



Banking and Financial Services

MAS 610 Reporting Challenges & a Future Roadmap for Singapore's Banks

As the smoke clears on MAS 610 revisions, banks in Singapore are trying to get more clarity on the new requirements and their impact on existing reporting workflow. Amid their budgetary constraints, banks can mitigate these challenges by leveraging a robust data governance model, cloud-based services and automation.

Executive Summary

Since the 2008 global financial crisis, financial regulators across geographies have introduced regulations to improve industry stability. In this context, the Monetary Authority of Singapore (MAS) is no exception.

After a relatively stable decade of regulatory reporting within Singapore, the country recently announced major changes in the MAS 610 requirements. As a result of the

revision, banks are now required to file the core set of returns with MAS at a far more granular level.

This paper explores how banks in Singapore can prepare themselves to overcome the massive data collection requirements and other challenges now part of MAS 610 Reporting.

A MAS 610 regulation review

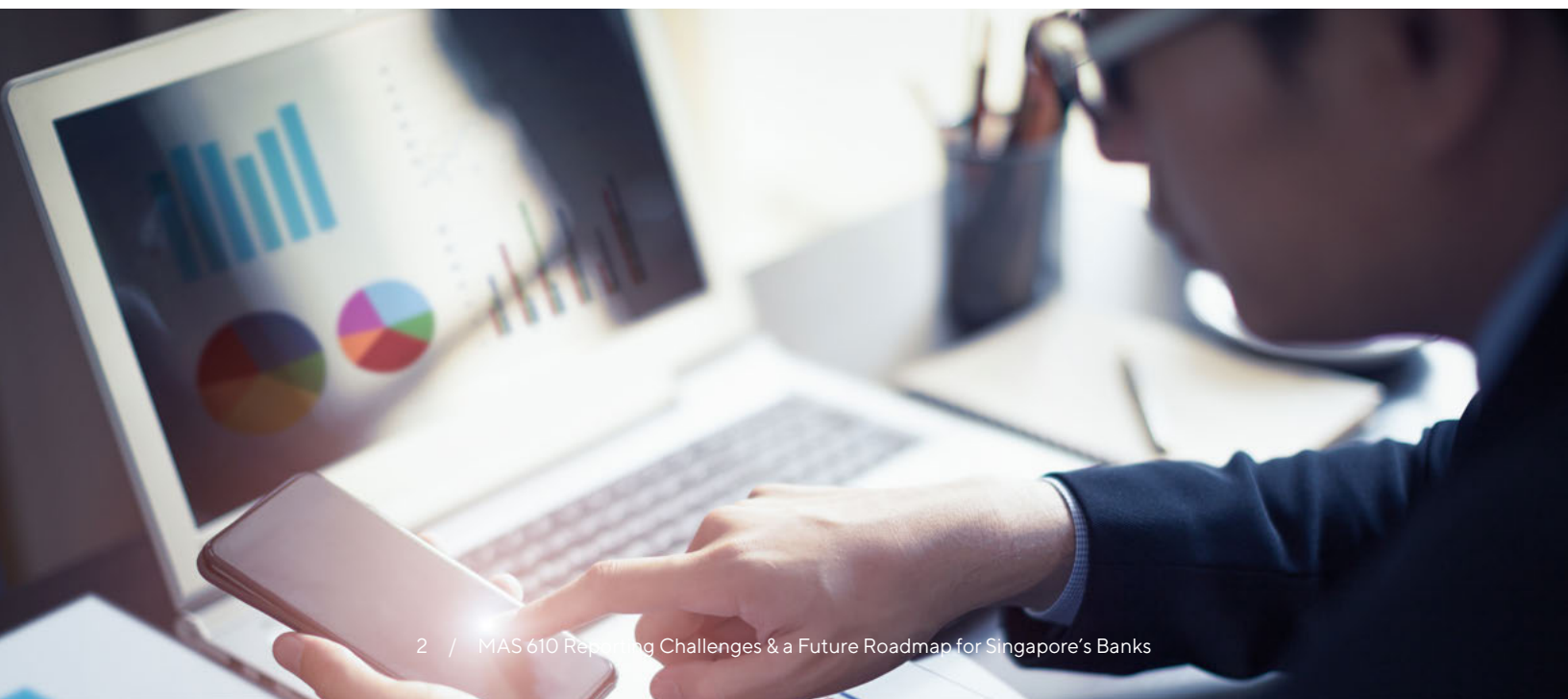
The MAS 610 is the core set of reporting requirements within Singapore's financial services space, and contains the balance sheet and off-balance sheet information of banks and their underlying details. MAS 610 applies to all banks in Singapore, including foreign-owned entities. Banks incorporated in Singapore need to submit information at both individual and group level and report separately for their Singapore operations, overseas bank subsidiaries and overseas banks. The following is a chronology of MAS 610 releases:¹

