the reason for any departure from the list of items to be included under cash operating costs; and</i> • <i>discuss any material cost items that should be highlighted to investors.</i> <p>(ii) <u>Future cash operating cost</u></p> <p>A Specialist Technology Company must highlight in the Summary section any expected material increase in costs or expenses (such as research and development expenses and marketing expenses in connection with its products / services) during the period covered by the working capital forecast</p>
(d)	Products	<p>(i) Include in the Summary section a clear and accurate summary of its key Specialist Technology Product(s)</p> <p>(ii) For each Specialist Technology Product (including those in the pipeline or not yet commercialised), disclose the existing stage and development timetable of the Specialist Technology Product (e.g. whether it is still in the prototype or testing stage, or it is conducting demonstrations in a controlled and real-world environment and close to delivering the final Specialist Technology Product), which should be presented in a fair and balanced manner and without favourable possibilities being presented as certain or as more probable than is likely to be the case</p> <p>(iii) Disclose the technical capabilities and commercial viability of the key technology applied to the Specialist Technology Product(s)</p>

	Key area	Disclosure recommendations
		(iv) Specify the origins (i.e. in-licensing or internally developed) and the jurisdiction rights of the intellectual property pertaining to the key Specialist Technology Product(s)
(e)	Disclosure on commercialisation status and prospects	<p>(i) Disclose an overview of the commercialisation status and the commercialisation plan of the Specialist Technology Products</p> <p>(ii) With respect to each key Specialist Technology Product:</p> <p>(1) elaborate on the commercialisation status, impediments to commercialisation and the future commercialisation plan; and</p> <p>(2) substantiate its commercialisation plan, with details of contracts, orders and/or letters of intention (if any) to illustrate revenue visibility, or an appropriate negative statement if there is no contract, order or letter of intention</p>
(f)	Addressable market, market share and Industry Overview	<p>(i) With respect to each key Specialist Technology Product, clearly define its respective addressable markets (including the current addressable market and the expected addressable market for a reasonable future period), and the current and expected market shares, in each case, in accordance with (ii) and (iii) below, together with the basis for determination, to provide information on the applicant's market position within the relevant industry</p> <p>(ii) <u>Current and expected addressable markets</u></p> <ul style="list-style-type: none"> • Clearly define both the current and expected addressable markets (e.g. by reference to a limited pool of customers using the products / services rather than only the overall market), and disclose material information of such markets (e.g. size, value, assumed growth rates in prices and quantities, and comparable products / services in the target market and other markets) • Disclose competitive landscape of the key Specialist Technology Product(s) and, to the extent applicable, include the following information of the competing or potentially competing commercialised or pipeline products / services: (1) the name and price (including similar products / services launched in other jurisdictions and factors that may affect pricing in the target market); (2) expiration dates of key intellectual property rights; (3) technologies; and (4) addressable markets • Substantiate any statements that the applicant's products / services are likely to be more competitive or better

	Key area	Disclosure recommendations
		<p>(iii) <u>Current and expected market share</u></p> <ul style="list-style-type: none"> • Clearly disclose the basis for determination of the current and expected market shares • The expected market share can be provided on a qualitative basis by reference to its expected competitive landscape, and should be provided for a reasonable future period, with all relevant risks, impediments and assumptions clearly disclosed
(g)	Business model based disclosures	<p>(i) Clearly disclose the business model(s) of the applicant in the Summary and Business sections. The Exchange expects the applicant to disclose key aspects of its business model(s), which can be one of the following, or a combination of them, and/or other business models:</p> <ul style="list-style-type: none"> • subscription-based model • transaction-based model <p>(ii) For each key Specialist Technology Product from which the applicant has recorded sales during and after (if applicable) the track record period, the applicant must disclose key metrics relevant to its business model(s), with non-exhaustive examples as follows:</p> <ul style="list-style-type: none"> • <u>For subscription-based companies</u>: total number of subscribers, total number of paying subscribers, total number of new subscribers, total customer acquisition cost (“CAC”), customer retention rate⁶ and net dollar retention rate⁷ • <u>For transaction-based companies</u>: total number of customers, total number of new customers, total CAC, number of transactions, average transaction value, customer retention rate and net dollar retention rate <p>(iii) Clearly present the key metrics disclosed by reference to regular intervals, with the basis for determination and reasons for material fluctuations (if any) explained</p>
(h)	Research and development (“R&D”) expenditure and experience and specific risks	<p>Disclose in the listing document:</p> <p>(i) a detailed breakdown of its R&D expenditure for each of the three financial years prior to listing, showing the amounts incurred by category and by the Specialist Technology Product(s) to which the R&D expenditure corresponds</p>

