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THE RECONCILIATION MATURITY MODEL

Your roadmap to reconciliation excellence

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INTRODUCTION: CHARTING A PATH TO RECONCILIATION EXCELLENCE

Reconciliation is a vital control function that protects the firm from the consequences of bad data. It's there to give you confidence in your data, ensuring its accuracy, removing operational risk, protecting the firm and enabling transparent reporting.

But there's a gulf between what recon should be and what it really is. A gulf created by outdated technology and ways of working that rely on people power.

The practices followed today have been shaped by systems that haven't changed much in decades.

But technology has moved on and firms now have the opportunity to rethink not just reconciliation, but their entire operating model. Doing so can deliver enormous benefits, from slashing cost, risk and manual effort, to increasing agility and building the workforce of the future.

The Reconciliation Maturity Model is your best practice guide to harnessing new technology and thinking to move your firm toward reconciliation excellence. It explores the traditional bumps and blockers on the road – and how new technologies and best practices can help you overcome them.

Read on to benchmark your firm and discover your next steps.

WHY IS RECONCILIATION SO HARD?

The digital transformation of financial institutions has been extensive in recent years. But fully automating reconciliation is proving a tough nut to crack.

Most firms have core automation platforms, usually each focussing on a particular asset class, that automate the majority of the trade lifecycle and other key business processes.

These point solutions create "automation gaps" which firms often fill with workers performing manual tasks, such as data entry or reconciling on a spreadsheet.

Over time this creates a spaghetti IT ecosystem of platforms and manual processes, the "last mile" of which has so far proven impossible to automate.

But why is this still the case? To understand this, we need to explore the five core challenges of financial data.

These are problematic because most firms use at least one legacy reconciliation solution, if not several. These are systems that are on-premise, highly technical, upgraded every 6 or 12 months and require heavy IT support to maintain and operate. They are legacy tools because technology has moved on since they were the leaders in the space; they now create more problems than they solve. We know of firms running versions of this technology that haven't been updated for a decade!

Every business is different, from their technology stack to their processes to their data. But what all financial firms have in common is that their automation efforts are stymied by the five core challenges of variety, change, scale, lifecycle and control.

Let's take a look at each of these in more detail.

VARIETY

Financial firms have to deal with an enormous amount of formats when it comes to data. Some of these are highly standardised, like SWIFT messages, but many aren't. Counterparties can all have different ways of sharing and presenting data, from rich-text files to Excel spreadsheets. And we haven't even touched upon the fact that 80% of enterprise data is unstructured; e.g. it lives in PDFs, emails, faxes, images and so on.

CHANGE

We think it's best to assume you'll be dealing with change on a daily basis.

There are many different things that can change, from business-level changes such as new systems, new counterparties, new funds or products, to market changes such as corporate actions, volatility and – of course – regulatory updates.
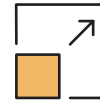
SCALE

The typical processes and technology in Finance and Operations aren't flexible enough to scale fast. Think about the change to T+1 in North America in 2024: firms couldn't simply double the number of workers to deal with trade settlement in half the time. For some firms that would've meant hiring thousands more people!

LIFECYCLE

Data changes and evolves as it travels through your organisation. But a lot of these changes happen across multiple systems or in "shadow IT" such as spreadsheets. There can be multiple copies of the same data in circulation in your firm, as each team takes and transforms it for their own purposes. It's therefore difficult, if not impossible, to tell exactly where your data has been and what's happened to it.

CONTROL

The traditional change management process in firms is designed to enforce control. Hardcoded on-premise systems require trained developers to build or alter processes. Operations must document their requests and wait for IT to action them. However, this process can be slow and often forces teams to resort to manual processes instead. This creates risk and undermines governance – the very things the change management policy was trying to avoid!

CONQUERING LONG STANDING RECON CHALLENGES

Technology advances are enabling firms to not only overcome these challenges, but to rethink their reconciliation function entirely. Doing so unlocks the path to a better operating model, where cost, risk and effort are reduced, agility and transparency are increased, and Operations teams spend their days on meaningful, value-adding tasks. This is what this Maturity Model explores, including your blueprint to making the change yourself.

