



Perpetual KYC: A new approach to periodic reviews

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I. Introduction

As regulatory scrutiny continues unabated worldwide, failures in financial crime controls and procedures pose a significant challenge for banks and financial institutions (FIs). Last year alone, FIs across Australia, New Zealand and Asia were fined USD5.8 billion¹ for anti-money laundering (AML) and KYC compliance failures.

Under **Know-Your-Customer (KYC)** regulatory requirements, banks and FIs are expected to periodically review and refresh relevant information they hold on their customers.

This is enforced in every country by the national regulators, such as the Monetary Authority of Singapore (MAS) and United Kingdom's Financial Conduct Authority (FCA). It is also mandated by international bodies, such as the Financial Action Task Force (FATF). However, such periodic reviews are often manual, time-consuming, voluminous, and expensive.

Perpetual Know-Your-Customer (P-KYC) is an approach, powered by technology, that enables automation across all end-to-end periodic KYC review process steps, leaving only a small subset of the more complex cases that require some degree of human intervention.

P-KYC performs ongoing monitoring of a customer's profile by validating previously collected information and continuously identifying and assessing changes (regardless of materiality). Therefore, by applying new and existing technologies to the KYC process, refreshes can be made more frequently with greater efficiency.

In some cases, through the adoption of P-KYC, banks have achieved savings of up to 60%-80%² of the total effort across the entire customer book.

¹ [Fenergo Global Financial Institution Fines 2008-2020](#), US\$ Amount of Fines by Region - APAC

² Based on PwC research



II. P-KYC: Advantages

Although exact regulatory requirements may differ across jurisdictions, the broader expectation is same across the world: banks are mandated to review every customer relationship on a periodic basis. High risk customers are reviewed every year whereas medium and low risk customers are typically reviewed every two to three and three to five years respectively.

Over the years, failure to perform periodic reviews on customers has resulted in monetary fines and reputational backlash. For example, a European bank was fined USD52 million for the failure to perform periodic due diligence on over 1000 customer profiles³. Another European bank was fined USD150 million for failing to perform the necessary due diligence to mitigate the risks of their customer who is a high-profile sex offender³.

These are often resulted from backlogs and capacity challenges banks faced when trying to refresh KYC profiles for entire books of customers. P-KYC automates the end-to-end periodic review process, whether triggered by an event (e.g. significant adverse media on a customer; results of transaction monitoring) or in compliance with mandated minimum timelines (e.g. every year for high risk customers).

In principle, systems can automatically conclude a KYC periodic review case, especially if no or only minimal changes have taken place in comparison to the previously compiled KYC profile for that customer.

A simple retail customer (domestic only), whose documents are still valid and who has no new hits compared to previous screening hits, may be approved automatically with no need for human review or intervention. The review results plus the rationale for the decision are then saved by the system.