⁶ Customer retention rate refers to the percentage of customers for the immediately preceding year which remained to be the company’s customers for the current year.

⁷ Net dollar retention rate refers to the ratio of revenue contribution of a customer group in the immediately preceding year to the revenue contribution of the same group of customers for the current year.

	Key area	Disclosure recommendations
		<ul style="list-style-type: none"> (ii) the size, experience, qualifications and areas of specialisation of the R&D team, and how long they have been working on similar products / services (iii) the percentage of IPO proceeds to be spent on R&D (iv) the stage of R&D for key Specialist Technology Products in the pipeline or not yet commercialised (v) details of the Specialist Technology Company's R&D experience in the relevant Specialist Technology Industry and acceptable sector, including: <ul style="list-style-type: none"> (1) details of its operations in R&D (2) the collective expertise and experience of key management and technical staff (3) the proportion of R&D performed in-house (i.e. within the applicant's group), as opposed to R&D outsourced to, or in collaboration with, external third parties and the R&D progress made by the applicant on any key Specialist Technology Product(s) that are in-licensed or acquired. Details of any outsourced / collaborative R&D arrangements, including the calibre and experience of outsourced / collaborating parties, the material terms of the relevant arrangements, who will have ownership of intellectual property rights and the applicant's involvement and role in the R&D activities under the arrangements (4) the relevant experience of the key persons referred to in Rule 18C.14(1) in the R&D, manufacturing and commercialisation of the relevant Specialist Technology Product(s) (5) the salient terms of any service agreements between the applicant and its key management and technical staff (6) measures (if any) that the applicant has in place to retain key management or technical staff (for example incentivisation arrangements and/or non-compete clauses), and the measures and arrangements that the applicant has in place, in the event of the departure of any of its key management or technical staff (7) statement of any legal claims or proceedings that may have an influence on its R&D for any key Specialist Technology Product
(i)	Industry standards/ competent authority requirements	(i) Disclose details of any applicable industry-specific standards, definitions or classifications (e.g. for autonomous vehicles, the level of automotive automation defined by the relevant industry association), and the basis for determination; and whether the applicant's key Specialist Technology Product(s) have met such standards, definitions or classifications

	Key area	Disclosure recommendations
		<p>(ii) Disclose details of any relevant regulatory approval required and/or obtained for each key Specialist Technology Product, and a statement that no material unexpected or adverse changes have occurred since the date of issue of the relevant regulatory approval for a key Specialist Technology Product (if any). Where there are material changes, these must be prominently disclosed</p> <p>(iii) If applicable, disclose a summary of material communications with the relevant competent authority in relation to its Specialist Technology Product(s), and the results of such communications</p> <p>(iv) If applicable, disclose all material safety data relating to its Specialist Technology Product(s), including any serious adverse events</p>
(j)	Intellectual property	<p>(i) Disclose details of any material intellectual property right(s) granted and/or applied for in relation to each key Specialist Technology Product, or an appropriate negative statement</p> <p>(ii) With respect to material intellectual property rights:</p> <ul style="list-style-type: none"> • include in the Summary section such intellectual property rights • disclose the tenure and material payment obligations associated with such intellectual property rights and residual intellectual property rights, and whether such rights are in-licensed or self-owned • to the extent that any material intellectual property right is in-licensed, disclose a clear statement of the applicant's material rights and obligations under the applicable licensing agreement <p>(iii) Clearly disclose the details and significance of material intellectual property rights in relation to each key Specialist Technology Product, including:</p> <ul style="list-style-type: none"> • the part of the relevant Specialist Technology Product to which the material intellectual property right is attributing or protecting (for example, whether key technology or product packing); and • the extent and form to which such intellectual property is protected (e.g. whether patent is in the process of application, or patent has already been registered, procedures put in place to protect intellectual property rights not registered or not in the process of registration) <p>(iv) Highlight any risk of intellectual property right infringements in the Summary and Risk Factors sections, and disclose a positive statement by the directors (supported by the sponsor's due diligence) as to whether the applicant had any instances of infringement of third parties' intellectual property rights and, if so, the relevant details and potential impact on the applicant's operation</p>

