



HONG KONG MONETARY AUTHORITY
香港金融管理局

Fintech Adoption: Progress and Future Directions

July 2025

Executive Summary

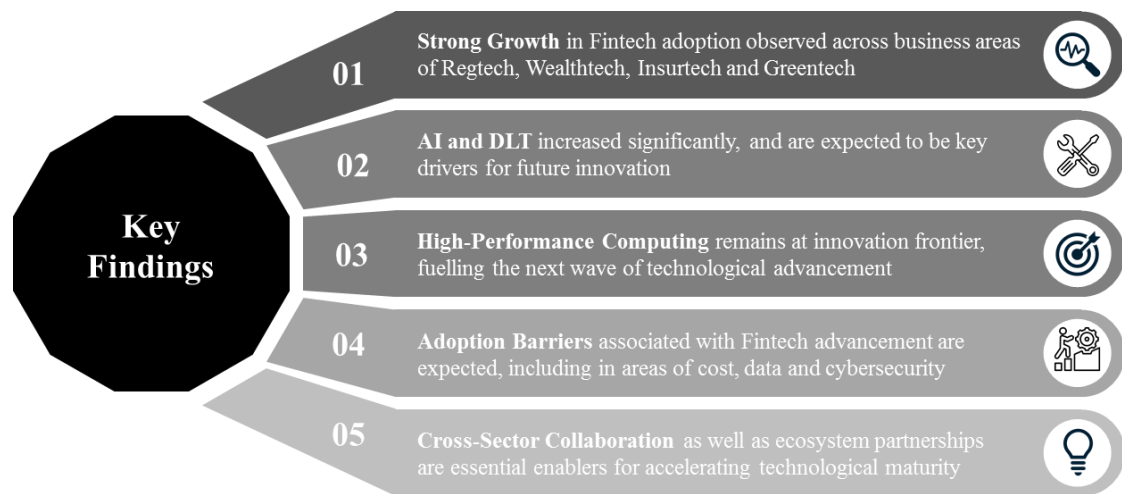
As part of its Fintech 2025 Strategy launched in June 2021, the Hong Kong Monetary Authority (HKMA) has made significant strides in promoting Fintech adoption across the banking sector through the “All Banks Go Fintech” initiative. This report presents the progress achieved and outlines future directions to further advance Hong Kong’s position as a leading Fintech hub.

In June 2022, the HKMA completed a Tech Baseline Assessment to evaluate the current and planned adoption of Fintech by Authorized Institutions (AIs). This assessment established a foundational understanding of Hong Kong’s Fintech landscape and identified a strong commitment to digital transformation across the industry. The results highlighted Regtech, Paytech and Lendingtech as the most mature areas, while identifying growth opportunities in Greentech, Wealthtech, Insurtech, Artificial Intelligence (A.I.) and Distributed Ledger Technology (DLT).

Building on these insights, the HKMA embarked on a cross-sectoral Fintech promotion journey. This cross-sectoral initiative has successfully driven digital transformation across the local financial sector through collaboration with the Securities and Futures Commission (SFC), the Insurance Authority (IA), the Mandatory Provident Fund Schemes Authority and industry associations. These collaborative efforts have produced joint research publications and cross-industry events such as the FiNETech series and a collection of training modules, further strengthening the ecosystem approach to Fintech development.

Following the implementation of these promotional initiatives, the HKMA conducted a comprehensive Tech Maturity Stock-take in January 2025. This assessment reveals several key findings about the current state of Fintech adoption in the banking sector:

Figure 1. Key findings of the current state of Fintech adoption



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- There has been remarkable growth in Fintech adoption across functional areas. Regtech has deepened its penetration, expanding across various risk areas and reaching an overall adoption of 97% (from 83% in 2022). Whereas Insurtech has recorded the most substantial growth since 2022 by 29%, followed by Wealthtech by 9% and Greentech by 19%, which have also demonstrated notable improvements in adoption rates during this period.
 - The Stock-take revealed substantial progress in A.I. and DLT, with 75% of respondents having adopted A.I. (59% in 2022) and 45% for DLT (30% in 2022). Many institutions have successfully moved from exploratory phases to operational implementation and integrating these technologies into their service offerings. Building on this positive trajectory, these technologies are identified as key catalysts driving innovation across functional areas, supporting projected advances in overall Fintech maturity levels by 2028.
 - While established technologies drive this growth, the adoption of sophisticated, infrastructure-level technologies like High-Performance Computing is still in exploratory phases across the banking sector, with 23% of institutions actively piloting these solutions. Representing a frontier area, High-Performance Computing is expected to power future innovation as the industry's technological maturity continues to advance.