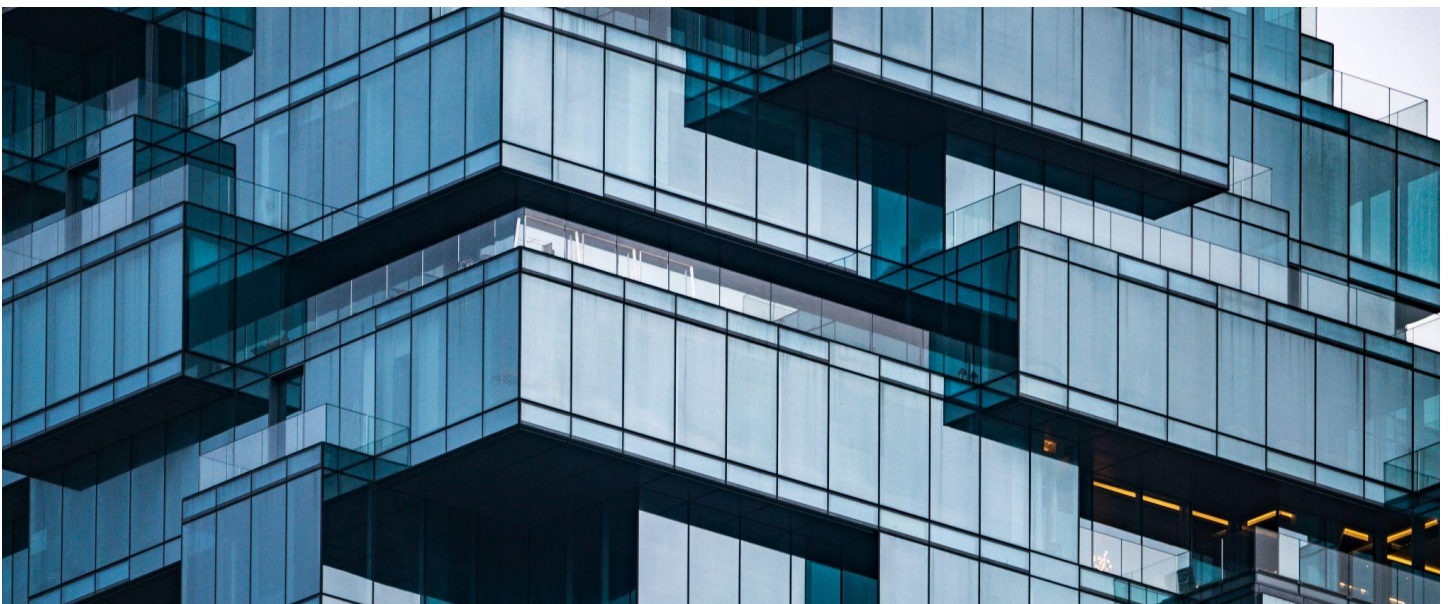
Human intervention becomes necessary only when certain changes take place e.g. change in beneficial owners. The criteria for human intervention will differ by customer type (e.g. retail vs corporate), by customer risk and by a bank's risk appetite.

This would result in only a small subset of periodic reviews requiring human intervention and most of the intervention would be focused on review and decision-making compared to compiling a refreshed case file.

This allows a bank to reduce the existing effort substantially but also creates capacity to move towards conducting additional trigger-based reviews (in addition to the minimum mandated periodic reviews), thus allowing to reduce risk (e.g. by identifying early on that customers have been in the news adversely), using the same monitoring and comparison functionalities.

Furthermore, for some customer segments (e.g. low risk customers) that may already get reviewed only every five to ten years, moving towards pure trigger-based reviews may be seen as an improvement to the current standard by regulators and be permitted to replace periodic reviews for those segments.

³ Based on PwC market research





Reduced operating cost, elimination of lengthy, time-consuming and manual tasks

Typically, KYC costs now constitute approximately 3%⁴ of a bank's total operational cost base, which is a significant cost item. While the effort imposed on banks for KYC compliance requirements differs by country, risk level and customer type, it has overall grown by a factor of 14 times⁴ over the last decade.

In our experience, the time taken to complete KYC and the associated costs depends on the complexity of the customer structure, its associated risks and the type of account (corporate vs retail) (Exhibit 1 and 2):

- Corporate customer: 62hrs for complex structure versus 18.5hrs for simple structure
- Retail customer: 1.75hrs for complex structure versus 1.2hrs for simple structure.

Based on PwC experience and research,

- KYC cost⁵ associated with a typical corporate customer is approximately USD311 (Exhibit 1) while the cost of a typical retail customer is approximately USD12 (Exhibit 2).
- Medium-sized banks are spending approximately USD24 million and USD22 million annually on KYC of corporate and retail customers respectively⁶.
- Potential savings for a medium-sized bank is to the tune of 60-80%, which is about USD14.4 million annually for a book of corporate customers and USD13.2 million for retail customers⁷.



Improved accuracy and quality

Automation of tasks reduces the degree of human error often associated with mundane, repetitive and boring tasks carried out in large volumes. With machine learning capturing relevant information within customer documents and storing collected information into the system, there will be less dependence on human effort to search through documents for information, often improving both the quality of document reviews as well as the breadth of documents reviewed as part of searches. Not only will this minimise mundane tasks, it will also ensure that information captured is accurate and relevant to the regulatory requirements.

P-KYC offers straight-through-processing when there is no incremental risks since last review and/or material change identified within the customer profile. This means that the technology is able to push through cases up to the approval stage without having an analyst reviewing them.

With straight-through-processing, these files can be excluded from the analysts' queue and reduce the number of files per processor. Not only does it reduce the workload of the analysts, it will also allow them to have more time spent on risk assessment rather than sourcing for information.