But first, we have to understand why one technology in particular stands out in the quest for reconciliation excellence.
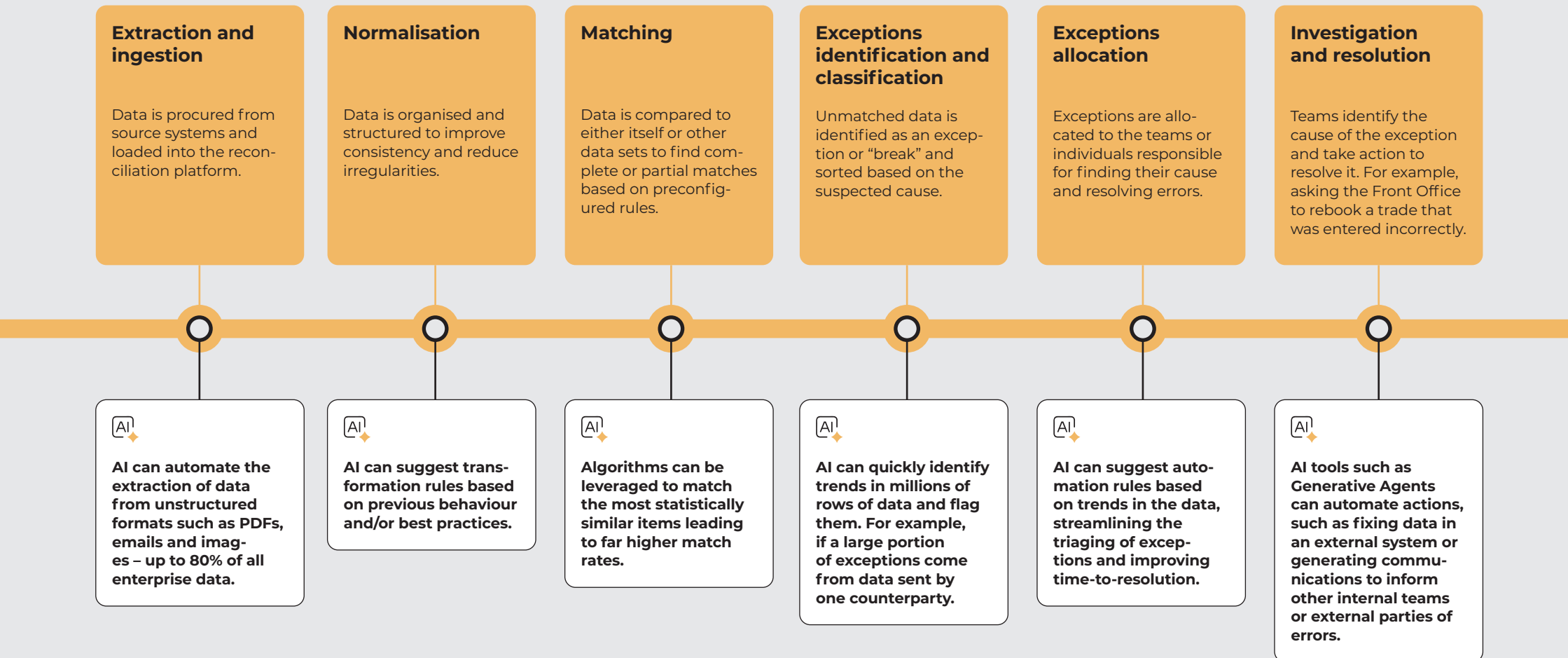
PAVING THE WAY WITH AI

It is simply not possible to achieve total reconciliation automation without AI. This is because the variety of data challenges firms face cannot be solutioned for on a one-by-one basis. This is evidenced by the sheer number of people in Capital Markets firms performing manual tasks to compensate for "automation gaps" in their tech stack.

Some of these manual tasks can be removed through other technologies, such as no-code systems that allow business-users to build the controls they need rapidly. This avoids the need to go through the bottlenecks around change, or to create manual workarounds for speed.