	Key area	Disclosure recommendations
(k)	Risks	<p>(i) Disclose specific risks, general risks and dependencies, including the extent to which the applicant's business is dependent on key individuals and the impact of the departure of key management or technical staff on the applicant's business and operations</p> <p>(ii) If relevant and material to the Specialist Technology Company's business operations, disclose information on project risks arising from environmental, social, and health and safety issues</p>
(l)	Warning statement on the cover of the Listing Document	<p>The following warning statement that must be prominently and legibly displayed on the front cover or inside front cover:</p> <p>"The issuer is a Specialist Technology Company (as defined in Chapter 18C of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited). The securities of Specialist Technology Companies carry high investment risks including risks of share price volatility and inflated valuation due to the difficulty in valuing such companies. Investors should fully understand the investment risks of a Specialist Technology Company and the risks disclosed by the issuer before making their investment decisions."</p>
(m)	Additional disclosures for Pre-Commercial Companies	<p>In addition to the disclosures required in paragraph 47 of this guidance letter, a Pre-Commercial Company is required to disclose, in the listing document:</p> <p>(i) the stage of R&D for each of its Specialist Technology Product(s)</p> <p>(ii) development details by key stages and milestones for its key Specialist Technology Product(s) to meet the revenue requirement in Rule 18C.03(4)</p> <p>In defining the key stages and milestones, a Pre-Commercial Company should make reference to the industry-specific standards, definitions or classifications, and the relevant regulatory approval required, as disclosed by reference to Key area (i) - "Industry standards/ competent authority requirements" above. In the absence of such requirements, a Pre-Commercial Company should define its own stages and milestones that are appropriate for its relevant industry</p> <p>(iii) All relevant risks associated with the commercialisation of each of its key Specialist Technology Product(s)</p>

Key area	Disclosure recommendations
	<p>(iv) The following additional warning statement that must be prominently and legibly displayed on the front cover or inside front cover, following the warning statement referred to in subparagraph (I) above:</p> <p>“In addition, the issuer is a Pre-Commercial Company (as defined in Chapter 18C of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited). Pre-Commercial Companies are Specialist Technology Companies that cannot meet the revenue requirement as set out in Rule 18C.03(4), and so are subject to a higher risk of corporate failure if they are unable to secure sufficient external funding and/or cannot generate sufficient revenue to sustain their operations after listing.”</p> <p>(v) The potential earlier expiry of the lock-up periods applicable to the relevant shareholders in the case of the removal of designation as a Pre-Commercial Company as described in Note 2 to Rule 18C.23</p>

I. Subscription of shares by existing shareholders

71. Given the likely significant funding needs of Specialist Technology Companies and the importance of existing shareholders in meeting the funding needs of these companies, existing shareholders may participate in the IPO of a Specialist Technology Company provided that the applicant complies with Rules 8.08(1), 18C.08 and 18C.10. For the avoidance of doubt, the Existing Shareholders Conditions in guidance letter HKEX-GL85-16 do not apply to Specialist Technology Companies. Instead, the following applies:
- (a) an existing shareholder holding less than 10% of shares in the Specialist Technology Company may subscribe for shares in the IPO as either a cornerstone investor or as a placee. In the case of subscription as a placee, the applicant, its sponsor and overall coordinator must confirm that no preference in allocation was given to the existing shareholder. In the case of subscription as a cornerstone investor, the applicant and its sponsor must confirm that no preference was given to the existing shareholder other than the preferential treatment of assured entitlement at the IPO price and the terms must be substantially the same as other cornerstone investors; and
 - (b) an existing shareholder holding 10% or more of shares in the Specialist Technology Company may subscribe for shares in the IPO as a cornerstone investor.
72. In addition to meeting the requirements in paragraph 71 above, an existing shareholder who wishes to exercise a contractual anti-dilution right (if any) to subscribe for shares in the IPO should comply with the existing requirements under paragraph 3.10 of GL43-12. For the avoidance of doubt, such existing shareholder may subscribe for further IPO shares to a level higher than his/her pre-IPO shareholding provided that Rules 8.08(1), 18C.08 and 18C.10 are met.