- As adoption widens, key challenges include: implementation costs (75% of respondents), risks associated with novel technologies (73%), and integration challenges (71%), data privacy and cybersecurity (61%), talent shortages (59%), and regulatory frameworks (59%).
- Cross-sector and cross-border partnerships, ecosystem collaboration, and the development of robust data excellence and cyber resilience foundations emerge as critical enablers for institutions to successfully implement sophisticated financial technologies and achieve significant maturity growth in key areas such as A.I. and DLT.

Taking into account these findings, the HKMA is launching the next phase of its Fintech promotion. This strategic approach will focus on different dimensions namely technology advancement, ecosystem collaboration, and talent & outreach as essential pathways to achieve the objectives. Through targeted initiatives across these pillars, the HKMA aims to accelerate the adoption of sophisticated Fintech applications while strengthening Hong Kong's competitive position in the global Fintech landscape.

As the banking industry progresses in its digital transformation journey, the HKMA remains dedicated to providing an enabling regulatory environment, fostering innovation, and empowering banks to harness the full potential of Fintech to deliver enhanced services that meet the evolving needs of the Hong Kong economy.

A. Introduction

The Hong Kong Monetary Authority (HKMA) launched its Fintech 2025 Strategy¹ in June 2021 to position Hong Kong as a leading global hub for financial innovation. A key component of this strategy is the “All Banks Go Fintech” initiative, which aims to drive the comprehensive adoption of financial technology across the banking sector.

This initiative recognises that successful digital transformation requires a holistic approach that goes beyond isolated technology implementations, transforming operations, services, and business models to meet evolving customer expectations and market dynamics. Through this framework, the HKMA has worked to create an environment that fosters innovation while maintaining the stability and integrity of Hong Kong’s financial system.

Since the launch of the Fintech 2025 Strategy, the HKMA has implemented a structured approach to support and monitor the banking industry's technology transformation. This approach comprises:

1. **Assessment and Benchmarking:** The Tech Baseline Assessment² in 2022 provided a comprehensive view of the banking industry’s starting point and aspirations for technology adoption.
2. **Targeted Support Programmes:** Based on initial findings, the HKMA developed targeted initiatives³ such educational resources and facilitated knowledge sharing, and created collaborative platforms to address identified gaps and opportunities.
3. **Cross-sectoral Collaboration:** Partnerships with other regulatory bodies, industry associations and technology providers have been instrumental in creating a cohesive ecosystem approach to Fintech development.
4. **Continuous Evaluation:** Regular stock-taking exercises, including the most recent Tech Maturity Stock-take in January 2025, enable the HKMA to track progress, identify emerging trends, and refine its support strategies.

¹ Please refer to the following HKMA [press release](#) for more details.

² Please refer to the following HKMA [resource](#) for more details.

³ Please refer to the following HKMA [press release](#) for more details.

The Tech Maturity Stock-take conducted in January 2025, covering 56 submissions from 58 AIs⁴, marks an important milestone in this journey. By examining both the quantitative progress in technology adoption and the qualitative aspects of implementation maturity (the HKMA made use of on-premises large language models to assist the review of AIs' open-ended responses), this assessment provides valuable insights into the Fintech evolution of the banking sector over the past few years and the challenges that lie ahead.

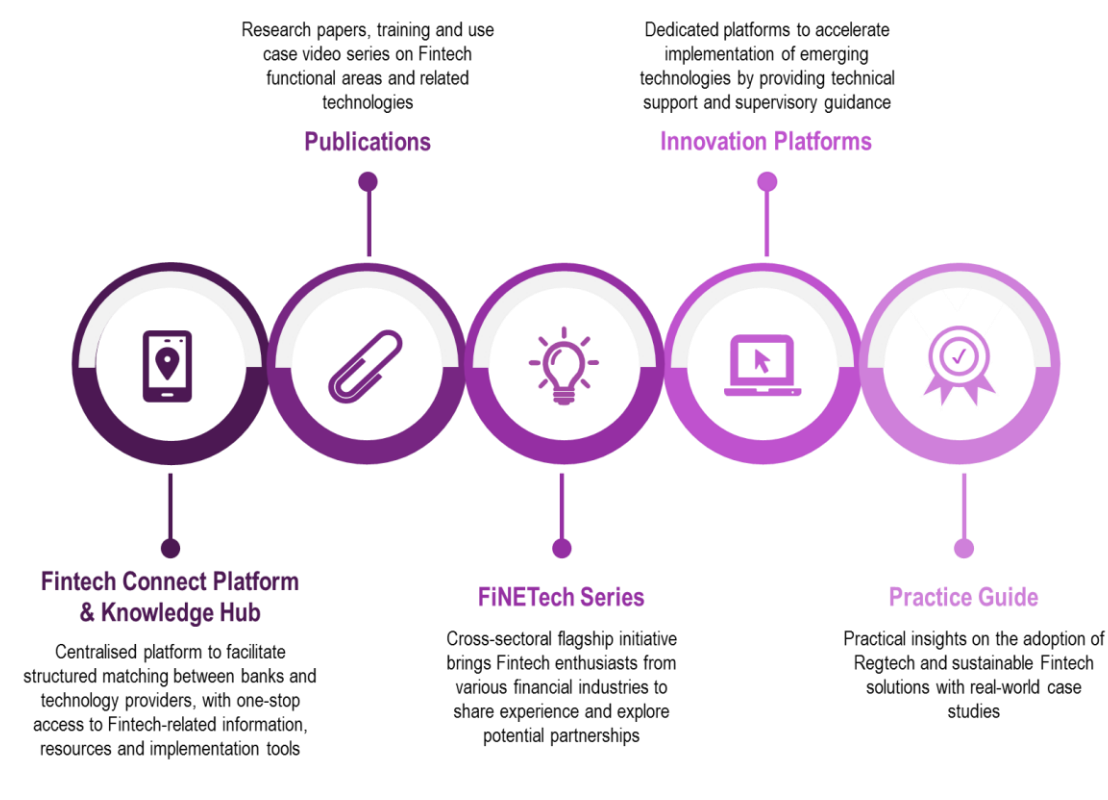
This report presents these findings and outlines the future focus to further drive the adoption of more sophisticated Fintech solutions. As the financial industry continues to evolve technologically, the HKMA remains committed to fostering an environment that enables innovation while ensuring the resilience and competitiveness of Hong Kong's financial system.

