



# 3-Step Transformation to Continuous Audit

White Paper

July 2018

## Introduction

Compliance with regulations is one of the key cost items for companies across multiple industries, costing developed economies up to 10% of the GDP. While the benefits of regulation – reducing corruption, stamping out illicit activities, improving product safety – are widely acknowledged, at the same time key players are increasingly voicing concerns about both cost and quality of the results.

For companies and their investors, the cost of compliance versus benefits are coming under increased scrutiny. For regulators, the deluge of data, lack of independent verification and assessment, the lead time from economic events happening to actionable data are adding to concerns regarding their ability to effectively detect and act upon any anomalies regulatory data might reveal. Finally, auditors are increasingly challenged and held responsible for economic damage resulting from non-compliance events.

These concerns are directly relevant to one of the most widely applicable set of regulations virtually all companies must comply with, namely financial audit. In most developed countries all companies above a certain size are required to submit their financial results to a rigorous third-party audit that shall guarantee that the report represents accurately the performance of the company and hence can be relied upon by the owners as well as the broader investment community. On average, a financial audit for private companies requires over 25.000 hours a year, averaging at above 8MUSD annual cost, growing by 10% annually. Still several recent high-profile cases have shown that the current system enables failures that can prove costly for both audited companies, their owners as well as auditors.

In short, the industry is ready for fresh ideas for making audit more efficient both in terms of cost as well as coverage of economic activity.

## The Vicious Cycle of Audit Challenges

Auditors and audited companies alike are facing several challenges today related to the cost, accuracy and reliability of the financial audits.

First and foremost is the **cost of audit**, representing a substantial, and growing share of the revenues companies generate. A recent analysis by the specialized site [auditanalytics.com](http://auditanalytics.com), comparing the cost of audit for the top 1000 companies across the EU and US, revealed that audit averaged between 0.6MUSD for the smallest companies (by revenue) and exceeded 6MUSD for the largest ones. There are several factors driving the cost of audit higher:

- *Complexity* of economic activities and supporting IT systems. Based on our interviews with auditors, it appears that the base tool used across all companies are spreadsheets and document sharing through emails. Inherently this leads to longer processing times, driving up the cost of audit
- *Uneven workload distribution* for auditors, with most intense period concentrated to just a few months, usually at the close of financial years. The cost of maintaining highly qualified staff for the remaining period inadvertently leads to that being factored into the cost of audit
- *Business model based on man-hour pricing*. Our surveys indicate that most auditors choose to charge their clients by the hour of work performed. On one hand, this creates incentives for perpetuating the current model; on the other hand, in combination with the other factors, it also creates downwards pressure on margins, pushing auditors towards seeking more innovative approaches for reducing the cost of audit.

The second challenge faced by companies, their owners and auditors alike are related to the **quality of audit and the role human error** can play. Several recent cases of inadequate audit performance across the United States, United Kingdom and elsewhere added to the anxiety and led to the regulators tightening their

requirements on how the big audit companies perform their audit procedures. In turn, this will lead to even higher costs feeding a cycle of increasing distrust, tighter regulation and higher cost.



The third challenge is the predominantly *manual and sample-based approach* to audit, exacerbating the impact of the first two challenges. While companies have gradually progressed on their path to digitalized operations, audit still relies on the “eyes and mind” of highly experienced and junior auditors, rather than any machine assisted solutions. Cost pressure leads to ever more “clever” sampling, creating fertile ground for human errors and misses, degrading the quality of audit. Any attempt to remediate shortcomings lead to higher costs, restarting the cycle of trying to fix the process with incremental steps.

In our survey of leading auditors, we found that there’s an overwhelming desire to find new solutions that can address these challenges, trumping any lingering concerns about the impact on the importance of their profession. As we will argue in this white paper, there’s a realistic, step-wise approach to fundamentally transform the audit industry that can result in a higher quality, lower cost, more reliable approach that can better serve the original purpose of financial audit: to guarantee that financial results reflect the actual performance of the company.

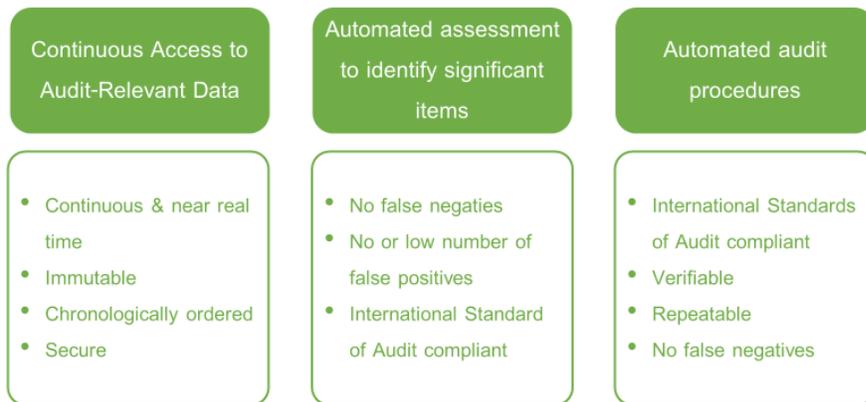
## The Concept of Continuous Audit

One of the fundamental root causes behind the triple constraints of cost, sample-based assessment and potential for human error is the access to and processing of data by the auditor. Scattered data sources, late and limited access to data, lead time issues, lack of IT solutions all feed into the vicious cycle of audit challenges. Unsurprisingly, prompt access to standardized, secure, reliable data is top of the list for all auditors we interviewed for this white paper.