- On December 31, 2014, MAS issued its first Consultation Paper (CP) on proposed revisions to the MAS Notices on Submission of Statistics and Returns (MAS 610 and MAS 1003).
- In August 2015, MAS released a Consultation Paper on removing the DBU-ACU (Domestic Banking Unit-Asian Currency Unit) divide.
- On February 10, 2017, MAS issued its second Consultation Paper on the proposed revisions to MAS 610 as well as its response to the feedback on the removal of the DBU-ACU divide and implementation issues.
- On May 17, 2018, MAS issued revised notices for MAS 610 AND 1003 and the key changes included:

- Collecting more granular data of banks' assets and liabilities by currency, country and industry.
- Rationalizing the collection of data on Chinese Renminbi (RMB) business activities and deposit rates.
- Removing the distinction between the ACU and DBU and for banks to report their regulatory returns in Singapore dollars instead of the foreign currency.

Banks in Singapore are currently reporting 23 forms as a part of the current MAS 610 stipulation. This has increased to 63 as a part of the initial proposed revision, and to 69 with the second proposed revision.

Banks are expected to be fully compliant with the MAS 610 guidelines by March 31, 2020, within the 24-month industry implementation window set by MAS. This would be followed by a six-month period of concurrent reporting running from April 1, 2020, to September 30, 2020, when banks are required to submit both the revised as well as the current MAS 610 reports during the planned parallel run. This would help MAS iron out the inconsistencies and provide a platform for future reporting. The revised notices will be effective October 1, 2020, onward.



MAS 610 revisions: The challenges

The amendments announced by MAS Notice 610 is primarily to promote market transparency for banks in Singapore, with the ultimate objective of ensuring that the government has adequate information to identify and analyze any impending systemic or microeconomic issue.

This additional granularity of data as mandated by MAS is bound to pose a sizable task for any bank doing business in Singapore from its reporting perspective. Fintech Wolters Kluwer’s Finance, Risk and Reporting business recently conducted a survey with approximately 50 legal and compliance, risk, finance and IT executives at more than 25 banks in Singapore.² A vast majority of respondents opined that the regulatory changes introduced by MAS is their single largest concern in the coming two years. Key survey findings include:

- Twenty-seven percent of the respondents stated that they have grave concerns around data analysis and mapping, data quality and

remediation to meet the MAS 610 requirements.

- Seventeen percent said that their top concern for 2019 was just to keep pace with the regulatory changes; Twenty-seven percent believed that choosing the right technology with judicious data management capabilities was of utmost importance.
- A resounding 95% plan to integrate data across their regulatory workflows in the future.
- Seventy-five percent of respondents said that it is a challenge to create an integrated and consistent view of data across lines of business (LOB), while 70% stated that merging old and new technologies is a serious issue.
- Forty-two percent expressed concern that proper interpretation of the regulation is a major challenge.

The challenges faced by banks can be categorized into the following groups as shown in Figure 1.

