Fighting Future Crime
打擊未來犯罪

Challenges and opportunities for law enforcement in implementing AML/CFT technologies
執法工作中採用打擊清洗黑錢/反恐融資科技的挑戰與機遇

September 2022
2022年9月

kpmg.com/cn

In this brief:

Introduction

New technology solutions for AML/CFT: key challenges and opportunities for LEAs

Envisioning the future: end goals that AML/CFT platforms for LEAs should address

KPMG and Quantexa: what we offer

Introduction

Across Asia Pacific and around the world, law enforcement agencies (LEAs) are deploying a range of new technologies to assist their anti-money laundering/counter-financing of terrorism (AML/CFT) operations. Next-generation platforms that utilise artificial intelligence (AI), machine learning and distributed ledger technologies, among others, offer a myriad of benefits for LEAs — including enhanced capabilities to identify complex cases, reduce false positives, enhance the traceability of transactions and make it easier to identify criminals.

In 2021, the Financial Action Task Force (FATF) published comprehensive guidance related to the adoption of new technologies for AML/CFT[1] which included use cases from Hong Kong, Singapore, and other major Asia Pacific financial hubs. The FATF followed this initial guidance with additional strategic considerations for AML/CFT digital strategy in May 2022, including specific operational, legal and ethical questions that LEAs should be asking.[2] The FATF has also been encouraging information sharing between the public and private sectors.[3]

As FIs work towards implementing the updated FATF guidance in their AML/CFT operations, LEAs must be prepared to utilise new technology tools to work together with the private sector to successfully detect suspected illegal activity. To do this, they will need to address and overcome the operational changes that come with rolling out sophisticated, technology-driven platforms.

Regulators are also starting to take actions to encourage FIs to share information with each other and work with regulators to build a more effective AML/CFT ecosystem. For example, Singapore has announced plans to launch COSMIC, a centralised digital platform co-developed by Monetary Authority of Singapore (MAS) and six major commercial banks, in the first half of 2023.[4] The development of similar platforms in other Asia Pacific markets will require governments to address a range of challenges and risks: including adapting to ongoing regulatory developments, ensuring data security and integrity, and facilitating coordination between government departments and FIs to meet implementation timeframes.

This brief outlines the challenges and opportunities that LEAs face with regards to upgrading their AML/CFT monitoring and detection platforms; provides an overview of the key features of next-generation platforms; and examines the benefits of choosing the right technology partner.
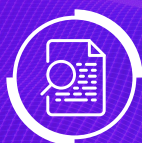
---

1   Financial Action Task Force Recommendations, Updated March 2022: https://www.fatf-gafi.org/media/fatf/documents/recommendations/pdfs/FATF%20 Recommendations%202012.pdf
2   Financial Action Task Force, AML/CFT Digital Strategy for Law Enforcement Authorities, May 2022: https://www.fatf-gafi.org/media/fatf/documents/Digital-Transformation-law-enforcement.pdf
3   Financial Action Task Force, Partnering in the Fight Against Financial Crime: Data Protection, Technology and Private Sector Information Sharing, July 2022: https://www.fatf-gafi.org/publications/digitaltransformation/partnering-in-the-fight-against-financial-crime.html?hf=10&b=0&s=desc(fatf_releasedate)
4   Monetary Authority of Singapore press release, October 2021: https://www.mas.gov.sg/news/media-releases/2021/mas-and-financial-industry-to-use-new-digital-platform-to-fight-money-laundering

本簡介包含：

簡介

打擊清洗黑錢/反恐融資新科技解決
方案：執法機關面臨的關鍵挑戰與機遇

展望未來：執法機關打擊清洗黑錢/
反恐融資平台應實現的最終目標

畢馬威與Quantexa：我們可提供的服務

簡介

在亞太地區及世界各地，執法機關正採用一系列新科技協助打擊清洗黑錢 / 反恐怖份子融資活動。利用人工智能、機器學習與分佈式分類賬技術等下一代平台為執法機關帶來了無數好處，包括增強識別複雜案件的能力、減少誤報、增強交易可追溯性，以及更容易識別罪犯等。

財務行動特別組織在 2021 年發佈了與採用打擊清洗黑錢 / 反恐融資新科技相關的綜合指引 [1]，其中包括來自香港、新加坡及亞太區其他主要金融中心的使用案例。財務行動特別組織基於這一初步指引，在 2022 年 5 月對打擊清洗黑錢 / 反恐融資的數字化策略給出了更多策略性考慮，包括執法機關應提出的具體營運、法律和道德問題 [2]。財務行動特別組織亦鼓勵公營部門與私營機構互相分享資訊 [3]。