*Continuous Audit* proposes to address these root causes and tackle the current challenges with audit. It encompasses the following aspects:

- *Continuous* – even real time – *secure, reliable access to audit-relevant data* by the auditors and company internal control
- *Automated and continuous assessment* of data to identify relevant and significant items
- *Automated and continuous application of substantive and analytical procedures* to identify early on any non-compliance or otherwise suspicious events and enable prompt remediation of these

Obviously, to achieve these goals, multiple constraints must be fulfilled, and novel technologies applied in a reliable manner. First and foremost, auditor needs to get access to data that is guaranteed to be immutable, fully in synch with the customer's systems, chronologically ordered and shared in a secure manner. Failing to meet any of these can result in either unreliable audit results or may open up for unauthorized access to sensitive data by 3<sup>rd</sup> parties.

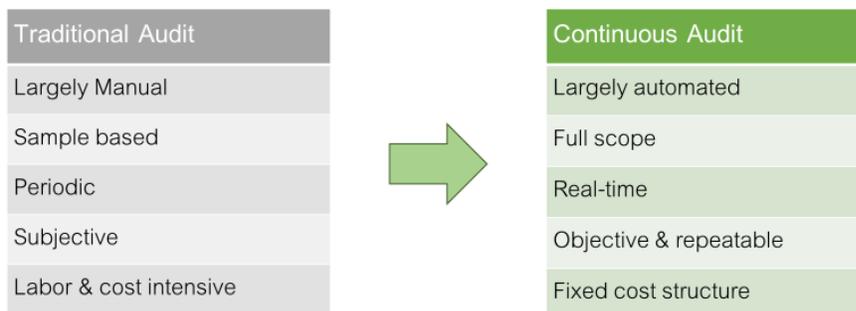


Second, automation will require the use of novel technologies such as machine learning and machine assisted analysis of data to automate tasks such as cross-checking supporting paper evidence with accounting records, identifying non-compliant or suspicious activities. Our experience shows that over 70% of currently used common procedures can be automated with a negligible percentage of false positives and no false negatives – a paramount requirement to guarantee the quality of audit.

Third the solution shall guarantee that all results of the continuous audit procedures are stored in a secure, immutable and verifiable manner that can fulfil later regulatory scrutiny. Failing to do so would render any implementation unacceptable by the regulator.

## The Benefits of Continuous Audit

Continuous audit has several characteristics that enable tackling the key challenges with audit. First, it allows analysis of audit-relevant data throughout the year, helping scatter out the audit effort across the full year, rather than have it concentrated to just a few weeks or months. Furthermore, automation of routine tasks unlocks the potential for expanding the scope of audit to the full scope of the economic activities, without any increase attributable to human activity. Last but not least, automated checks, leveraging machine intelligence can greatly reduce the probability of human error and guarantee unbiased, consistent results.



In our joint analysis with our partners of the cost implications of continuous audit, we identified the potential for reducing the overall cost by up to 50%, split between auditors and audited companies, even after accounting for the cost of infrastructure and software required for implementation. Even more important though is the flattening of the cost curve, de-coupling of the cost increase from the increase in the scope of the audit. This alone enables a radical improvement in the coverage of economic activities during audit, enhancing the reliability and trust in the quality of the procedure.

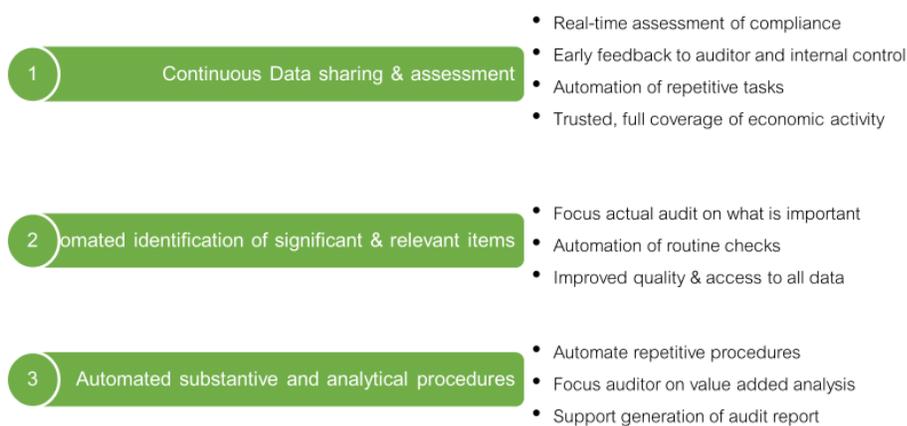
Beyond the reduction in the cost of audit, audited companies see continuous audit as a solid foundation for implementing automated, real-time internal controls across the full scope of their financial and accounting activities. Continuous assessment of all transactions and resulting accounting entries can enhance significantly the visibility into and detection of suspicious or non-compliant activities.