73. Where allocations will be made to core connected persons, the Specialist Technology Company must apply for, and the Exchange will ordinarily grant, a related Rule 9.09 waiver, if applicable.

J. Stock marker

74. The listed securities of a Pre-Commercial Company will be assigned a special stock short name marker that ends with the marker “P”.

K. Lock-up periods

Key persons

75. It is stated in Rule 18C.14(1)(d) that “key personnel responsible for the Specialist Technology Company’s technical operations and/or the research and development of its Specialist Technology Product(s)” should be subject to the restrictions on disposal in that Rule.
76. By way of an example for illustrative purposes only, the key personnel referred to in Rule 18C.14(1)(d) includes the head and the key personnel of its research and development department whose expertise is primarily relied upon by the company for the development of the Specialist Technology Product(s), and the lead developer(s) of the core technologies in relation to the Specialist Technology Product(s). In determining whether a person is a key personnel referred to in Rule 18C.14(1)(d), an applicant should consider factors including the shareholding of such personnel, his/her remuneration relative to other R&D staff, and his/her seniority.
77. An applicant should identify the key persons referred to in Rule 18C.14(1)(d) having regard to its specific facts and circumstances, and disclose the basis for its determination.
78. The Exchange may request an applicant to provide supporting documentation to substantiate the basis on which such key persons have been identified.
79. The Exchange may deem any person to be a key person falling within the scope of Rule 18C.14(1)(d) based on the facts and circumstances of an individual case.

Existing investors

80. Rule 18C.14(2) states that “such existing investors in a Specialist Technology Company as identified by the Exchange in guidance published on the Exchange’s website, as amended from time to time”, are subject to the restrictions on the disposal of securities under that Rule.

81. The lock-up restrictions of Rule 18C.14(2) only apply to such investors identified as the Pathfinder SIIIs that satisfy the indicative minimum investment benchmarks as set out in paragraph 37(a) above. If an applicant has more than the required number of sophisticated independent investors that meet the minimum investment benchmarks for Pathfinder SIIIs as set out in paragraph 37(a) above, it would be free to decide, on a commercial basis, which of these investors are to be designated as the Pathfinder SIIIs, who will then be subject to the lock-up restrictions under Rule 18C.14(2).

Disclosure of shareholding

82. Rule 18C.18 states that a Specialist Technology Company must disclose in its interim (half-yearly) and annual reports the total number of securities in the issuer held by each of the persons (as identified in the listing document) that are subject to the lock-up requirements under Rule 18C.13 or 18C.14, based on information that is publicly available to the issuer or otherwise within the knowledge of its directors, as at the latest practicable date prior to the issue of the relevant report, for so long as the relevant person remains as a shareholder.
83. A Specialist Technology Company must disclose the total number of securities in the issuer held by each of the persons referred to in paragraph 82 above who are employed by the company as at the latest practicable date prior to the issue of the relevant report, as such information is expected to be within the knowledge of its directors.

L. Calculation of percentage ratios

84. Since Specialist Technology Companies listed under Chapter 18C are not required to meet any of the financial eligibility tests under Rules 8.05(1), 8.05(2) or 8.05(3) at the time of listing, they may not have recorded any profit (and in the case of Pre-Commercial Companies, they may not have recorded any revenue). Accordingly, the application of the revenue ratio and the profit ratio to any proposed transaction that these issuers propose to undertake may not be appropriate in some cases.
85. The Exchange may exercise its discretion under Rule 14.20 to disregard the revenue ratio and the profit ratio (where applicable) for any Specialist Technology Company listed under Chapter 18C and consider other relevant indicators of size, including industry-specific tests suggested by the issuer, on a case-by-case basis. The listed issuer must provide alternative tests which it considers appropriate to the Exchange for consideration.