隨着金融機構致力於在其打擊清洗黑錢 / 反恐融資工作中採用財務行動特別組織發佈的最新指引，執法機關必須準備好利用新的科技與私營機構合作，以便成功偵察可疑的非法活動。為此，執法機關需要解決並應對推出複雜的科技驅動平台帶來的營運變化。

監管機構也開始採取行動，鼓勵金融機構互相分享資訊，並與監管機構合作，構建更有效的打擊清洗黑錢 / 反恐融資生態系統。例如：新加坡已宣佈計劃在 2023 年上半年推出由新加坡金融管理局及六家主要商業銀行共同開發的中央數字平台 COSMIC[4]。在亞太區其他市場開發類似平台，政府將需要應對一系列挑戰及風險：包括適應持續的監管變化，確保資料安全和完整性，以及促進政府部門與金融機構之間的協調，以按時間表如期落實。

本簡介概述了執法機關在打擊清洗黑錢 / 反恐融資監控及偵測平台升級方面面臨的挑戰與機遇，概述了下一代平台的特點，並探討了選對科技合作夥伴的好處。

1　財務行動特別組織的建議 (Financial Action Task Force Recommendations)，2022年3月更新：https://www.fatf-gafi.org/media/fatf/documents/recommendations/pdfs/FATF%20Recommendations%202012.pdf
2　財務行動特別組織，執法機關的打擊清洗黑錢/反恐融資數字化策略 (AML/CFT Digital Strategy for Law Enforcement Authorities)，2022年5月：https://www.fatf-gafi.org/media/fatf/documents/Digital-Transformation-law-enforcement.pdf
3　財務行動特別組織，携手打擊金融犯罪：資料保護、科技與私營機構資料共享 (Partnering in the Fight Against Financial Crime: Data Protection, Technology and Private Sector Information Sharing)，2022年7月：https://www.fatf-gafi.org/publications/digitaltransformation/partnering-in-the-fight-against-financial-crime.html?hf=10&b=0&s=desc(fatf_releasedate)
4　新加坡金融管理局的新聞稿，2021年10月：https://www.mas.gov.sg/news/media-releases/2021/mas-and-financial-industry-to-use-new-digital-platform-to-fight-money-laundering

New technology solutions for AML/CFT: challenges and opportunities for LEAs

The benefits of new technologies to make AML/CFT efforts faster, cheaper, more efficient and more effective for LEAs are clear. Advanced data analytics capabilities, enhanced by AI, can process large volumes of information beyond human capabilities and process results at breakneck speeds, freeing up human LEA resources for the analysis of complex ML/TF cases. In addition, technology can help LEAs to draw new connections between data sets to more effectively identify and track patterns of suspected illegal activity. However, as authorities plan out the adoption of new platforms, they should be acutely aware of regulatory, operational and data security risk considerations and incorporate these into the overall deployment strategy. The below chart is a summary of FATF's points of view on key new technologies and considerations for authorities:

Common next-generation technologies deployed in AML/CFT platforms: overview of benefits and challenges for LEAs

Key technologies being deployed

- Machine learning
- Natural language processing and soft computing techniques
- Distributed ledger technology
- Application programming interfaces (APIs)

Key benefits of next-generation platforms

- Supervise a larger number of entities
- Live monitor compliance with AML/CFT standards and act in cases of non-compliance
- Exchange information with other competent authorities
- Better identify and understand the risks associated to the different sectors individual entities
- Store, process and report on larger sets of supervisory data

Key challenges/risks

- Adjusting regulatory practices to the conditions of new AML/CFT technologies, and ensuring LEAs have a robust understanding and governance with regard to their legal framework
- Operational challenges: replacing legacy systems and developing necessary skills to understand the technology and train staff; ensuring LEAs have an aligned vision on the objectives and business cases of their digital initiatives
- Identifying which ML/TF crime investigations would benefit most from the use of technology, and whether digital investigative capabilities should be developed in-house or by third parties
- Adopting new technologies in a responsible, proportionate and risk-based manner, ensuring financial inclusion, protection of underserved populations, data protection and privacy

Source: Financial Action Task Force, Opportunities and Challenges of New Technologies for AML/CFT, July 2021: https://www.fatf-gafi.org/media/fatf/ documents/reports/Opportunities-Challenges-of-New-Technologies-for-AML-CFT.pdf