⁴ All licensed banks with significant operations in Hong Kong, including all retail banks and major foreign bank branches, were invited to complete a questionnaire. Some of these AIs from the same group opted to make a consolidated submission. The numerical analyses contained in this report are computed based on the number of submissions unless otherwise specified.

B. Fintech Promotion Journey: Key Initiatives and Outcomes

The HKMA has embarked on a comprehensive journey to promote Fintech adoption in Hong Kong’s financial sector since the completion of the Tech Baseline Assessment in 2022. This multifaceted approach has centred on building industry knowledge, enhancing institutional capabilities, and fostering cross-sector collaboration to address the barriers identified in the initial assessment.

Figure 2. Key Initiatives Implemented



A flagship initiative of this journey has been the FiNETech⁵ series, which has played a pivotal role in fostering knowledge exchange and innovation across the financial sector. So far, six editions of the FiNETech series have been organised, providing a platform for the discovery of collaborative opportunities. These events have consistently drawn strong participation from across the financial ecosystem and the dedicated exhibition zones have facilitated valuable connections between Fintech users and Fintech providers.

⁵ Please refer to the following HKMA [press release](#) for more details.

To complement these industry forums, the HKMA has produced targeted research and educational materials addressing priority technology domains. The publication on distributed ledger technology⁶ examined practical applications and implementation considerations for innovative adoption of the technology, while the research paper on Generative A.I.⁷ provided an in-depth analysis of responsible deployment frameworks for this rapidly evolving technology.

The practice guide on sustainable finance technology offered a comprehensive roadmap for financial institutions to advance their net zero transition agenda, illustrating the importance of integrating sustainable practices from regulatory, reputational, and business perspectives. It provided practical steps for assessing current adoption states, integrating green finance into corporate strategies, and implementing supporting pillars, featuring real-world case studies of how these solutions helped overcome implementation challenges.

These resources were designed to provide financial institutions with comprehensive insights into emerging technologies, enabling them to make informed decisions about implementation while ensuring compliance with regulatory expectations and adoption of industry best practices.

In addition to the aforementioned initiatives, the HKMA has established dedicated innovation platforms to accelerate the practical implementation of emerging technologies. The Generative A.I. Sandbox⁸, in collaboration with Cyberport, provides a controlled environment for banks to experiment with advanced A.I. applications, offering technical support, and supervisory guidance to facilitate responsible innovation while mitigating risks. Similarly, the Supervisory Incubator for Distributed Ledger Technology⁹ offers a one-stop supervisory platform where banks can obtain dedicated feedback on DLT-related proposals and conduct live trials to validate and refine their risk management implementations under a hands-on, iterative approach. These platforms have significantly reduced the barriers to experimentation with sophisticated technologies, enabling institutions of all sizes to build practical experience while ensuring responsible innovation.

The HKMA has also prioritised cross-sector and cross-border collaborations to ensure a cohesive approach to Fintech development. Joint

⁶ Please refer to the following HKMA [resource](#) for more details.

⁷ Please refer to the following HKMA [resource](#) for more details.

⁸ Please refer to the following HKMA [press release](#) for more details.

⁹ Please refer to the following HKMA [resource](#) for more details.

initiatives with the SFC, the IA, and the MPFA have encouraged technology adoption and enabled valuable experience sharing across regulatory domains.

Collaboration with industry associations such as the Fintech Association of Hong Kong, along with key innovation hubs like Cyberport and the Hong Kong Science and Technology Park (HKSTP), has strengthened the implementation of HKMA's Fintech initiatives. These organisations provided crucial operational support, technical resources, and industry connections that enhanced the reach and influence of various programmes, facilitating broader industry engagement, offering specialised expertise in different technology domains, and providing platforms for testing and showcasing innovative solutions developed by financial institutions and their technology partners.