Appendix

R&D expenditure ratio calculation - Illustrative example 1 (Pre-commercial Company)

Company A is a Pre-Commercial Company (with revenue of less than HK\$150,000,000 for the most recent audited financial year) seeking to list on the Main Board pursuant to Chapter 18C. The applicable minimum R&D expenditure ratio is 50% under Listing Rule 18C.04(2)(c). The consolidated statements of profit or loss of Company A and the capital expenditures incurred for the three financial years prior to listing are as follows:

<u>Consolidated statements of profit or loss</u>	Year 1 HK\$'000	Year 2 HK\$'000	Year 3 HK\$'000
Revenue	-	-	120,000
Cost of sales	-	-	(54,000)
Gross profit	-	-	66,000
Selling and marketing expenses	-	-	(13,000)
General and administrative expenses	(320,000)	(348,000)	(395,000)
R&D expenses	(236,000)	(264,000)	(450,000)
Loss from operations	(556,000)	(612,000)	(792,000)
Finance costs	(17,000)	(18,000)	(19,000)
Loss before tax	(573,000)	(630,000)	(811,000)
Income tax expense	-	-	-
Loss for the year	(573,000)	(630,000)	(811,000)

<u>Capital expenditures incurred</u>	Year 1 HK\$'000	Year 2 HK\$'000	Year 3 HK\$'000
Acquisition of R&D centre (fixed asset) ¹	200,000	-	-
R&D equipment acquired and capitalised (fixed asset) ¹	65,000	85,000	25,000
Intangible asset acquired from third parties and capitalised ²	120,000	30,000	-
Internal development costs capitalised as intangible asset ²	20,000	30,000	-
	405,000	145,000	25,000

¹ The depreciation expense of these fixed assets is included in R&D expenses.

² The amortisation of these intangible assets began at the beginning of year 3 for R&D activities with annual amortisation expense of HK\$40,000,000 (included in the line item "R&D expenses").

Calculation of R&D expenditure ratios

Step 1: Compute the annual and total R&D expenditure for the track record period

	Year 1 HK\$'000	Year 2 HK\$'000	Year 3 HK\$'000
R&D expenses	236,000	264,000	450,000
Adjustments:			
Add: Intangible asset acquired from third parties and capitalised	120,000	30,000	-
Add: Internal development costs capitalised as intangible asset	20,000	30,000	-
Less: Amortisation expense of capitalised intangible assets included in R&D expenditure	-	-	(40,000)
Annual R&D expenditure (A)	376,000	324,000	410,000

Total R&D expenditure for the three financial years prior to listing (HK\$'000) (B)	1,110,000
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Step 2: Compute the annual and total operating expenditure for the track record period

	Year 1 HK\$'000	Year 2 HK\$'000	Year 3 HK\$'000
R&D expenses	236,000	264,000	450,000
Selling and marketing expenses	-	-	13,000
General and administrative expenses	320,000	348,000	395,000
Adjustments:			
Add: Intangible asset acquired from third parties and capitalised	120,000	30,000	-
Add: Internal development costs capitalised as intangible asset	20,000	30,000	-
Less: Amortisation expense of capitalised intangible assets included in R&D expenditure	-	-	(40,000)
Annual total operating expenditure (C)	696,000	672,000	818,000

Total operating expenditure for the three financial years prior to listing (HK\$'000) (D)	2,186,000
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Step 3: Compute the annual and total R&D expenditure ratio for the track record period

		Year 1	Year 2	Year 3
(i) Annual R&D expenditure ratio =	(A)/(C)	54%	48%	50%
(ii) Total R&D expenditure ratio =	(B)/(D)	51%		

Result:

As the annual R&D expenditure ratio of at least two of the three financial years is at least 50% AND the total R&D expenditure ratio over the three-year track record period is also at least 50%, Company A can meet the R&D expenditure ratio requirement for a Pre-Commercial Company under Listing Rule 18C.04(2)(c).