打擊清洗黑錢/反恐融資新科技解決方案：執法機關面臨的挑戰與機遇

新科技令打擊清洗黑錢／反恐融資工作更迅捷便宜、高效，對執法機關的好處顯而易見。採用人工智能技術的先進資料分析能力可以處理超出人類能力的大量資訊，並以極快的速度處理結果，從而騰出人力資源用於分析複雜的洗黑錢／恐怖分子融資案例。此外，科技可以幫助執法機關找到數據集之間的新聯繫，以便更有效地識別和追踪可疑非法活動的模式。然而，當局計劃採用新平台時，應敏銳地意識到監管、營運及資料安全風險等因素，並將這些因素納入整體部署策略。下表總結了財務行動特別組織對關鍵新技術的看法及供當局考慮的事項：

打擊清洗黑錢／反恐融資平台採用下一代通用科技：對執法機關的好處及相關挑戰概述

採用的關鍵科技

- 機器學習
- 分佈式分類賬技術
- 自然語言處理及軟計算技術
- 應用程式介面

下一代平台的主要好處

- 監督大量實體
- 更深入地識別並了解不同部門、個別實體涉及的風險
- 實時監控打擊清洗黑錢／反恐融資準則的合規情況，並在不遵守時採取行動
- 儲存、處理及匯報更大的監管數據集
- 與其他主管當局交換資料

主要挑戰與風險

- 根據打擊清洗黑錢／反恐融資科技的最新情況調整監管實踐，並確保執法機關對其法律框架有充分的理解和治理
- 營運挑戰：更換舊的系統，開發必要的技能，以了解新科技並培訓員工；確保執法機關對其數字化計劃的目標及理由保持一致看法
- 確定使用科技對調查哪些清洗黑錢／恐怖分子融資罪行最有效，以及數字化調查能力應該由內部開發還是由第三方開發
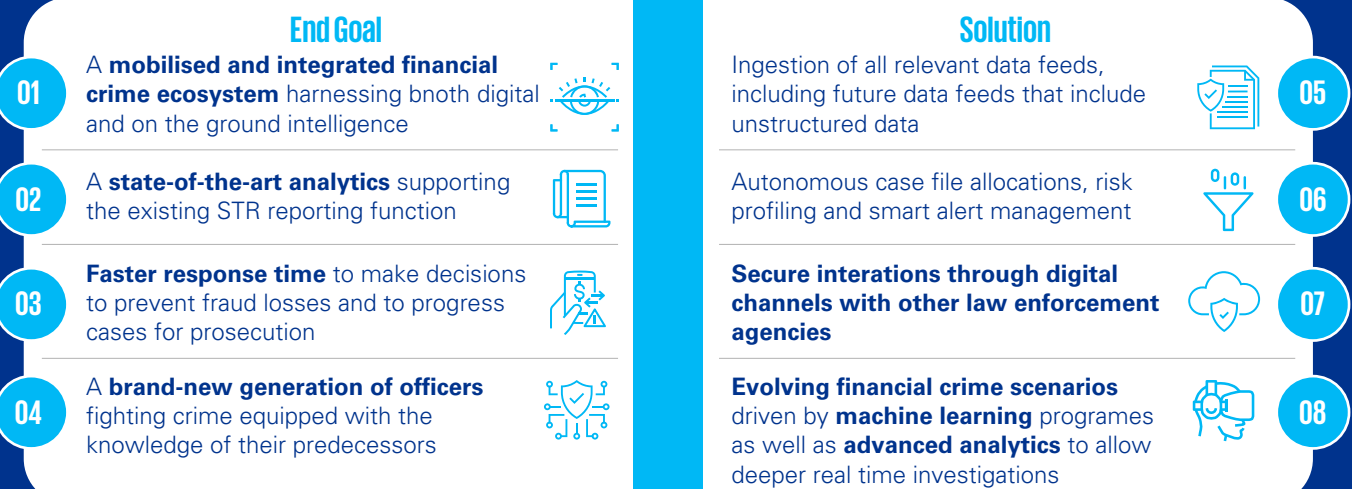- 以負責任、適度及基於風險的方式採用新科技，確保金融包容性、保障缺乏服務的人羣、資料安全與私隱

資料來源：財務行動特別組織，打擊清洗黑錢/反恐融資新科技的機遇和挑戰 (Opportunities and Challenges of New Technologies for AML/CFT)，2021年7月：https://www.fatf-gafi.org/media/fatf/documents/reports/Opportunities-Challenges-of-New-Technologies-for-AML-CFT.pdf