Many manual tasks can only be automated by harnessing artificial intelligence.

They require an intelligent system that can analyse data, learn from past actions, make decisions and take action independently, with humans providing oversight.

Here is a diagram of a typical reconciliation data flow, and where AI can help:

Extraction and ingestion

Data is procured from source systems and loaded into the reconciliation platform.

Normalisation

Data is organised and structured to improve consistency and reduce irregularities.

Matching

Data is compared to either itself or other data sets to find complete or partial matches based on preconfigured rules.

Exceptions identification and classification

Unmatched data is identified as an exception or "break" and sorted based on the suspected cause.

Exceptions allocation

Exceptions are allocated to the teams or individuals responsible for finding their cause and resolving errors.

Investigation and resolution

Teams identify the cause of the exception and take action to resolve it. For example, asking the Front Office to rebook a trade that was entered incorrectly.

AI can automate the extraction of data from unstructured formats such as PDFs, emails and images – up to 80% of all enterprise data.

AI can suggest transformation rules based on previous behaviour and/or best practices.

Algorithms can be leveraged to match the most statistically similar items leading to far higher match rates.

AI can quickly identify trends in millions of rows of data and flag them. For example, if a large portion of exceptions come from data sent by one counterparty.

AI can suggest automation rules based on trends in the data, streamlining the triaging of exceptions and improving time-to-resolution.

AI tools such as Generative Agents can automate actions, such as fixing data in an external system or generating communications to inform other internal teams or external parties of errors.

RETHINKING RECONCILIATION: FROM REACTIVE TO PROACTIVE CONTROLS

The limitations of traditional reconciliation systems have now been surpassed. Cloud systems enable firms to innovate faster and share best practices globally; no-code functionality removes the need to wait months for new controls; artificial intelligence opens up new automation potential, from ingesting unstructured data to eliminating manual exceptions handling.

This, in turn, is enabling firms to build a new kind of operating model: a data-centric one. These acknowledge that clean, accurate data is foundational to agile and efficient business.

Instead of accepting bad data as a fact of life, data-centric operating models are built around proactive controls. This ensures high quality data, which is vital to enable your mission-critical processes.

Reconciliation goes from being the last line of defence to the first line, identifying and fixing bad data before it causes problems.

This is a very different way of thinking about reconciliation. The traditional view is a perspective that has been shaped by the limits of what's been technologically possible over the past decades. It views bad data as inevitable and that the only thing to do is find and clean up the mess.

A data-centric approach to reconciliation is far more efficient, cost-effective, transparent and scalable. Over the next few pages we'll explore how to transform the way you reconcile and reach full recon maturity.

THE FIVE STAGES OF MATURITY

The key to evolving your reconciliation function is to understand your current state and the steps needed to move forward.

There are five stages to reconciliation excellence; most firms are currently somewhere in Stage 2. That means there's plenty of room for improvement, in terms of the technology being used, the processes around it and the operating model they both power.

The firms who start moving towards the latter stages of reconciliation excellence now will be in prime position to capitalise on the final innovations needed to unlock Stage 5. These technological innovations are inevitable and not far off, so the steps you take today build the foundations for your success tomorrow.

The diagram below outlines the five steps of reconciliation maturity. The key is to recognise where your organisation lies within the model, and what steps you need to take to move towards the latter stages of maturity.

STAGE 1	STAGE 2	STAGE 3	STAGE 4	STAGE 5
MANUAL CHAOS	**HYBRID CAPABILITIES**	**CENTRALISED EXCELLENCE**	**FULLY FEDERATED**	**CONTINUOUS IMPROVEMENT**
Shadow IT	**IT-governed applications**	**Operating model design**	**Advanced analytics**	**AI adoption across the org**
All recs carried out manually, using spreadsheets, or end-user developed applications (EUDAs). There is little governance, a high risk of error and lack of auditability.	Point solutions automate parts of the controls on specific use cases. These systems have low levels of integration with the rest of the IT ecosystem; "Human APIs" usually fill the gaps with manual work.	All reconciliations consolidated onto one or more automated systems. Significant efficiency improvements and risk reduction. A Centre of Excellence is established to implement reconciliation best practices and reconciliation models.	Operations own all aspects of reconciliation. All processes are automated onto a single cloud-based platform. On-premise systems are decommissioned. This significantly reduces the Total Cost of Ownership (TCO), and provides clear oversight and actionable intelligence on data quality. The Centre of Excellence supports operations with training and implements process best practices for the business.	Reconciliation is now a proactive control. AI operates real-time processes with self-learning, self-adapting rules. A data-centric operating model protects the business from bad data. Much higher scalability and efficiency across Operations.