R&D expenditure ratio calculation - Illustrative example 2 (Commercial Company)

Company B is a Commercial Company seeking to list on the Main Board pursuant to Chapter 18C. The applicable minimum R&D expenditure ratio is 15% under Listing Rule 18C.04(2)(a). The consolidated statements of profit or loss of Company B and the capital expenditures incurred for the three financial years prior to listing are as follows:

Consolidated statements of profit or loss

	Year 1 HK\$'000	Year 2 HK\$'000	Year 3 HK\$'000
Revenue	100,000	120,000	290,000
Cost of sales	(70,000)	(84,000)	(203,000)
Gross profit	30,000	36,000	87,000
Selling and marketing expenses	(75,000)	(89,000)	(116,000)
General and administrative expenses	(51,000)	(63,000)	(78,000)
R&D expenses	(21,000)	(30,000)	(42,000)
Loss from operations	(117,000)	(146,000)	(149,000)
Finance costs	(1,700)	(1,800)	(1,900)
Loss before tax	(118,700)	(147,800)	(150,900)
Income tax expense	(500)	(600)	(1,500)
Loss for the year	(119,200)	(148,400)	(152,400)

Capital expenditures incurred

	Year 1 HK\$'000	Year 2 HK\$'000	Year 3 HK\$'000
Acquisition of R&D centre (fixed asset) ¹	10,000	-	-
R&D equipment acquired and capitalised (fixed asset) ¹	7,000	9,000	3,000
Intangible asset acquired from third parties and capitalised ²	5,000	-	-
Internal development costs capitalised as intangible asset ²	2,000	3,000	-
	24,000	12,000	3,000

¹ The depreciation expense of these fixed assets is included in R&D expenses.

² The amortisation of these intangible assets began at the beginning of year 3 for R&D activities with annual amortisation expense of HK\$2,000,000 (included in the line item "R&D expenses").

Calculation of R&D expenditure ratios

Step 1: Compute the annual and total R&D expenditure for the track record period

	Year 1 HK\$'000	Year 2 HK\$'000	Year 3 HK\$'000
R&D expenses	21,000	30,000	42,000
Adjustments:			
Add: Intangible asset acquired from third parties and capitalised	5,000	-	-
Add: Internal development costs capitalised as intangible asset	2,000	3,000	-
Less: Amortisation expense of capitalised intangible assets included in R&D expenditure	-	-	(2,000)
Annual R&D expenditure (A)	28,000	33,000	40,000

Total R&D expenditure for the three financial years prior to listing (HK\$'000) (B) 101,000

Step 2: Compute the annual and total operating expenditure for the track record period

	Year 1 HK\$'000	Year 2 HK\$'000	Year 3 HK\$'000
R&D expenses	21,000	30,000	42,000
Selling and marketing expenses	75,000	89,000	116,000
General and administrative expenses	51,000	63,000	78,000
Adjustments:			
Add: Intangible asset acquired from third parties and capitalised	5,000	-	-
Add: Internal development costs capitalised as intangible asset	2,000	3,000	-
Less: Amortisation expense of capitalised intangible assets included in R&D expenditure	-	-	(2,000)
Annual total operating expenditure (C)	154,000	185,000	234,000

Total operating expenditure for the three financial years prior to listing (HK\$'000) (D) 573,000

Step 3: Compute the annual and total R&D expenditure ratio for the track record period

		Year 1	Year 2	Year 3
(i) Annual R&D expenditure ratio = (A)/(C)		18%	18%	17%
(ii) Total R&D expenditure ratio = (B)/(D)		18%		

Result:

As the annual R&D expenditure ratio of at least two of the three financial years is at least 15% AND the total R&D expenditure ratio over the three-year track record period is also at least 15%, Company B can meet the R&D expenditure ratio requirement for a Commercial Company under Listing Rule 18C.04(2)(a).