Envisioning the future: end goals that AML/CFT platforms for LEAs should address

A sophisticated, advanced purpose-built financial crime intelligence platform should be able to meet demands of the changing economic landscape as well as the emerging crime trends for the next 20 years. Below are some suggested end goals and potential solutions that future-focused LEAs should consider to bring their technology infrastructure up-to-date while maximising operational effectiveness to put more criminals behind bars:
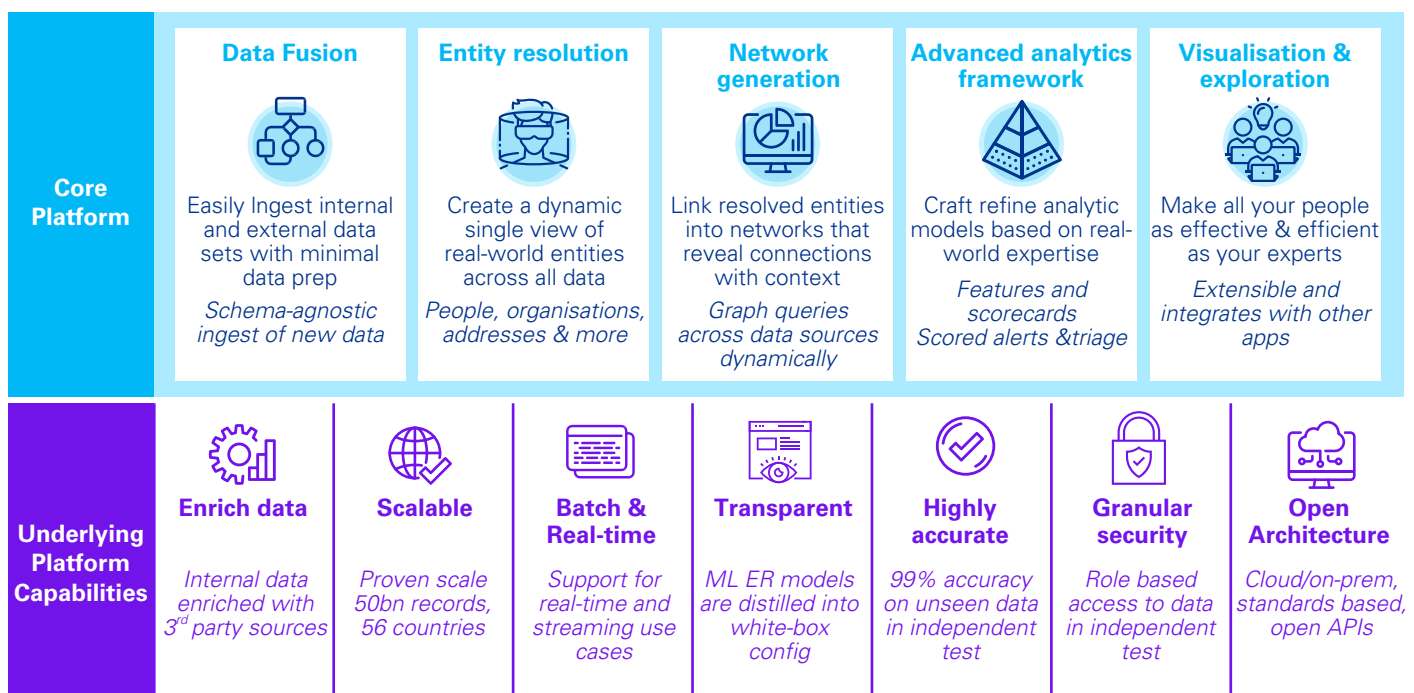
Building a future-focused financial crime ecosystem: end goals and potential solutions for law enforcement

End Goal

01 A **mobilised and integrated financial crime ecosystem** harnessing bnoth digital and on the ground intelligence

02 A **state-of-the-art analytics** supporting the existing STR reporting function

03 **Faster response time** to make decisions to prevent fraud losses and to progress cases for prosecution

04 A **brand-new generation of officers** fighting crime equipped with the knowledge of their predecessors

Solution

05 Ingestion of all relevant data feeds, including future data feeds that include unstructured data

06 Autonomous case file allocations, risk profiling and smart alert management

07 **Secure interations through digital channels with other law enforcement agencies**