MAS 610 reporting obstacles

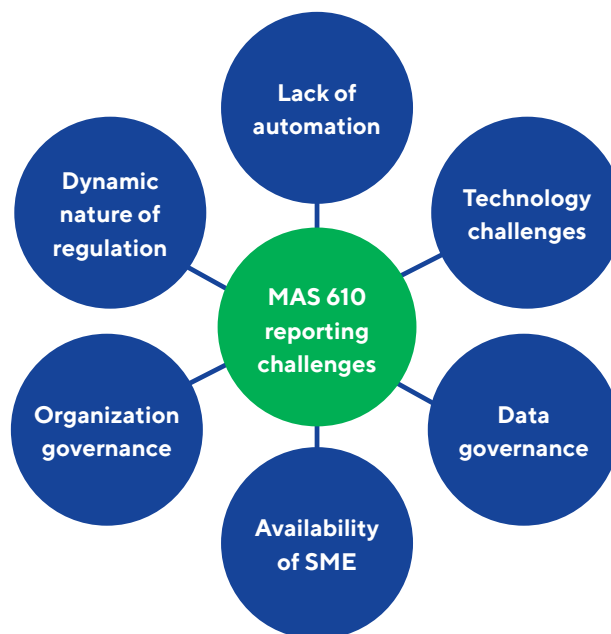


Figure 1

The requirements prescribed by MAS are dynamic and evolving, and its supervisory expectation on data should increase in the near future. Foreign banks face additional hurdles in implementing these requirements. Their enterprise systems are developed and used at a global level; as a result, identifying and producing new data points for MAS alone would be a tedious task.

Like any other financial regulator, MAS 610 has moved toward a “bird’s eye view of surveillance” governance model. The requirements prescribed by MAS are dynamic and evolving, and its supervisory expectation on data should increase in the near future. Foreign banks face additional hurdles in implementing these requirements. Their enterprise systems are developed and used at a global level; as a result, identifying and producing new data points for MAS alone would be a tedious task. It would be very difficult to alter the enterprise systems to suit MAS 610. The change requests could meet with management resistance and involve lengthy approval processes, which would make it even harder for banks to comply with the MAS dictated timeline.

Data governance challenges

Figure 2 shows the vast increase in scope for reporting needs with the new MAS 610 proposition.

The huge increase in reporting templates comes along with the daunting 75 times increase in the number of data cells (resulting in an enormous increase in data granularity with new schedules and classifications). The current MAS 610 reporting is mostly a balance sheet prepared by a bank’s finance team. The new mandate will require additional operational data provided by a bank’s legal and compliance, HR, payments, and legal and IT departments. Not only is this data not collected before for reporting purpose, but it also may be non-existent. Data quality remains the biggest challenge for many banks in Singapore. As a result, data integrity is severely undermined by inconsistent taxonomies, incompleteness, inaccuracy and duplication.

Data-related changes in proposed Notice 610

















	Current MAS 610	Proposed MAS 610 Notice
Annexes	 13	   67
Pages	 45	   260
Data fields	 450	   700
Data cells	 4,000	   300,000

Figure 2

Technology challenges

Technology will play a pivotal role in tackling the vast reporting requirements mandated by MAS Notice 610. Banks in Singapore may have to enhance their internal systems and collaborate with fintechs specializing in regulatory reporting solutions to streamline their reporting process, including the last mile of reporting (LMOF). The implementation of the DBU-ACU divide removal will have technological implications too, as banks will continue with a dual-reporting structure until the parallel run phase is complete.

Automation shortcomings

Many banks are heavily dependent on manual processes, which result in lengthy and error-prone report-generating workflows. Most banks rely on these manual processes and reconciliations and are finding it exceedingly hard to rely on temporary tactical solutions and non-scalable manual processes. This manipulation and aggregation mostly involves Microsoft Excel files, CSV extracts and end-user computing (EUC) systems – almost all of which do not appear in the enterprise IT architecture maps.

Governance and control challenges

The existing regulatory reporting process of banks in Singapore is segregated into reporting silos, and each area has its own database and distinct set of tools to generate its unique regulatory reports. This process needs additional reconciliation, manual calculation and adjustment efforts to consolidate these reports into a pan-enterprise report that can ultimately be submitted to MAS. This does not allow the bank to calculate and report the risks across multiple segments, products and channels, and lacks the granularity required to understand impending risks and issues.

Subject matter expertise availability

Interpretation of the new requirements as mandated by MAS can be quite challenging, and the banks in Singapore may not have the subject matter experts (SMEs) who not only can interpret the new requirements, but also conduct a thorough gap-analysis and identify the pain points based on the revised guidelines.

MAS 610 regulatory reporting change implementation roadmap

Banks should work on their existing regulatory reporting framework, including data management/ governance, process automation and adhering to reporting standards and workflow. Along with the increasing complexity and granularity in MAS

610 reporting requirements, banks are facing considerable pressure on already-stretched resources and budgets. Hence, a proper program roadmap to tackle these new requirements is necessary, as outlined in Figure 3.