STAGE 1
MANUAL CHAOS

Firms at Stage 1 have to do everything manually. This is usually because they are too small to justify a dedicated reconciliation system. As they scale, they start to look for a faster, more efficient way of processing their data.

Reconciling "manually" usually means copying and pasting data into Excel or some other form of spreadsheet, macro, or home-grown application. We've even come across instances of firms using highlighter pens to mark inconsistencies on print outs!

Manual processes are quick to set up because there are no development projects to worry about, and initially they're very cheap. But the cost, complexity and risk of error quickly skyrockets as the organisation grows.

These processes also keep you in the dark. There's no governance or audit trail with a spreadsheet and they introduce key-person dependencies. If the person who created the spreadsheet is off sick, on holiday, or has left the company, the knowledge of that spreadsheet goes with them.

In short, if you need a quick solution to reconciling small volumes of data, a spreadsheet is an acceptable stop-gap. But as a firm grows, using purely manual reconciliation becomes unsustainable.

ADVANCING TO STAGE 2
HYBRID CAPABILITIES

Process mapping
Document existing reconciliation workflows, highlighting inefficiencies and pain points.

Tool selection
Identify and implement reconciliation software capable of handling common transaction types.

Organisational alignment
from CEO/COO level to support the investment and redesign existing controls.

KEY PERFORMANCE INDICATORS

$78,000
Average cost per year to run an Operations control

$9,000
Average cost per year to build and maintain a new control

10 days
Average additional work to remediate a Risk Event

$7,000
Average audit cost per control

STAGE 2
HYBRID CAPABILITIES

Stage 2 firms have introduced automation to handle their simple, high volume reconciliations. The use of one or more point solutions has reduced manual work and improved governance and efficiency. But manual work remains to plug the "automation gaps" between systems.

There comes a point where bringing in an automated reconciliation system becomes a necessity. Operations teams can no longer handle the volume or complexity of data they have to process through manual work alone.

Hybrid operations tend to use point solutions which – by their very nature – specialise in a certain type of reconciliation, such as cash or custody recs. Firms trading a wide range of assets, or those dealing with complex data, may need to use multiple point solutions to handle different reconciliation types.

It's not possible, though, to get a point solution in place for every use case. Manual work is still required to plug the gaps – and there could be a lot of gaps. The result is a costly, inefficient and opaque web of different recon

approaches stitched together by manual work, spreadsheets and EUDAs.

MANUAL WORK AT A LEADING BANK IN NUMBERS

9,000
people across Ops
(50% offshored)

65,000
manual
processes

$500m
direct cost
base

Larger organisations using this model will often need to employ small armies – thousands, or even tens of thousands – of "Human APIs" to plug those automation gaps. Clearly, the next step towards reconciliation excellence is to remove the need for inefficient and costly manual work.

$50,000
Average cost per year to run an Operations control

$7,000
Average cost per year to build and maintain a new control

6 days
Average additional work to remediate a Risk Event

$5,000
Average audit cost per control

ADVANCING TO STAGE 3
CENTRALISED EXCELLENCE

Eliminate manual work
Integrate a flexible cloud platform around your existing point solutions to automate all manual reconciliation tasks.

Standard Operating Procedures (SOPs)
Create a Centre of Excellence to develop and enforce standardised policies and workflows organisation-wide.

Enhanced automation
Expand rule-based automation to handle more complex reconciliation scenarios.