08 **Evolving financial crime scenarios** driven by **machine learning** programes as well as **advanced analytics** to allow deeper real time investigations

Source: KPMG/Quantexa

The ultimate purpose of a tailored AML/CFT platform solution should be to allow LEAs to harness real-time information to fight financial crime and exchange intelligence with other local and overseas LEAs, providing successful results for governments and improving their FATF evaluation. As such, an effective platform should improve both efficiency and cost effectiveness to the LEA's operations. Below, we illustrate the core components of a financial crime intelligence platform which can meet these needs while retaining a flexible architecture that is adaptable for the future needs of LEAs:

Core Platform	Data Fusion	Entity resolution	Network generation	Advanced analytics framework	Visualisation & exploration
	Easily Ingest internal and external data sets with minimal data prep	Create a dynamic single view of real-world entities across all data	Link resolved entities into networks that reveal connections with context	Craft refine analytic models based on real-world expertise	Make all your people as effective & efficient as your experts
	Schema-agnostic ingest of new data	*People, organisations, addresses & more*	*Graph queries across data sources dynamically*	*Features and scorecards Scored alerts &triage*	*Extensible and integrates with other apps*

Underlying Platform Capabilities	Enrich data	Scalable	Batch & Real-time	Transparent	Highly accurate	Granular security	Open Architecture
	Internal data enriched with 3rd party sources	*Proven scale 50bn records, 56 countries*	*Support for real-time and streaming use cases*	*ML ER models are distilled into white-box config*	*99% accuracy on unseen data in independent test*	*Role based access to data in independent test*	*Cloud/on-prem, standards based, open APIs*

Source: KPMG/Quantexa

展望未來：執法機關打擊清洗黑錢/反恐融資平台應實現的最終目標

一個複雜、先進的專門構建的金融犯罪情報平台應能够應付不斷變化的經濟形勢，以及未來廿年新出現的犯罪趨勢的需求。以下列出若干最終目標及潛在解決方案建議，着眼於未來的執法機關應考慮令科技基礎設施與時俱進，同時盡量提高執法效率，將更多罪犯送入監獄。

構建面向未來的金融犯罪生態系統：最終執法目標與潛在解決方案

最終目標

01 **利用數字智能科技的綜合金融犯罪生態系統**

02 支持現有 STR 報告功能的最**先進分析方法**

03 以更快的反應速度，**來做出防止欺詐損失的決定，並推進案件的起訴工作**

04 **新世代打擊犯罪人員**需要具備前人的知識

解決方案

05 **擷取所有相關數據**，包括未來非結構化數據

06 **自主案例文件分配、風險分析**與**智能警報**管理

07 通過數字渠道與其他執法機關進行**安全交流互動**

08 利用**機器學習程式**與**先進分析方法**，分析**不斷變化的金融犯罪場景**，實現更深入的實時調查

資料來源：畢馬威/Quantexa

量身定製的打擊清洗黑錢 / 反恐融資平台解決方案的最終目的，是令執法機關能够利用實時資訊打擊金融犯罪，並與其他本地及海外執法機關交換情報，讓政府看到成效，並改進其財務行動特別組織的評估工作。因此，一個有效的平台應提高執法機關運作的效率與成本效益。我們將以下圖說明金融犯罪情報平台的核心組成部分，該平台可以滿足以上需求，同時保持靈活的架構，以適應執法機關的未來需求。

	數據融合	實體解析	網絡生成	先進的分析框架	視覺化與探索
核心平台	花最少的數據準備工夫，輕鬆擷取內部和外部數據集 *與模式無關的新數據擷取*	利用所有數據創建一個動態的現實世界實體的單一視圖 *人員、組織、地址等*	將已解析的實體連結到顯示與上下文關係的網絡中 *動態跨數據源的圖形查詢*	根據真實世界的專業知識構建並完善分析模型 *功能和記分卡評分警報與分類*	讓所有人員都像專家一樣高效 *可擴展並與其他應用程式集成*

	豐富數據	可擴展性	批量及實时	透明度	高度準確	細緻的安全性	開放式架構
相關平台功能	*通過第三方來源豐富內部數據*	*經驗證的規模：500 億條記錄，56 個國家*	*支持實时和流式使用案例*	*ML ER models are distilled into white-box config*	*在獨立測試中，未見過的數據的準確率為99%*	*基於使用者身份的數據訪問權限設置細緻到字段級*	*雲 / 辦公室所用軟件、基於標準、開放式應用程式介面*