To provide ongoing support for the industry, the HKMA has developed the Fintech Connect Platform and the Fintech Knowledge Hub as central infrastructure for connections and resources. The Fintech Connect Platform, in collaboration with the Qianhai Authority, facilitates structured matching between financial institutions and technology providers, while the Fintech Knowledge Hub has evolved into a comprehensive repository of implementation tools, practical guidance, and technical resources accessible to all participating institutions. Together, these platforms have addressed the information asymmetry and partnership formation challenges identified as barriers to technology adoption.

Through the combined impact of these strategic initiatives, Hong Kong's banking sector has witnessed a more collaborative ecosystem for Fintech adoption, addressing the key barriers identified in the 2022 Tech Baseline Assessment. Such progress has been recorded in the 2025 Tech Maturity Stock-take, which reflects strong advances in areas that received focused attention under these targeted initiatives. As the industry continues to evolve, the collaborative ecosystem has laid the foundation for the next phase of Fintech development in Hong Kong.

C. Key Observations

Key Observation 1: Significant technology adoption growth observed from 2022-2025 following Fintech promotional initiatives, with varying maturity across functional areas.

The Stock-take reveals substantial progress in Fintech adoption across all functional areas since our initial assessment in 2022. Regtech continues to lead with the highest penetration rate across various risk areas, having grown from 83% to 97% as the institutions prioritise automation and efficiency in response to the evolving risk landscape. This near-universal adoption indicated the strategic importance institutions place on leveraging technology to enhance risk management while reducing operational costs.

Figure 3. Growth in Regtech across Risk Areas (2025 vs. 2022)

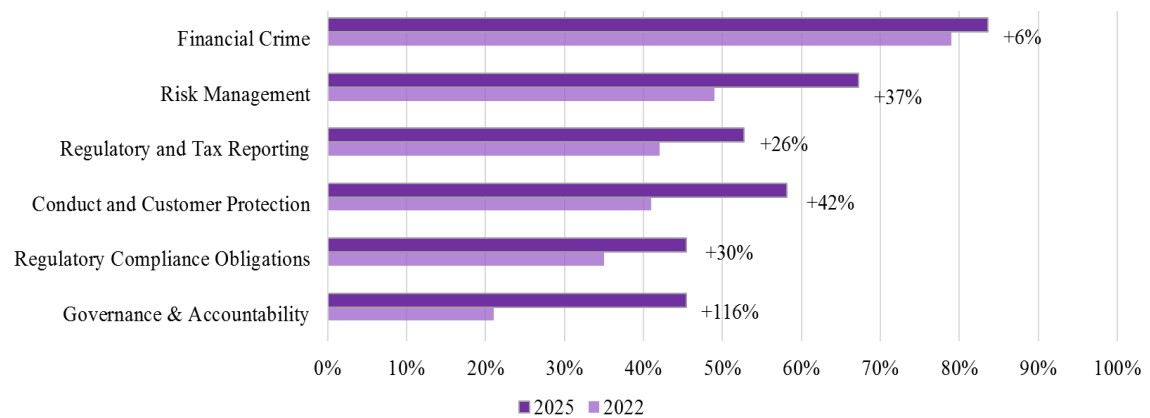
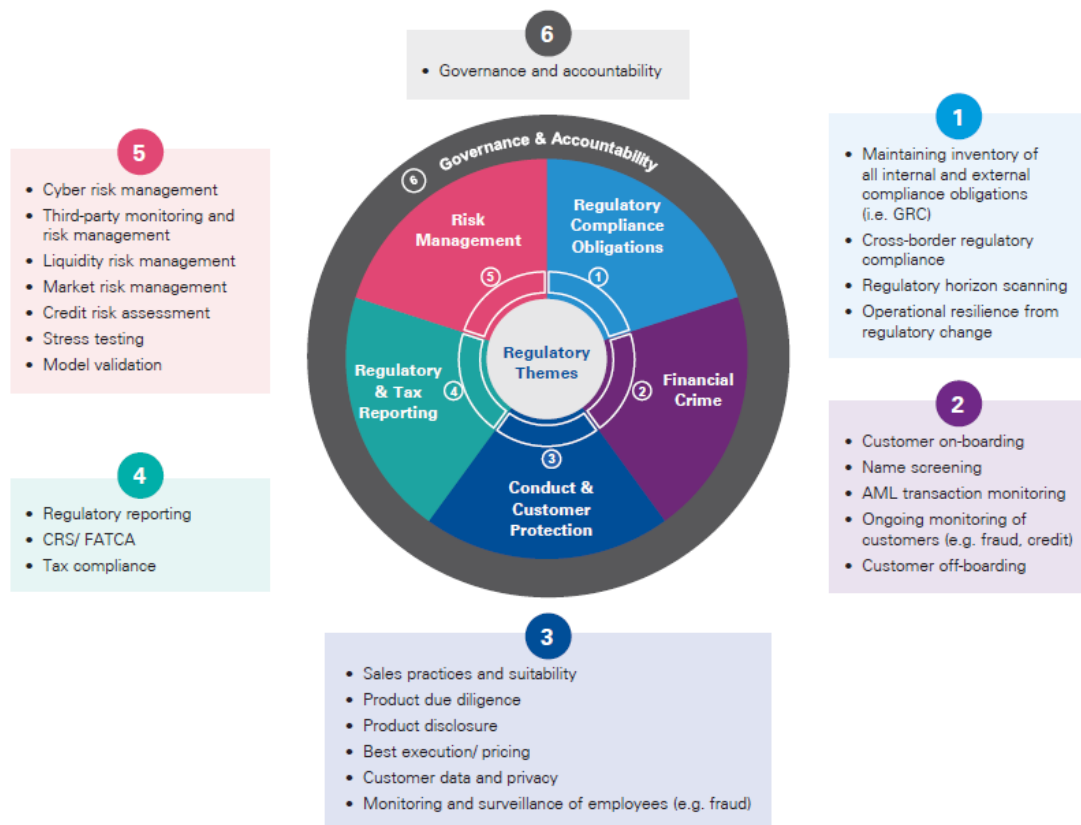