⁴ Based on PwC research

⁵ Considering that most banks use a mix of onshore and offshore resources, the rate is based on a split of two-thirds offshore resources and one-third onshore resources. With increased adoption of remote working, it is expected that banks will continue to engage/expand their offshore resources in the future.

⁶ Five medium-sized banks, with an average of 8,600,000 private customers and 370,000 corporate customers offering retail and corporate financial services, have been sampled to illustrate the annual total cost and time spent on KYC reviews.

⁷ 60% of operating costs of corporate customers (USD24 million) and retail customers (USD22 million).

Exhibit 1: KYC cost for typical corporate customer

Time taken per corporate customer (hours)

18.5 | **40.3** | **62**
Simple | Typical | Complex

	Simple	Typical	Complex
Document validity and collection	0.5	1.8	3
Publicly available information	4	5.5	7
Screening	4	10	16
Complete requirements	4	10.5	17
Four-eye review	6	12	18
Approval	0	0.5	1
Total	18.5	40.3	62

Source: PwC Research

Simple structure: Customers with straightforward ownership drill down and absence of high risk factors. E.g. A locally incorporated company engaging in a non-high risk business having two layers of shareholdings.

Complex structure: Customers with multiple layers of ownership drilldown with presence of high-risk factors. E.g. A group of oil companies with a number of subsidiaries across the world whose ownership structure has multiple layers of shareholders which eventually leads to a high-risk state body.

Exhibit 2: KYC cost for typical retail customer

Time taken per retail customer (mins)

70 | **87.5** | **105**
Simple | Typical | Complex

	Simple	Typical	Complex
Document validity and collection	10	12.5	15
Screening	20	22.5	25
Complete requirements	15	17.5	20
Four-eye review	25	27.5	30
Approval	0	7.5	15
Total	70	87.5	105

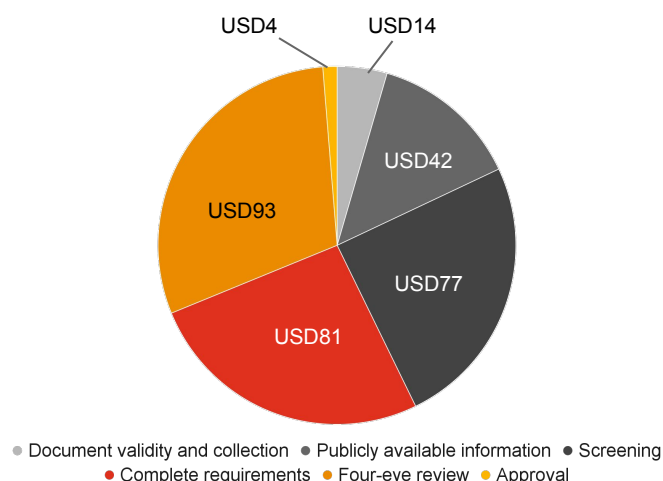
Source: PwC Research

Simple structure: Customers domiciled locally with basic retail accounts.

Complex structure: Customers domiciled in a high-risk country with frequent cross-border transaction activities.

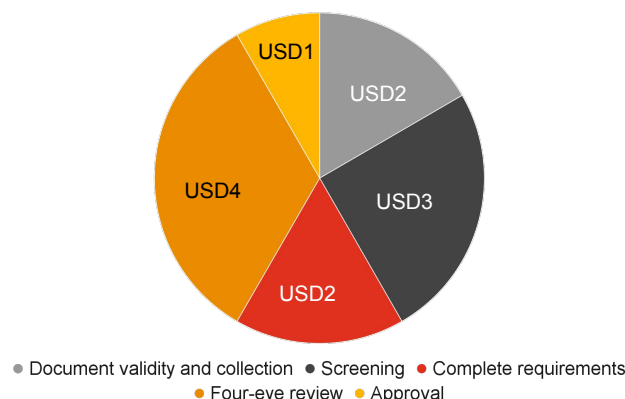
Total cost per typical corporate customer (USD)

USD311



Total cost per typical retail customer (USD)