資料來源：畢馬威/Quantexa
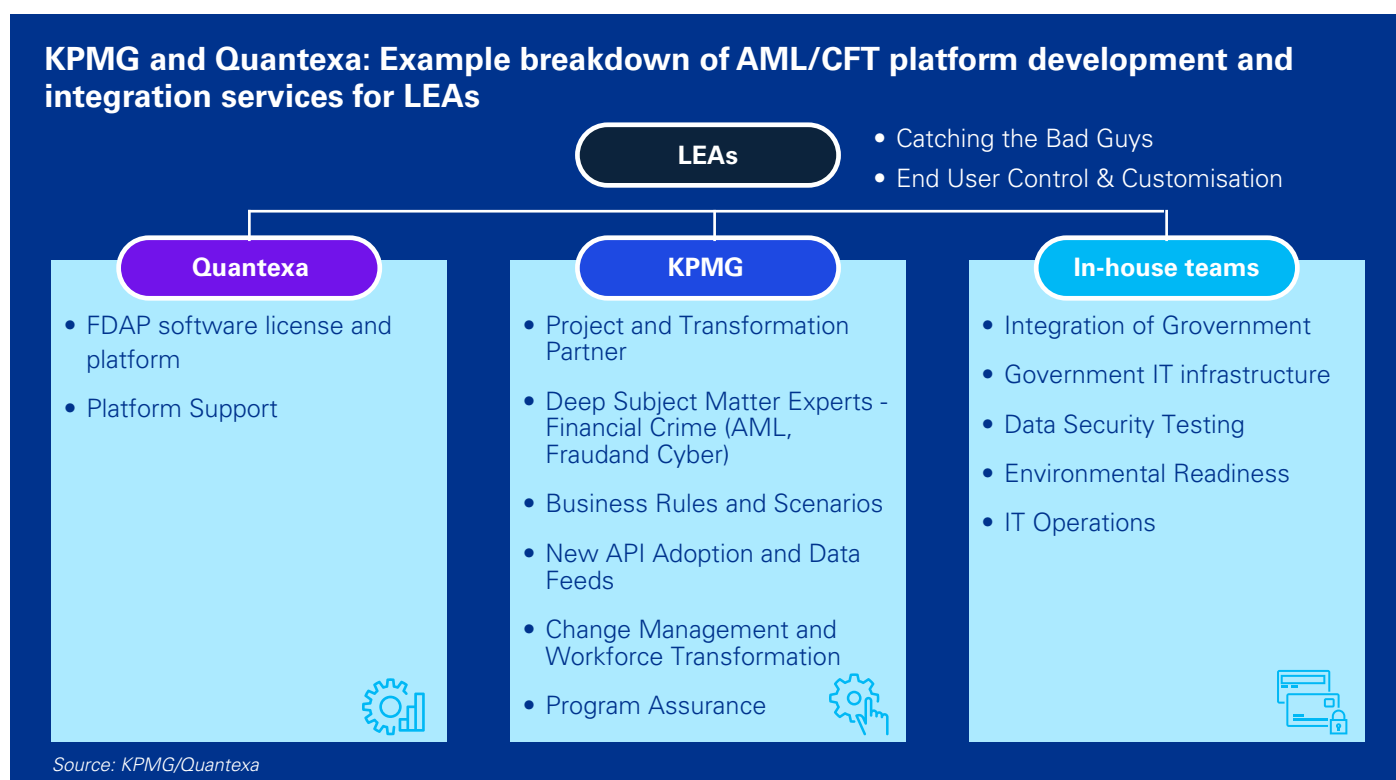
KPMG and Quantexa – what we offer

To deliver a comprehensive end-to-end technology solution for LEAs, KPMG partners with global data and analytics software company Quantexa, a pioneer of Contextual Decision Intelligence.

Quantexa's platform uncovers hidden risk and new opportunities by providing a contextual, connected view of internal and external data in a single place. The platform enhances operational performance with over 90% faster accuracy and 60 times faster analytical model resolution than traditional approaches. The platform enables LEAs to connect billions of data points at scale, while revealing real-world connections in the data. Advanced analytics and AI allow teams to build stronger models with context, while enhanced data visualisation empowers accelerated decision-making.

Throughout the entire transformation journey, KPMG works with LEAs and other relevant government authorities to meet implementation timelines, adopt any changes in AML/CFT regulatory requirements and respond to market developments.