Figure 4. Overview of Regtech application areas



Source: [Transforming Risk Management and Compliance: Harnessing the Power of Regtech](#) (HKMA / KPMG, 2020)

Wealthtech has demonstrated steady growth, with adoption rates increasing from 43% to 52% since 2022. This progression indicates the industry’s ongoing investment in enhancing investment services through digital platforms and automated advisory solutions, driven by rising customer expectations for sophisticated wealth management offerings.

Greentech adoption has made significant progress, growing from 26% to 45% as institutions increasingly recognise the importance of sustainable finance and climate risk management. Similarly, Insurtech has shown substantial growth among AIs with insurance licences, increasing from 28% to 57%, which represents the most substantial growth percentage since our previous assessment.

Substantial advancement has been seen in the adoption of A.I. and DLT, with numerous institutions evolving from exploratory phases to operational implementation. The adoption rate of A.I. has reached 75% (59% in 2022), and 45% for DLT (30% in 2022). There are many notable successful use cases that exhibit how cutting-edge technologies like A.I. and DLT are addressing complex challenges and driving efficiency in the banking sector.

For instance, a financial institution developed a multi-language speech and sentiment analysis tool to facilitate trade surveillance processes. By successfully exporting the application to other jurisdictions, the financial institution set a precedent for leveraging technology to overcome language barriers and expand into new markets. Another financial institution is leveraging DLT to provide services ranging from tokenisation, issuance, distribution, and custody of digital assets.

While adoption rates have increased significantly, the stock-take evidenced that certain implementations remain at a basic or intermediate maturity level, indicating considerable potential for further evolution towards more sophisticated and transformative solutions in the coming years.

Key Observation 2: A.I., DLT, and advanced computing technologies emerge as key catalysts driving innovation and future maturity growth across functional areas.

A.I. and DLT stand out as key catalysts propelling innovation across all functional areas. For instance, in the Wealthtech and Regtech area, approximately 80% of anticipated use cases that will reach Advanced maturity levels or higher are expected to be supported by A.I. and DLT. Greentech follows closely, with about 70% of Advanced use cases leveraging these technologies. As for Insurtech, it is expected that approximately 60% of Advanced implementations will utilise A.I. and DLT.

Figure 5. Adoption Maturity Levels

- 1 | Planning**
The Bank has developed concrete plans for adopting solutions or technologies under the Fintech area, but has not advanced these to pilot or production phase
 - 2 | Pilot**
The Bank has implemented pilot solutions or technologies under the Fintech area
 - 3 | Basic**
The Bank has implemented solutions and technologies under the Fintech area, but at a fundamental level, digitalising services or operations
 - 4 | Advanced**
The Bank has extensively applied solutions or technologies under the Fintech area to enhance operations, resulting in material and impactful process re-engineering
 - 5 | Pioneer**
The Bank has applied novel and pioneering solutions or technologies under the Fintech area, and fundamentally re-vamped digital processes
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Financial institutions anticipate substantial increases in Advanced implementations by 2028, indicating a shift from basic technology adoption to more sophisticated solutions. Wealthtech maturity is expected to increase sixfold at Advanced levels or higher while Regtech

implementations at Advanced levels are projected to quadruple. Greentech and Insurtech maturity is set to double at Advanced levels.