USD12



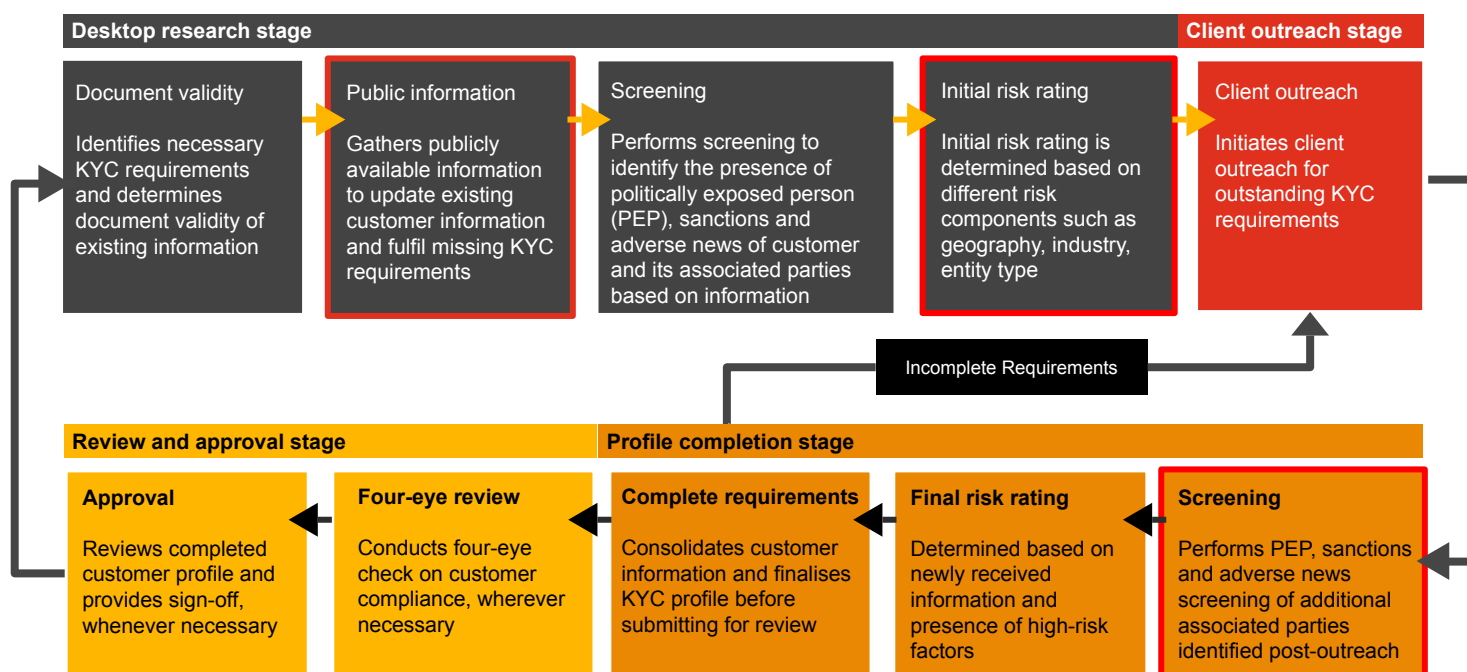
III. P-KYC: How it works

Lexis Nexis Future of Financial Crime Research in 2020 reveals that two thirds of AML compliance budget is spent on people-related costs and only one third is spent on technology⁸. This cost breakdown is no longer practical and sensible as FIs should be looking at leveraging AI and machine learning technologies to improve their processes and efficiencies.

Technology as the core enabler for P-KYC will drive the automation and integration of data across the entire KYC review process, radically changing the way KYC is conducted.

The typical manual process of KYC review for corporate and retail customers are seen in Exhibit 3.

Exhibit 3: Typical manual KYC process of a corporate/retail customer



Note: red outline indicates the steps unique to corporate customer

With P-KYC, KYC triggers can be monitored through population management whilst each step of the process can be automated and assisted by a wide variety of technology solutions, essentially reducing all the manual work that is currently being performed by analysts (Exhibit 5).

Population Management

Population management is the tracking and management of the relevant KYC profiles and ensuring they get triggered in time and sufficient capacity is available to process them. Workflow solution can be the platform for this e.g. a workflow will automatically trigger a KYC review depending on the trigger cause.

Trigger cause 1

KYC profile is due for refresh (2/3/5 years review cycle depending on customer's risk rating)

Trigger cause 2

Ad-hoc triggers (e.g. alert from Transaction Monitoring (TM) system or manual triggers caused by name screening alerts)

Trigger cause 3

Proactively scan for material change before KYC profile is due for refresh.