Change implementation roadmap: MAS 610



Figure 3

The design of the roadmap for Singapore-based banks should consider the following work items:

I Proper understanding of MAS 610 regulation.

As the reporting requirements volume has increased as a result of revised MAS 610, and there are updates over a period of time, a proper understanding of the regulation is essential. The amendments aren't a "one-size-fits-all" change and there is a considerable level of judgement required to identify which requirements are relevant to an institution and its reporting structure. Banks need domain expertise either internally or through external agencies.

I Analysis of new data requirements.

Identification of data is perhaps the biggest challenge in the MAS 610 revision. Banks need to identify relevant data that the regulator has requested as part of their reporting. The overall data impact that would affect the reporting workflow can be segregated into four broad groups based on data availability (see Figure 4). Banks would have to mitigate the challenges created by these data requirements by aligning them to the MAS 610 reporting needs.

Data classification and its impact on regulatory reporting

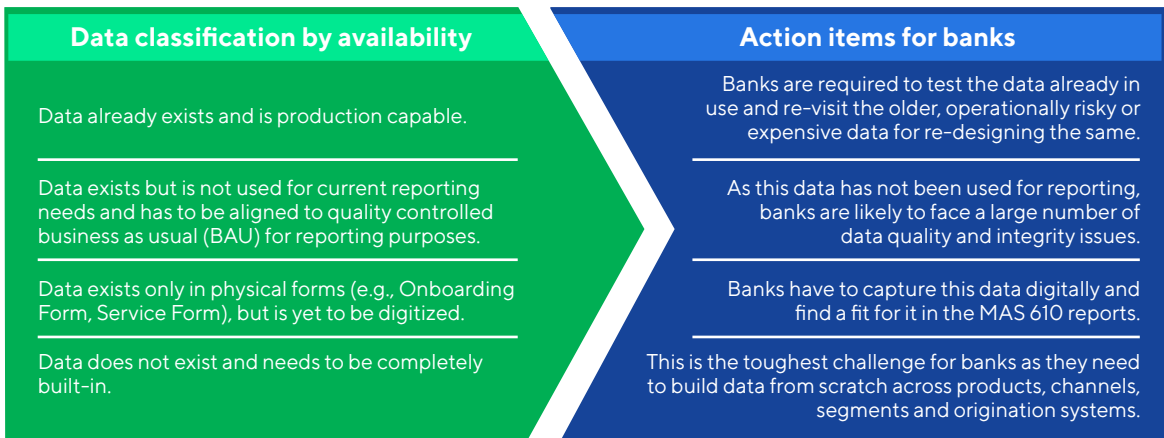


Figure 4

I Data and process governance and control.

Under the proposed revised template for MAS 610, the required information extends beyond banks' financial records. A robust data and process governance framework should be in

place to ensure that the reporting is correct, complete and sustainable in all respects. Figure 5 reveals the key data elements that should be considered for architecting a sound regulatory reporting framework.

Data governance and control

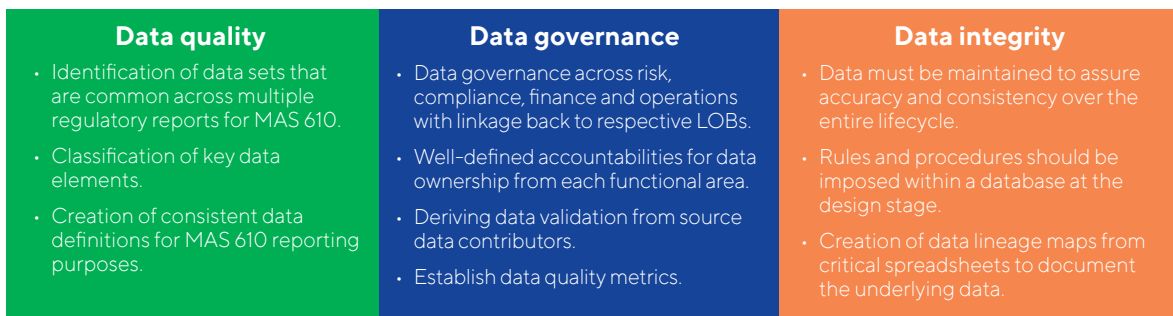


Figure 5

The taxonomy is a classification that would essentially bring down the large number of MAS-mandated data points by translating the data points into business logic/concepts.