Figure 6. Anticipated Growth¹⁰ of Fintech Maturity (2025 vs. 2028)



Beyond A.I. and DLT, emerging infrastructural technologies such as high performance computing, as well as more sophisticated use of quantum computing capabilities, show strong growth potential. High performance computing currently stands at 23% coverage with projected growth to 61% while current involvement in quantum computing remains relatively low at 7% (primarily in exploration and testing phases), future adoption intentions signal significant growth, with projected coverage rates reaching 53%. These technologies offer transformative capabilities across multiple use cases, including climate risk analysis, SME lending optimisation, enhanced payment security, and improved customer service through advanced analytics.

Based on these findings, our future Fintech promotion direction will focus on advanced Fintech enabled by A.I., DLT, and high performance computing, supported by key pillars of data excellence and cyber resilience. This strategic approach will address both financial and non-financial risk management use cases through targeted initiatives across technological advancement, ecosystem collaboration, and talent development dimensions.

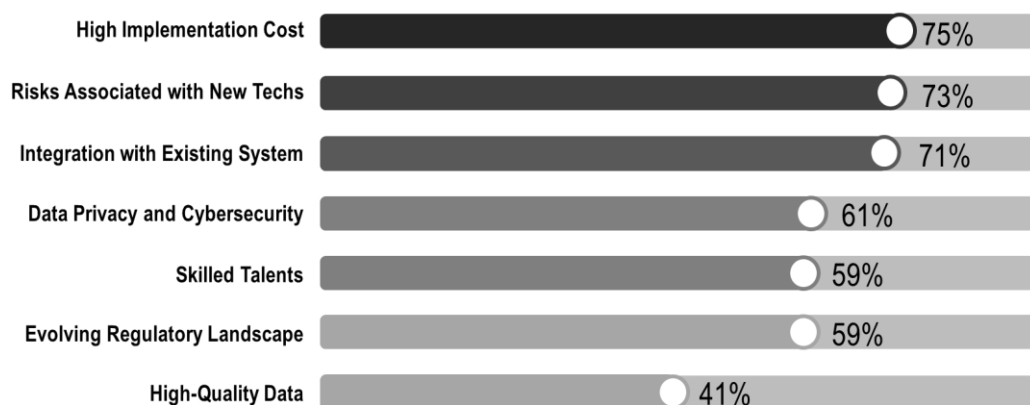
¹⁰ For the purpose of maturity growth analysis, the above charts excluded those with no adoption in the future state.

Key Observation 3: As adoption broadens, challenges have evolved and grown more complex, challenging the implementation of sophisticated technologies.

While expectations for Fintech progress remain high, the stock-take identifies evolving challenges as adoption broadens. High implementation costs are cited by 75% of participated AIs as a primary concern, particularly for technologies requiring significant infrastructure investments or specialised expertise. This financial barrier is especially pronounced for smaller institutions with limited resources.

As implementation scales, risks associated with new technology (73%) have become more nuanced, with institutions carefully weighting potential security vulnerabilities, operational disruptions, and regulatory compliance issues that emerge when deploying cutting-edge technologies without risk management frameworks that are commensurate with the novelty.

Figure 7. Adoption challenges by the banking sector



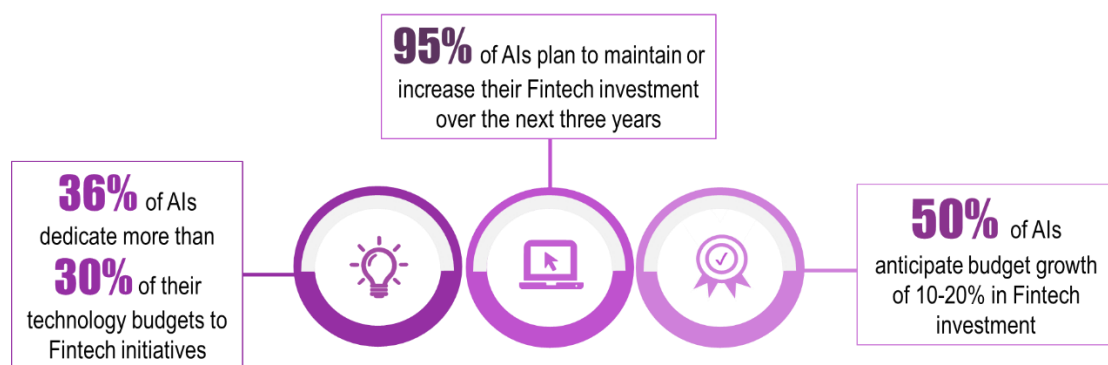
The challenge of integration with existing systems (71%) has intensified with broader adoption, as institutions must now navigate complex technical environments while maintaining operational continuity. Complementing these technical challenges are growing concerns about data privacy and cybersecurity (61%), increasing competition for skilled personnel (59%), evolving regulatory landscape (59%), and heightened requirements for high-quality data (41%).