At its core, a KYC workflow rule engine connects all process steps and complementary satellite solutions, risk scores customers and is used to make decisions and decide on the appropriate next step based on agreed workflows. In addition, these workflow solutions also offer FIs with better data management i.e. reuse and storage of customer information within a controlled and systematic environment.

Exhibit 4: Applied technology across the KYC processes

	Process	Technological improvement (example approaches)	Vendors (some examples)
Desktop research	Document validity	<ul style="list-style-type: none"> • Optical Character Recognition (OCR) converts information into machine-encoded /digitised text e.g. passport copies into digital text. • Machine Learning (ML) algorithms can classify digitised information into categories (e.g. "expiry date") and a simple rule check is run to determine whether the passport or document has expired or is about to expire. 	<ul style="list-style-type: none"> • DMS Screening Wizard (PwC) [Electronic/mechanical conversion] • Fenergo [Overarching connecting workflow]
	Public Information	<ul style="list-style-type: none"> • Application Programming Interface (API) provide single connection point to external data source such as local registries (e.g. ACRA, ASIC) and third-party data providers (e.g. Bureau van Dijk, Dun & Bradstreet) which can feed data directly into pre-built forms. Even more efficiently, data aggregators are able to combine multiple sources into one API, combined with rule engine that can direct queries to the right source based on a client's policy, customers' risk profile etc. Other approaches also exist by leveraging on robotic process automation (RPA) and machine learning. 	<ul style="list-style-type: none"> • Encompass [Data aggregation] • Fenergo [Overarching connecting workflow]
	Screening (Sanctions/ PEP/Adverse Media)	<ul style="list-style-type: none"> • API: a direct connection to screening engine tool (e.g. World-Check, LexisNexis) ensures ongoing, prompt and regular name screening • RPA: transfers existing data in the system into the relevant screening tools, where API is unavailable. • ML: disposes false positives e.g. using multiple data points such as location, age or other identifiers to score a hit and discount those unlikely to be a genuine hit. For more, please see the next screening step under profile completion. 	<ul style="list-style-type: none"> • Screening Bot (PwC)/ WorkFusion [Direct connection to screening tools] • smartKYC/DMS Anti-Crime Expert (PwC) [Auto-dispositioning] • Fenergo [Overarching connecting Workflow]
	Initial risk rating	<ul style="list-style-type: none"> • Automated risk engine: rates customers risks automatically based on information stored in the system. Dedicated risk engines can handle very granular changes to risk components and trigger the necessary KYC requirements and/or appropriate type of review that is relevant to the change. (e.g. differentiate between different levels of change in Ultimate Beneficial Owners). 	<ul style="list-style-type: none"> • Fenergo [Risk engine, Overarching connecting workflow]
Client Outreach	Client outreach	<ul style="list-style-type: none"> • Integrated email portal: allows analysts to send and receive email within the workflow system, and outreach to clients. • Customer portal: allows customer to submit KYC information/ documents. In-built quality checks (e.g. all fields completed, documents submitted) with customisable video tutorials (e.g. showing how to take document scans / pictures, which document types are admissible and why these are required) in customer portals ensure all information is correctly submitted. • OCR and ML: digitise the documents and classify information which is then directly populated into the KYC workflow. 	<ul style="list-style-type: none"> • GuideMe/WalkMe [Guided tutorials] • Sinpex [Data digitisation and classification] • Fenergo [Overarching connecting workflow]
Profile completion	Screening (Sanctions/ PEP/ Adverse Media)	<p>Same capabilities can be leveraged as shown in screening, as well as the ones below:</p> <ul style="list-style-type: none"> • Screening engine tools are able to leverage on stored customer information to disposition previous false positives (e.g different date of birth/ nationality) and use natural language processing to identify whether adverse media hits are relevant. Match score threshold disposes alerts that fall below threshold allowing analyst to review only relevant alerts. • Screening input optimisation refers to solutions that continuously transform input data to reduce number of false positives. 	<ul style="list-style-type: none"> • WorkFusion [News filtering/ cleansing] • WorkFusion/ Screening Bot (PwC) [Match scoring] • Fenergo [Overarching connecting workflow] • Finscan [Screening optimisation]
	Final risk rating	<ul style="list-style-type: none"> • Automated re-calibration re-assesses the customer profile for changes in risk components, populates the final risk rating of the customer and triggers additional requirements based on increase in risk rating- 	<ul style="list-style-type: none"> • Fenergo [Risk engine, Overarching connecting workflow]
	Complete requirement	<ul style="list-style-type: none"> • Digital KYC customer profile stores and creates a KYC profile for each customer, which is able to identify and update customer information throughout the customer's lifecycle. 	<ul style="list-style-type: none"> • Encompass [Customer profile maintenance] • Fenergo [Overarching connecting workflow]
Review / Approval	Four-eye review	<ul style="list-style-type: none"> • Workflow: creates and queues a task for quality control review. • Quality Control: For straight-through processing, task will be automatically resolved in the absence of material changes. For those subject to human intervention, ML can be used to direct sampling towards cases that are more likely to contain error, thus reducing the need for larger sample size. 	<ul style="list-style-type: none"> • Fenergo [Overarching connecting workflow] • Predictive QC [Selective QC based on risk appetite]
	Approval	<ul style="list-style-type: none"> • Workflow: creates and queues a task for management approval. Short summary of customer profile is presented to give an overview of the recent KYC profile, 	<ul style="list-style-type: none"> • Fenergo [Overarching connecting workflow]