Technology is only an enabler to identify data which can assist to fight crime   ultimately, a new generation of law enforcement officers will need to be skilled and trained to use these technologies to maximise the gains of technology deployment. KPMG works with LEAs on change management and workplace transformation to help develop a target operating model that can guide them through the change.

The chart below is an example of how KPMG and Quantexa can partner with your organisation across a wide range of capability areas:

KPMG and Quantexa: Example breakdown of AML/CFT platform development and integration services for LEAs

LEAs
- Catching the Bad Guys
- End User Control & Customisation

Quantexa
- FDAP software license and platform
- Platform Support

KPMG
- Project and Transformation Partner
- Deep Subject Matter Experts - Financial Crime (AML, Fraudand Cyber)
- Business Rules and Scenarios
- New API Adoption and Data Feeds
- Change Management and Workforce Transformation
- Program Assurance

In-house teams
- Integration of Grovernment
- Government IT infrastructure
- Data Security Testing
- Environmental Readiness
- IT Operations

Source: KPMG/Quantexa

畢馬威與Quantexa可提供的服務

為了向執法機構提供全面的端到端科技解決方案, 畢馬威與全球數據分析軟件公司 Quantexa 合作。Quantexa 是場景決策智能的先驅。
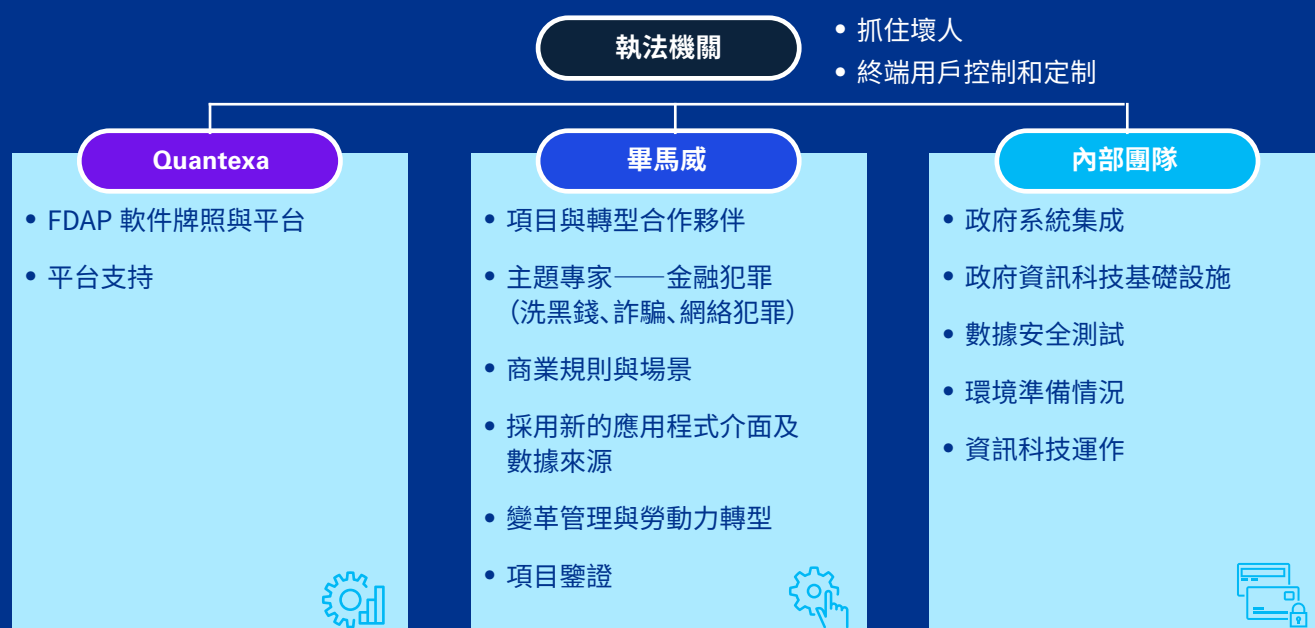
Quantexa 的平台通過在單一位置提供內外部數據的關聯視圖, 揭示隱藏的風險和新的機會。該平台以比傳統方法快 90% 以上的精確度及快 60 倍的分析模型分辨率, 提高了操作表現。該平台讓執法機關能夠大規模連接數十億個數據點, 同時顯示數據中的真實關聯性。先進分析工具與人工智能的應用, 讓團隊能夠根據場景構建更強大的模型, 而增強的數據可視化可加快決策速度。