These multifaceted challenges signal the sector's maturation and require more comprehensive strategies that address both technical and organisational aspects of technology adoption. The evolution of these barriers suggests that future promotional efforts must provide more targeted support for resource matching, implementation planning, risk management, and system integration to accelerate the adoption of more sophisticated technologies.

Key Observation 4: Technology investment patterns reveal a strategic shift toward long-term capabilities and infrastructure development, with sustained budget commitments across the sector despite economic uncertainties.

AIs demonstrate unwavering commitment to technological advancement through their resource allocation decisions, with 36% dedicating more than 30% of their technology budgets to Fintech initiatives in the past year.

Figure 8. Fintech investment by the banking sector



In terms of overall Fintech funding outlook, 95% of AIs plan to maintain or increase their Fintech investments over the next three years, with half anticipating budget growth of 10-20%. This consistent financial commitment amid broader economic challenges highlights the foundational role technology now plays in institutional strategy.

Budget allocation patterns reveal an increasingly sophisticated approach to technology development, balancing build-versus-buy considerations with long-term sustainability needs. AIs allocate 43% of their technology budgets to in-house solution development, while directing substantial resources towards vendor partnerships (30%) and critical support activities (21%). This balanced distribution underscores growing recognition that successful digital transformation requires both new capabilities and robust operational foundations.

The sector has moved beyond simplistic outsourcing models toward more nuanced technology sourcing strategies tailored to specific institutional needs and capabilities. Only 13% of AIs rely exclusively on external vendors, while 32% maintain predominant control through mostly in-house

development (i.e., 75% of Fintech-related solutions are developed in house compared to 25% procured from external vendors). The largest segment (46%) employs balanced hybrid approaches, suggesting a maturation in how organisations invest in building internal expertise alongside external innovations.

Strategic considerations increasingly outweigh purely tactical factors in technology investment decisions. When developing solutions internally, AIs prioritise alignment with corporate policy (73%) and address data privacy/security concerns (69%), demonstrating a more governance-driven decision-making mentality. For external procurement, availability of market solutions (61%), efficiency gains (52%) and alignment with corporate policy (46%) drive vendor selection. This evolution toward multidimensional decision frameworks shows the increasing integration of technology considerations into core business strategy rather than treating them as isolated technical decisions.

D. Way Forward

Building on the insights from our Tech Maturity Stock-take, the HKMA will develop a comprehensive blueprint to accelerate the implementation of more sophisticated Fintech in Hong Kong's financial sector. This blueprint will guide our promotional efforts over the next few years, focusing on high-potential technology enablers supported by critical foundational capabilities.

Strategic Dimensions

The strategy will address key barriers identified in the assessment while leveraging catalysts for growth through multiple dimensions:

- **Technological Advancement:** Accelerating sophisticated Fintech solutions adoption, exploring corresponding risk management frameworks, and facilitating responsible deployment of advanced technologies;
- **Ecosystem Collaboration:** Fostering more strategic partnerships across industry, academia, and Greater Bay Area institutions to drive innovation research, expand market access, and enable cross-border initiatives; and
- **Talent & Outreach:** Cultivating Fintech expertise through specialised education programmes, industry benchmarks, and stakeholder engagements to develop both skilled professionals and market alignment in more sophisticated technologies.

Figure 9. Strategic Dimensions of Promotion



Priority Technology Enablers and Foundations

The blueprint will focus on three advanced technology enablers and two critical foundations that will drive the next wave of financial innovation:

1) Artificial Intelligence

The HKMA sees great potential to further enhance the adoption of A.I. technologies within Hong Kong's financial sector. Our promotional efforts will continue to focus on developing practical A.I. applications across various functional areas, with particular emphasis on how advanced A.I. techniques can enhance risk management as well as competitiveness and operational efficiency. Through targeted initiatives, we aim to accelerate the maturity trajectory of A.I. implementation and help institutions, in Hong Kong and beyond, to realise its transformative potential.

2) Distributed Ledger Technology

The HKMA will continue to build on its existing DLT initiatives to promote more sophisticated applications of DLT across the financial sector. The HKMA recognises DLT's potential to enhance transparency, efficiency, and security across various financial processes, while acknowledging that coordinated action is required to overcome implementation challenges.

Going forward, we will explore the feasibility of various innovative tokenisation initiatives, focusing on ensuring adequate risk management, resilient operations and seamless integration with existing systems. By facilitating industry sharing on good practices and reference architectures, we aim to help institutions navigate the technical and regulatory complexities of DLT implementation while capturing emerging opportunities as the technology continues to generate market demand.