IV. Bringing P-KYC to life with PwC

P-KYC requires different technology solutions to be brought together in order to unlock the full potential of P-KYC. At PwC we have invested significant time and effort understand the vendor market in depth and understand which of these solutions have the relevant capabilities and can be seamlessly assembled into an integrated solution (e.g. as pre-built connectors already exist). The right choice of vendor(s) can make a difference to achieving a seamless P-KYC.

The following section showcases the relevant capabilities by one of the industry leading providers, Encompass, to support the delivery of P-KYC. Whilst Encompass provides variety of capabilities, this paper focuses only on those that are most relevant to P-KYC.



Automating customer data collection with Encompass

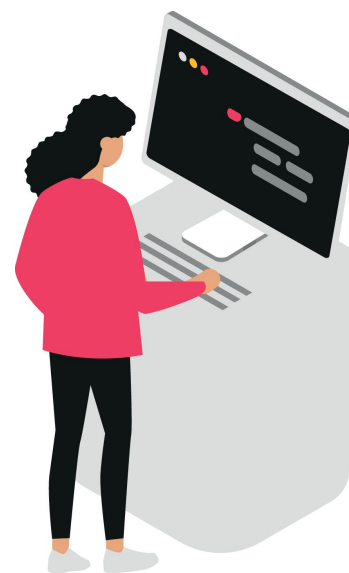
Encompass enables FIs to automate their customer review process both at onboarding and throughout the customer lifecycle. Customer due diligence can be done more efficiently and at reduced cost through capabilities such as data aggregation and data management. We highlight key capabilities of Encompass and their application in the typical KYC framework below:

1. Data aggregation

Time taken to gather information from public and premium data sources trusted by regulators, to identify Ultimate Beneficial Owners (UBOs) and perform screening, to identify whether these UBOs are politically-exposed people, or appear on sanctions lists or are subjects of adverse media, can be reduced with a single connection to Encompass. Completing mundane and repetitive tasks manually inevitably creates errors. By reducing manual input, accuracy and quality of KYC can be improved.



How it's done: Pre-built integrations with over 150 primary and premium data products covering over 200 jurisdictions. Including corporate registries, ultimate beneficial ownership registries, regulators and stock exchange listings, company data, PEP, sanctions and adverse media screening, and company identifiers.



2. Digital KYC profile

Encompass produces a digital KYC profile of each customer, complete with source documents and data attribute lineage. This informs risk scoring and provides the data baseline for comparison in all future due diligence, from periodic refresh to responding to alert notifications. Data-driven banks include the digital KYC profile within their data governance and promote it to a contract lifecycle management platform (such as Fenergo), enriched with data sourced from internal systems and used by AI models. It drives omni-channel engagement so banks speak directly to their customers in near real-time.



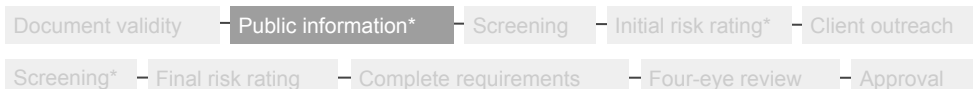
* indicates processes that are unique to corporate customers



3. UBO identification

Investigating the ownership structure of customers requires gathering information from multiple sources. Encompass automatically retrieves information from multiple different sources based on configurable rules covering different customer types, jurisdictions and risk levels. There is also a rule engine that will collect the data based on requests given. For example, when the customer is a UK company the data will be extracted from Companies House.