Governance framework
Implement oversight mechanisms to ensure compliance with internal and external regulations

STAGE 3
CENTRALISED EXCELLENCE

You've now removed all the manual work around data and created a Centre of Excellence for recon! This is a huge achievement that greatly reduces cost and risk while increasing agility and transparency. Those point solutions are still in place, but they're supported by an agile platform that can handle all the complex data they can't.

Centralising excellence relies on new technology and ways of working to remove manual work. After all, you can't automate spreadsheets onto the very systems they were designed as workarounds for!

Instead, you have to think off-premise. That means a cloud-based, Software-as-a-Service (SaaS) platform that easily integrates with your existing technology stack without hefty maintenance and upgrade costs. It leverages artificial intelligence (AI) to ingest and reconcile all kinds of different data formats, giving it the agility on-premise solutions lack.

But it's more than just adding in another platform. This is where you start to rethink your operating model, too. A no-code platform enables business users in a Centre of Excellence to take responsibility for building and maintaining all reconciliation models and supporting the business. IT's responsibility is at platform level, ensuring it is connected to the necessary data sources and the required governance measures are built in.

After your success in removing all the manual work, it's time to sort out the other big source of inefficiency and inagility: those on-premise point solutions.

ADVANCING TO STAGE 4
FULLY FEDERATED

Centralise processes
Onboard all reconciliation processes onto the agile cloud platform and decommission legacy on-premise systems.

Data integration
Integrate reconciliation systems with upstream and downstream processes, such as trade capture and ledger respectively, for end-to-end visibility.

Performance metrics
Define and track KPIs such as match rates, resolution times, and exception volumes.

Advanced analytics
Introduce predictive analytics to identify trends and anticipate issues.

$25,000
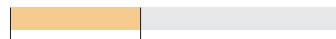Average cost per year to run an Operations control

$5,000
Average cost per year to build and maintain a new control

4 days
Average additional work to remediate a Risk Event

$4,000
Average audit cost per control

STAGE 4
FULLY FEDERATED

Welcome to Stage 4, where Operations has full ownership of recon-
ciliations and all processes are consolidated onto one single platform.
All the on-premise systems have been decommissioned. This trans-
formation gives you much greater agility, unlocks $m in cost savings
each year and creates transparency across your operations.

Firms at Stage 4 have completely overhauled their operat-
ing model, giving Operations full control of reconciliation
and freeing IT from the need to operate technology or
maintain on-premise systems. This gives Operations the
speed to rapidly respond to the business needs, and ena-
bles IT to focus on top priorities like cybersecurity.

All reconciliations are onboarded onto the agile, intelligent
system introduced in Stage 3, which is fully integrated with
your IT ecosystem. This enables you to greatly streamline
and simplify your processes, increasing transparency and
time-to-value.

You now have such clear insight into your data that your
Operations teams can track performance and efficiency
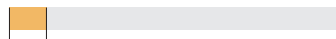against benchmarks, spotting trends in data quality that

need attention. The Operations team is supported by
a centralised Centre of Excellence that overseas training
and implements best practice models for the business.

As well as reducing total cost of ownership (TCO), your SaaS
platform increases your ability to harness the latest innova-
tions. These are delivered regularly and seamlessly, ensur-
ing you're always running the latest version with the latest
features. No waiting years and performing an expensive
upgrade just to end up with the same functionality you
had before.

Removing those entrenched point solutions will take time,
but it's worth it to unlock the benefits described above –
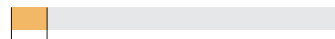and to reach the promised land of reconciliation excellence:
Stage 5.

ADVANCING TO STAGE 5
**CONTINUOUS
IMPROVEMENT**

Real-time reconciliation
Implement real-time processing
using AI and APIs to match trans-
actions instantly.

Self-learning systems
Use AI to adapt matching rules
dynamically based on new pat-
terns or transaction types.

$9,000
Average cost per year to run
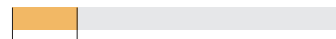an Operations control

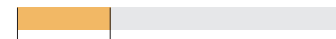## $1,000
Average cost per year to build
and maintain a new control

2 days
Average additional work
to remediate a Risk Event

$2,000
Average audit cost per control

STAGE 5
CONTINUOUS IMPROVEMENT

Reconciliation looks very different at Stage 5. Controls across the enterprise are proactive instead of reactive. Operations teams protect the business from bad data, instead of cleaning up the messes it creates. Game-changing AI handles almost all tasks independently with oversight from human workers.