Industry initiatives for developing an “open data taxonomy”

A fintech specializing in regulatory reporting, AxiomSL collaborated with nine major banks (seven international and two domestic banks), global consulting and accounting major PwC and BR-AG, a leading international XBRL advisor, to create an industry group that is defining an “open data taxonomy.” This important industry initiative in Singapore was to simplify and streamline regulatory reporting as envisaged by MAS. The taxonomy is a classification that would essentially bring down the large number of MAS-mandated data points by translating the data points into business logic/concepts. The taxonomy has consolidated 300,000 data points into 1,000 reusable business concepts, which are categorized into 70 reporting dimensions and 80 reportable amount types.³ When published, the new taxonomy should serve the following benefits:

- It should assist banks in comprehending the new MAS regulatory requirements and see how the underlying data can be applied, reconfigured and reused in multiple reporting scenarios.
- The new data structure (aided by the taxonomy) would make it much simpler for banks to make changes to the data fields when required, as they would have to modify/add the relevant fields when a new regulatory change comes up, rather than revamping the entire form (a perennial problem with form-based reporting).
- The new taxonomy is vendor and technology agnostic, and would help to bring uniformity across banks in the MAS regulatory reporting space and reduce compliance-related costs.
- The new structure will also aid data analytics at private banks as it will be much easier to break

down and re-assemble data than on Excel sheets and forms.

- The partner banks and AxiomSL have come to an agreement to exchange information on how the classification and reporting of this data would be done to MAS.

Banks may require a detailed project plan to implement the changes. This would include work in the areas of regulatory requirement interpretation, data sourcing and management, building new workflows and possible automation of processes. These exercises should be overseen by dedicated project teams and program steering committees aided by skilled resources and a robust infrastructure.

Banks would either have to build this expertise internally within their own workforce, or they would engage an external partner/vendor. Some vendors would provide a toolkit while others would furnish the content. Banks need to ensure that the toolkits are updated and upgraded when there’s any change in regulatory requirement. Content providers would be able to translate their deep regulatory expertise into consumable business rules that can be embedded in the reporting solutions.

During the six-month parallel run required by MAS, banks will need considerable project resources and additional infrastructure to generate and submit both the existing and revised reports to the regulator. The ACU-DBU Divide removal also has major implications with the bank’s resources and infrastructure. After the new changes take effect in October of 2020, and the split is removed, the requirements and templates for related regulatory reports will need to be modified along the same timeframe, an initiative that calls for considerable planning and engagement.

Banks may need to be clinical in planning the deployment of the MAS 610 reporting changes. According to the MAS mandate there are reports that must be submitted monthly, quarterly, biannually and annually, as shown in Figure 6.⁴

Since the number of reports are overwhelmingly large, the roll-out should ideally happen in multiple phases/releases. The reports, which are meant to be released every month (38 reports),

can be included in the first release. The second release would be critical as they would deal with the large number of reports (150), which are to be reported quarterly. The last release can handle reports that are required to be submitted on a biannual (28) and annual basis (33). Given the volume of change, banks should run the existing and new set of reports in separate environments in order to reduce regression risk.

MAS 610 reporting frequency of banks

Banks incorporated in Singapore						
Reporting frequency	Foreign banks	Group level	Solo	Singapore	Subsidiary of overseas banks	Branches of overseas banks
Monthly	20	0	0	0	18	0
Quarterly	37	19	21	36	19	18
Biannually	6	7	7	6	1	1
Annually	4	6	6	4	6	7

Source: 2nd Consultation Paper, 2017.

Figure 6

Banks may require a detailed project plan to implement the changes. This would include work in the areas of regulatory requirement interpretation, data sourcing and management, building new workflows and possible automation of processes. These exercises should be overseen by dedicated project teams and program steering committees aided by skilled resources and a robust infrastructure.

A complete automation solution, from source system data to report generation, would be a complex approach and would need to be supported by a multi-year program. Banks should instead aim for short, achievable automation enhancements over a much smaller timeframe, in areas that would improve efficiency and productivity.