It aggregates to a KYC profile, build UBO profile, monitor for changes. Where the initial search reveals that a company is owned by another company in another jurisdiction, working via a bank's subscriptions to premium information sources, Encompass will automatically retrieve information about the parent or the parent's parent to unwrap multi-layered ownership structures, to identify ultimate beneficial owners and to validate these facts against primary information sources such as company registries.



How it's done: Automatically searches external data sources as per bank policy, returns information and source documents, undertakes entity resolution and analysis, undertakes follow-on searches of additional sources to minimise client outreach, establishes ownership and control structures including UBOs, visualises these structures as a diagram showing entities of interest and how they relate.



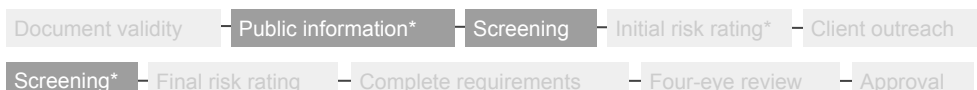
4. Data management

Based on periods defined by a bank's KYC policy, Encompass automates refreshes of a customer's Digital KYC Profile and documents all changes to information previously retrieved from external sources.



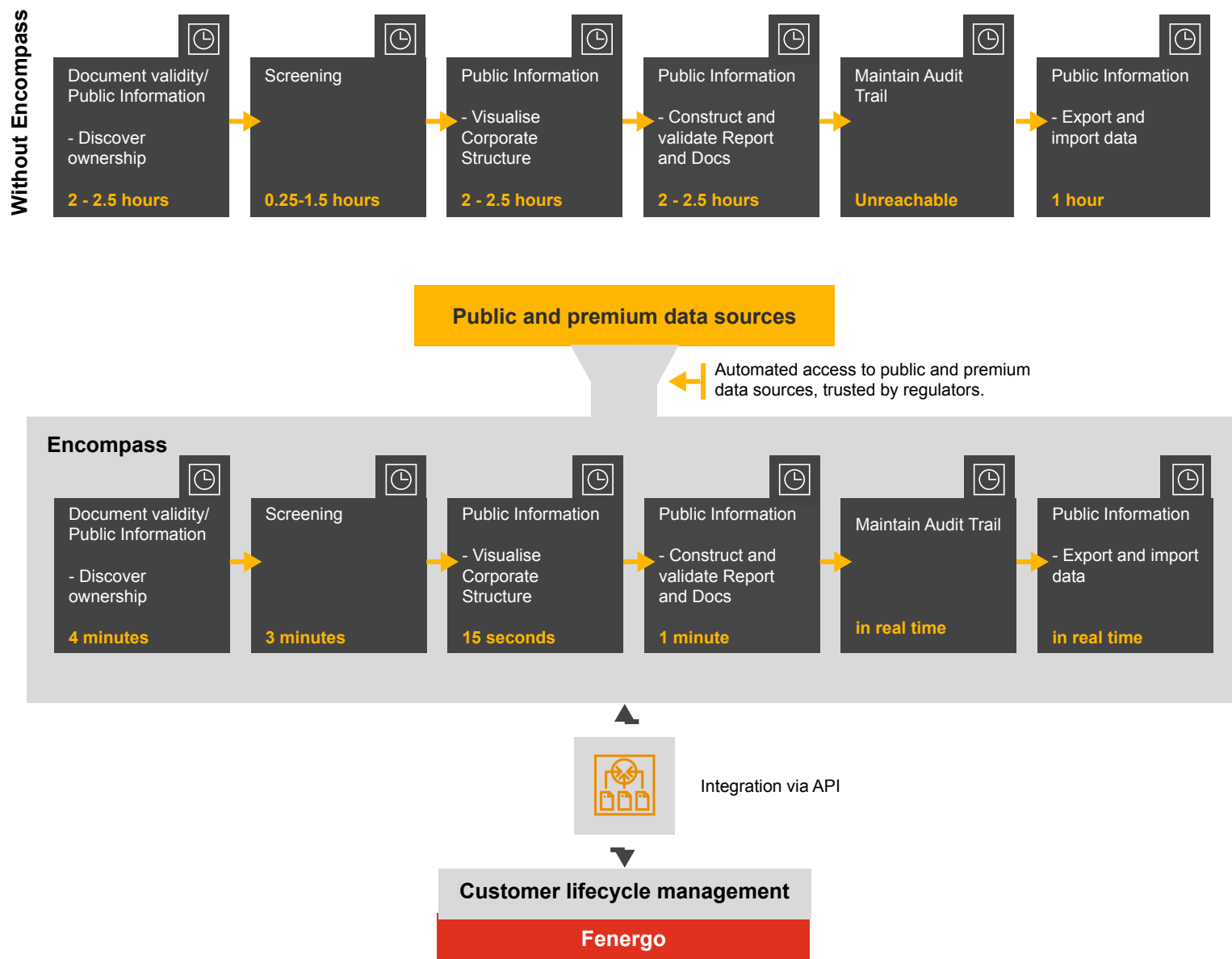
5. Audit Trail

Building and maintaining an audit trail with a manual approach to conducting KYC due diligence is so difficult that the challenge is commonly left unresolved, leaving banks vulnerable to regulatory intervention. Encompass automatically creates and maintains a dynamic audit trail to fulfil requirements of operations' managers, and internal and external auditors.



Understandably, banks see straight-through processing as the most cost-effective means of operating KYC. With automation from Encompass, a high volume of due diligence work typically completes with little or no analyst' participation. However, KYC can be complex work and inevitably some situations demand interaction with an analyst. Examples include assessing and accepting a determination of beneficial ownership made by Encompass, and determining whether an entity discovered in screening work matches the entity of interest in KYC.

Exhibit 5: Comparison of time taken to complete specific stages with and without Encompass



V. Key considerations to successfully achieve P-KYC

P-KYC enables the industry to address some of its long-standing KYC challenges, especially with the cost savings and quality improvements that can be potentially realised.

However, there are four practical challenges that banks face when trying to adopt P-KYC. Highlighted below are the key considerations to minimise these challenges.



1

Lack of a single end-to-end solution