Recon is now a first line of defence. This is part of a data-centric operating model, which recognises the role of accurate data as a process enabler, rather than focussing on exceptions as process disruptors. Operations teams are now proactively involved in identifying and remedying potential data quality issues and trends before they can happen.

This is achieved through using cutting-edge AI to fully automate every stage of the reconciliation process. Everything from ingesting data from unstructured sources like PDFs and emails, to automatically categorising exceptions and pushing changes to source systems, is handled by the platform.

Processes run in real-time and have self-learning and adapting rules and workflows that respond to changing market conditions and data structures.

Humans are still kept in-the-loop, overseeing and approving recommendations from the AI. We believe this is fundamental for any firm looking to leverage AI, as it provides governance and explainability to your operations. As a result, your organisation is able to completely trust its data, supercharging efficiency and compliance, easing regulatory reporting, minimising risk and providing a better client experience.

This isn't currently possible – the technology's not quite there – but the pace of AI innovation means that it won't be far away.

In the meantime, you can ensure that your firm has progressed as far up the Maturity Model as possible, so that you are ready to enjoy the first-mover advantages of Stage 5 when the technology becomes available.
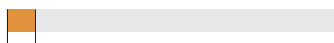
<$3,000
Average cost per year to run an Operations control
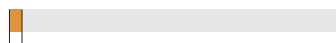
<$1,000
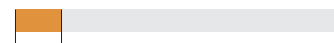Average cost per year to build and maintain a new control