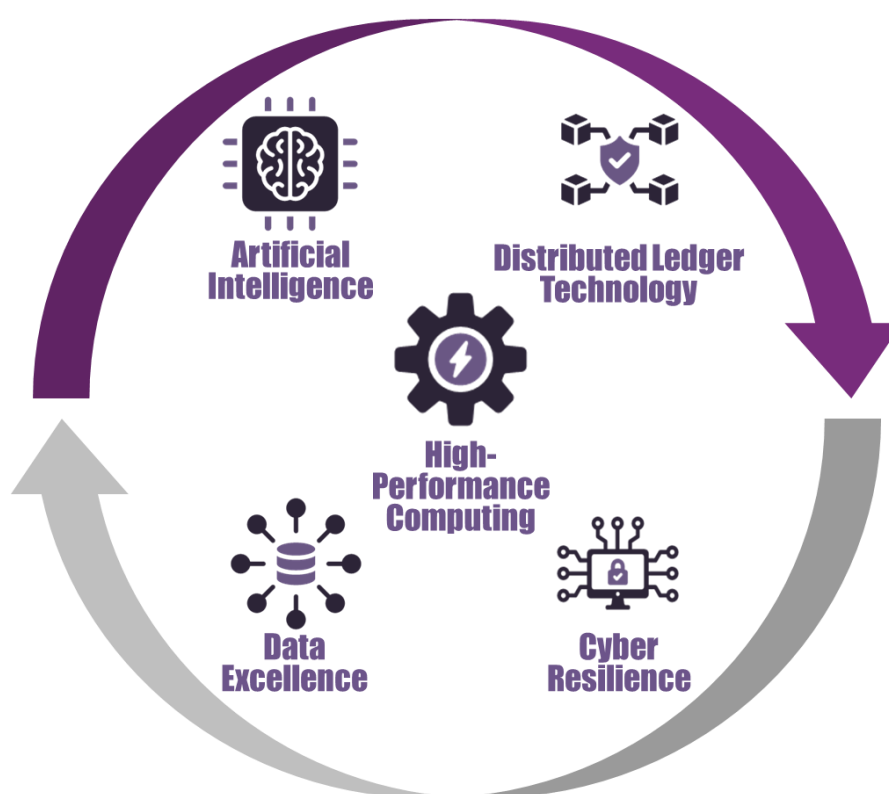
3) High Performance Computing

The HKMA recognises high performance computing including quantum computing as an emerging technology with significant potential to disrupt and transform financial services. While adoption remains at an early stage, we see valuable opportunities to help institutions understand and prepare for this transformative technology. Our promotional efforts will first focus on education and awareness, working with institutions to explore potential applications and ensuring they understand the importance of safety as it relates to quantum computing. We will highlight the importance of quantum safety in the financial sector, particularly through the practical

adoption of post-quantum cryptography. Additionally, we will conduct research into the potential applications in areas such as risk modelling and portfolio optimisation.

Through the early exploration and experimentation with high performance computing capabilities, the position of Hong Kong's financial sector at the forefront of this emerging technology frontier will be further strengthened. This forward-looking approach will help institutions prepare for the quantum era, strengthening the financial sector's resilience against quantum threats, and developing the capabilities needed to leverage its transformative potential in areas ranging from complex risk modelling to optimised portfolio management.

Figure 10. Technology Enablers and Foundations



4) *Data Excellence*

Data excellence represents the essential foundation upon which advanced A.I. and DLT applications must be built. The HKMA will focus on supporting institutions in developing more robust data capabilities that enable sophisticated analytics while ensuring appropriate governance,

quality, and security. This holistic approach to data excellence will create the foundation for innovation across all technology domains.

A key focus in this area will be improving the quality of risk data. This will be driven by fundamental advancements in AIs' data infrastructure, enabling more agile analytics and A.I. applications. By establishing higher standards for data quality, governance, and integration, we aim to further unlock the potential of data-driven innovation across the financial sector.

5) Cyber Resilience

As financial institutions adopt more sophisticated technologies, the cyber risks facing the industry are simultaneously evolving in terms of complexity and sophistication. The HKMA will focus on promoting advanced cybersecurity capabilities that protect against emerging threats arising from innovation and fostering the adoption of cutting-edge cybersecurity solutions that leverage technology to enhance resilience. By encouraging institutions to integrate advanced tools such as A.I.-driven threat detection, financial institutions can stay ahead of cyber threats throughout their innovation journeys.

Recognising that new technologies bring new risks, we will emphasise the importance of building resilience directly into the design of novel systems. This approach ensures that cybersecurity is embedded from the outset, reducing vulnerabilities and safeguarding against potential breaches. Additionally, we will continue to strengthen collaborative defence mechanisms that further enhance threat analytics and facilitate more coordinated responses to cyber incidents. Together, these efforts will create a secure foundation for technology innovation while protecting the integrity and stability of Hong Kong's financial system.

Through this comprehensive approach, the HKMA aims to significantly accelerate the maturity of Fintech across Hong Kong's financial sector, strengthening its position as a leading international financial centre and Fintech hub. The detailed initiatives, specific programmes, and implementation approaches will be articulated in the comprehensive blueprint to be published in 2025.