There is currently no single vendor that provides all the required capabilities based on our industry observations. With around 1000 regtech vendors⁹ in the market, banks find it difficult to decide which vendors to opt for. In order to avoid lengthy market scans and selection processes, it is **important to have a trusted advisor with a deep understanding of the required KYC technology solutions** available in the market.

2

Lack of project management/coordination

As P-KYC requires a combination of different technology solutions, **strong central management and solution expertise is crucial** for a smooth and effective implementation of multiple solutions. A lead party having strong collaborative partnership with members of the consortium, consisting of bank stakeholders and multiple vendors, ensures effective and open communication that is necessary to achieve the desired outcome and management of dependencies between systems.

3

Policy changes and accounting new risks approaches

Policy changes and new risk approaches may also be required. As technology is used to discount screening hits and identify material changes that mandate trigger-based review, **banks need to review their policies and reassess their risk appetite** to ensure all potential lapses are addressed, which requires in depth KYC domain expertise.

4

Transiting from existing protocols

By adopting P-KYC, changes in existing protocols would be inevitable. **A strong and structured change management program is critical** in successfully introducing and educating employees to P-KYC and ensuring what role they have to play going forward. As employees become more familiar with its features and functionalities, they would be able to transit from the laborious KYC processes to the new system, focused on higher risk factors.

⁹ Road, F., Avramovic, P., Cross, S., 2020, [RegTech - a watershed moment?](#).

VI. Conclusion

In summary, for smooth implementation of P-KYC, it is critical for banks to engage a lead party with:

- Deep understanding of the KYC technology to avoid lengthy integrations between solutions and an endless series of vendor selections.
- Strong programme management skills to establish a common vision and effective communication and transparency between all members.
- Solid expertise in KYC to ensure the new process is compliant to regulatory requirements.
- Effective change management skills to ensure proper flow of information and ability to assess the benefits realisation.

P-KYC requires different technology solutions to be brought together in order to unlock the full potential of P-KYC. Having invested significant time and effort to conduct in-depth market and vendor analysis, we have summarised the solutions and relevant capabilities that can be seamlessly assembled into an integrated solution. Make a difference with PwC today.



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