1 day
Average additional work to remediate a Risk Event

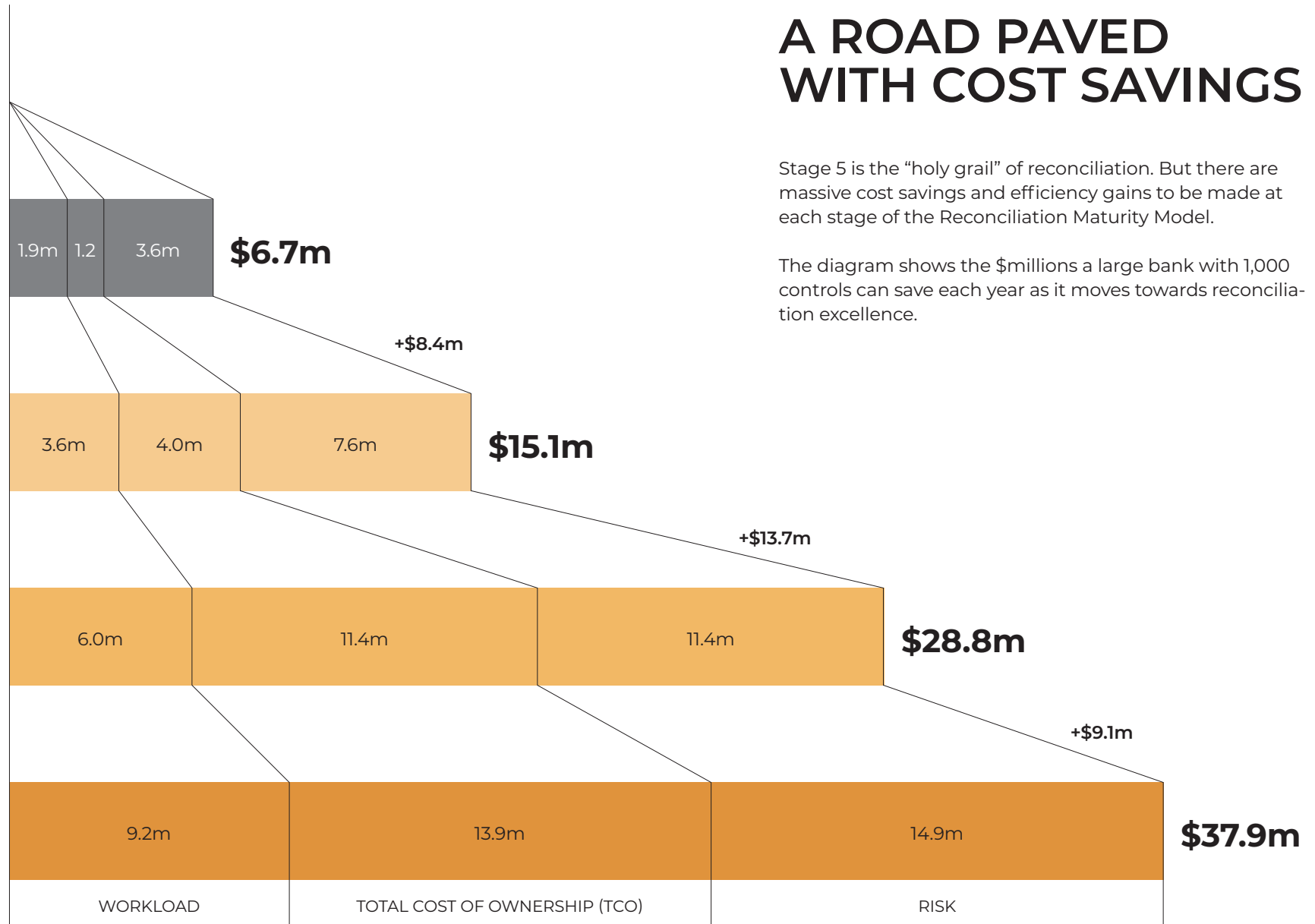## $1,000
Average audit cost per control

A ROAD PAVED WITH COST SAVINGS

Stage 5 is the "holy grail" of reconciliation. But there are massive cost savings and efficiency gains to be made at each stage of the Reconciliation Maturity Model.

The diagram shows the $millions a large bank with 1,000 controls can save each year as it moves towards reconciliation excellence.

STAGE 1
MANUAL CHAOS

STAGE 2
HYBRID CAPABILITIES

| 1.9m | 1.2 | 3.6m |

$6.7m

+$8.4m

STAGE 3
CENTRALISED EXCELLENCE

| 3.6m | 4.0m | 7.6m |

$15.1m

+$13.7m

STAGE 4
FULLY FEDERATED

| 6.0m | 11.4m | 11.4m |

$28.8m

+$9.1m

STAGE 5
CONTINUOUS IMPROVEMENT

| 9.2m | 13.9m | 14.9m |

$37.9m

| WORKLOAD | TOTAL COST OF OWNERSHIP (TCO) | RISK |

CONCLUSION: REACHING RECONCILIATION EXCELLENCE

You should now have a strong idea of not only where your organisation sits on the maturity scale, but also on the steps you can take to advance to the next stage.

Underpinning this journey is the fact that traditional, on-premise and hardcoded legacy technology lacks the agility, speed and performance to complete the tasks required of it. These systems have shaped the thinking around reconciliation for decades. Moving to the latter stages of reconciliation excellence therefore requires a mindset shift in order to unlock a new operating model.

Once you break free of the cycle of outdated technology and practices, you move from a downward spiral of inefficiency, cost and risk, to an upwards one of ever-improving efficiency and accuracy.

Harnessing the latest in cloud-computing, no-code and AI technology enables a completely different way of managing data. Reconciliation becomes a first line of defence and the team who oversee it the champions of data quality and a source of valuable insight for the business.

The ultimate destination for reconciliation excellence may still be theoretical. But the benefits of moving your organisation further up the maturity scale right now are anything but. So many firms are already making changes and unlocking them – you can, too.

TRAVEL THE PATH TO RECONCILIATION EXCELLENCE

We've worked with some of the world's largest financial institutions to help them streamline their processes, modernise their technology stack and empower their people. Our clients have transformed their reconciliation procedures and operating models to unlock greater efficiency, cut costs and risk, and build the workforce of the future.

Get in touch to discuss how we can help your firm realise the benefits of reconciliation excellence.

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