To reap the benefits of continuous audit, there is a need to transform the current, man-hour-based business model to a total value-based approach. Instead of charging per hour spent by a human performing the audit procedures, auditors need to propose to their clients a model with clearly defined objectives – attained either through automation tools or manually – and a corresponding compensation. While this approach will result in lower revenue per existing customer, auditors can increase their margins significantly, justified by the radically improved quality of audit. In addition, they can leverage the freed-up resources to expand their business by addressing more customers with the same cost base, but a higher margin.

For their part, audited companies must be prepared to adjust to a model of continuous collaboration and data sharing with their auditors. The incentives to do so are multiple: reduction in the cost of audit; significantly improved audit coverage and quality; improvement in internal controls and compliance supervision.

## Three Step Transformation

To smooth the transition and transformation required to implement continuous audit, jointly with our auditor partners we developed a standard methodology that enables gradual implementation of the required changes with substantial benefits unlocked from step one already.



### *Step 1: Continuous Data Sharing and Assessment*

Step 1 in the transformation lays the foundation for all the subsequent steps: it establishes the technological foundation for continuously sharing data between audited companies and auditors. Extreme care must be taken to meet the double objectives of protecting sensitive information and guaranteeing immutable, timely and chronological access to data.

For this purpose, we recommend the utilization of private, permissioned, high speed distributed ledgers – or blockchains – between auditors and audited companies. Beyond the recent hype driven by cryptocurrencies, blockchain as a technology foundation does exhibit a few characteristics that make it a perfect fit for sharing audit related data:

- It guarantees *verifiable immutability* and *chronological ordering*. Any data stored on the blockchain cannot be altered without full consensus by all participants (audited company and auditor in this case)
- It is *fully distributed*, i.e. all the data resides exclusively at the audited company and the auditor, with no information shared with other parties not explicitly – and visibly – part of the blockchain infrastructure
- It is *cryptographically secured* with no data available in clear text even in the case of a breach

Using one technology platform for storing and sharing audit-relevant data also enables normalization of data formats, unlocking vast possibilities for automation. We recommend careful selection of the technology used for data sharing, as it is the enabler of all the future steps.

Once a secure data sharing platform is in place, real time assessment of data for compliance purposes becomes immediately possible. For example, we recommend implementation of process compliance for the basic processes – e.g. sales, purchase, payroll and similar – already at this stage, to provide the tools for improving internal control and compliance ahead of the full-fledged deployment of continuous audit. Machine assisted analysis of supporting documentation and correlation with accounting data can be deployed at this stage already.

## *Step 2: Automated Identification of Significant Items*

One of the fundamental steps in any audit is to identify those items, such as accounts and transactions, that require closer scrutiny by the auditor. Multiple such methods exist, usually leveraging thresholds calculated based on relevant financial items in the company's reporting. Typically, an item is considered significant if it meets two of the following three criteria: value, volume and complexity. These criteria are sometimes subjective – but our research shows that, having access to data, their testing can be automated.

The core of this step is to automate routine checks and calculations ahead of the final step of automating audit procedures. We recommend focusing on the following aspects:

- Leverage the assessment of process compliance to model complexity and risk for the audited accounts
- Automate calculation of thresholds and volumes
- Automate selection of transactions that require application of audit procedures

As a result of this step, auditors and audited companies get access to the tools required to identify, as soon as possible, risky transactions and behaviours that can result in audit issues later on. Once more, both auditors and internal control can reap the benefit of continuous audit at this step as well.

### *Step 3: Automated Substantive and Analytic Procedures*

The final step in the transformation is the deployment of automated substantive and analytic procedures. Our in-depth analysis leveraging domain experts indicate that at least 60% of commonly used procedures can be automated, freeing up the auditor to focus on tasks requiring complex, experience-based analysis. This step is the most straightforward implementation-wise – it requires a simple software update – but has the highest potential for slashing the cost of audit and hence generating the expected monetary benefits. We recommend selection of solutions that provide a practical mix of automation with human control as our experience shows that auditors are more receptive to adopt automation tools if they have the possibility of overriding recommendations. It is also of significant value if the tools selected allow for persistent, immutable storage of audit decisions, results and professional assessment for the purpose of future regulatory examination.

## Conclusion

Regulatory compliance in general and financial audit in particular have reached an inflection point where deployment of automation solutions become the foundation for regaining efficiency and significantly improving the benefits of regulation. The steps recommended in this white paper, leveraging continuous assessment and audit, are broadly applicable beyond financial audit and represent a proven way to unlock savings and improve quality of regulatory audit, compliance and reporting. New technologies such as blockchain, machine assisted analytics and eventually artificial intelligence are key foundations that can enable this transformation and address the inherent concerns with regards to automation. As companies deploy these innovative solutions, we expect regulators to follow suite and adopt new approaches that can enhance their access to data, support real-time decision making and action – characteristics required to avoid situations similar to those for which regulations are adopted in the first place.