在整個轉型過程中, 畢馬威與執法機關及其他相關政府機構合作, 按時間表如期落實, 採納打擊清洗黑錢 / 反恐融資監管要求的任何變化, 並應對市場發展所需。

科技只是識別數據的工具, 藉以打擊犯罪。新世代執法人員需要熟練掌握這些科技, 將科技部署的效益最大化。畢馬威與執法機關合作進行變革管理及工作場所轉型, 以幫助制定一個目標運作模式, 指導他們完成變革。

下圖舉例說明畢馬威及 Quantexa 如何各方面與貴機構合作:

畢馬威及 Quantexa：執法機關打擊清洗黑錢 / 反恐融資平台開發與集成服務示例

執法機關
- 抓住壞人
- 終端用戶控制和定制

Quantexa	畢馬威	內部團隊
• FDAP 軟件牌照與平台 • 平台支持	• 項目與轉型合作夥伴 • 主題專家——金融犯罪（洗黑錢、詐騙、網絡犯罪） • 商業規則與場景 • 採用新的應用程式介面及數據來源 • 變革管理與勞動力轉型 • 項目鑒證	• 政府系統集成 • 政府資訊科技基礎設施 • 數據安全測試 • 環境準備情況 • 資訊科技運作

資料來源：畢馬威/Quantexa

KPMG and Quantexa leverage deep and wide-ranging experience, both locally and through our global networks, handing large-scale AML/CFT programmes and Regtech initiatives for government clients in leading financial hubs around the world, including Hong Kong and Singapore. A few of our recent projects and clients include the following:

Our experience and credentials

Client: Government taxation authority
- Build the intelligence system for detection and investigation for serious tax evasion
- Support investigators in civil and criminal work into serious fraud and wrong doing

Client: Government financial regulator
- Support the introduction of a new digital platform to enable FIs to securely share information on customers or transactions where they cross material risk threshold

Client: Government financial regulator
- Support the regulator on its Regtech adoption journey, including the publication of Regtech white paper and Regtech Adoption Practice Guide Series
- Assist the launching of a Regtech Knowledge Lab

Client: Ministerial government department
- Build on existing analysis to form recommendations for long-term design of the country's sysoicioys activity reports (SARs) regime as part of a set of wider reforms to combat financial crime

Source: KPMG/Quantexa

Contact us

If you would like to further discuss any of the issues covered in this publication or have any questions, please contact KPMG:

Chad Olsen
Head of Forensic Services, Hong Kong
KPMG China
T: +852 3927 5576
E: chad.olsen@kpmg.com

Alva Lee
Head of Governance, Risk and Compliance Services, Hong Kong
KPMG China
T: +852 2143 8764
E: alva.lee@kpmg.com

畢馬威與 Quantexa 合作，利用本地以及全球網絡所累積的深厚而廣泛的經驗，為香港和新加坡等全球領先金融中心的政府客戶處理大規模打擊清洗黑錢／反恐融資計劃及監管科技舉措。我們最近進行的一些項目及服務的客戶包括：

我們的經驗與資歷

客戶：政府稅務機關

- 建立偵測、調查嚴重逃稅與欺詐活動的情報系統
- 支持調查人員對嚴重欺詐與不當行為進行民事或刑事調查

客戶：政府金融監管機構

- 支持引入一個新的數字平台，讓金融機構能夠安全地共享有關超過重大風險門檻的客戶或交易資料

客戶：政府金融監管機構

- 支持監管機構有關採用監管科技的工作，包括發佈監管科技白皮書、監管科技採納實踐指引系列
- 協助啟動監管科技知識實驗室

客戶：部級政府部門

- 在現有分析的基礎上，形成對國家可疑活動報告制度的長期設計建議，作為打擊金融犯罪的一系列更廣泛的改革的一部分

資料來源：畢馬威/Quantexa

聯絡我們

如果您想進一步討論本出版物中涉及的任何問題或有任何疑問，請聯絡畢馬威：

Chad Olsen
香港區法證服務主管
畢馬威中國
電話：+852 3927 5576
電郵：chad.olsen@kpmg.com

李懿玲
香港區治理、風險及合規服務合伙人
畢馬威中國
電話：+852 2143 8764
電郵：alva.lee@kpmg.com

home.kpmg/cn/socialmedia

For a list of KPMG China offices, please scan the QR code or visit our website:
https://home.kpmg.com/cn/en/home/about/offices.html

如需獲取畢馬威中國各辦公室信息，請掃描二維碼或登陸我們的網站：
https://home.kpmg/cn/zh/home/about/offices.html