Automation's role

The fact that it is not feasible for banks to increase their regulatory resources to handle the massive increase in data volume and number of reports means they should look to automate some of the processes. Most banks in Singapore manage regulatory compliance and reporting with multiple siloed solutions leading to data integrity issues, which calls for additional manual intervention. However, automation may not be feasible for an end-to-end reporting solution. A complete automation solution, from source system data to report generation, would be a complex approach and would need to be supported by a multi-year program. Banks should instead aim for short, achievable automation enhancements over a much smaller timeframe, in areas that would improve efficiency and productivity. If these short tactical initiatives are successful in terms of saving time and money, they can be aligned to more strategic solutions over a longer run. These smaller quick win initiatives can be focused in the following areas from the point of view of MAS 610 reporting:

- Optimization of data extraction from multiple source systems and data warehouses. Automated bots or web crawlers may be used to extract data based on defined business trigger on file name, location and format.
- Streamlining and enhancing reporting data

quality and data lineage for data integrity and report accuracy.

- Automating data cleansing, data reconciliation, variance analysis and validation.
- Data testing activities that are repetitive and manual intensive.

Banks can develop proofs of concept (PoC) on a sample set of regulatory reports to see the probable results in terms of benefits, which may help them to assess the feasibility and justification for process automation. The end objective should be to develop a smart, self-learning regulatory reporting workstream that would interpret and assess unknown situations with minimum human intervention.

Most banks have already conducted internal assessments considering different options for pulling the data together to meet the new MAS 610 changes. Some of these items may require manual effort (e.g., defaulted assets). In this case, some might require automation while others will need to be done in Excel spreadsheets. It is important for banks to strike a proper balance between the automated systems and manual processes. They should have sound framework and governance structures in place that can oversee the interaction between automated and manual processes.

Cloud services for MAS 610 reporting

MAS's stance toward outsourcing & cloud services

Singapore has the technical infrastructure for banks to adopt cloud-based technology for MAS reporting; the country's regulator has shown a supportive stance towards outsourcing and cloud services. On July 27, 2016, MAS released its "Guidelines on Outsourcing," which covered details on senior management responsibility, requirements for evaluation of risk, assessment of service providers, sourcing agreements, confidentiality and security, business continuity management, monitoring and control, and audit and inspection.⁵

MAS has acknowledged that cloud services (CS) offer a host of advantages that include economies of scale, cost savings, access to quality system administration, and operations that adhere to uniform security standards and best practices. CS may also be used to provide the flexibility and agility for institutions to scale up or down on computing resources quickly as usage requirements change, without major hardware and software outlay as well as lead time. In addition, the distributed nature of CS may enhance system resilience during location-specific disasters or disruptions.

MAS also stated that an increasing number of institutions are adopting CS to fulfill their business and operational requirements. These CS deployments may be operated in-house or off-premises by service providers (public or private cloud, or a combination of both).

It has been observed that cloud technology has evolved and matured considerably and CS providers have become aware of the technology and security requirements of institutions to protect sensitive customer data. In this regard, a number of CS providers have implemented strong authentication, access controls, tokenization techniques and data encryption to bolster security to meet institutions' needs.⁶

Receptivity toward cloud-based platforms for regulatory reporting

Banks in Singapore are generally becoming aware of the benefits of cloud computing, in terms of cost reduction and adding flexibility to the existing technology infrastructure. However, its usage with banks for regulatory reporting is limited, owing to security concerns and customer data privacy issues. A number of regtechs/fintechs are offering cloud-



based regulatory reporting platforms powered by software-as-a-service environments (SaaS). However, the executive management in most banks are circumspect of these platforms.

According to the Wolters Kluwer survey (as mentioned before), an overwhelming 82% of respondents stated their preference toward an on-premise operating model along with minor enhancements like Excel add-ons for implementing the new MAS regulations.⁷ However, 30% of respondents opined that they are planning to leverage cloud-based platforms for MAS regulatory reporting (a considerable improvement considering that it was approximately 0% a few years back).

Consulting giant KPMG has recently partnered with Lombard Risk, a prominent regtech, and came up with a cloud-based offering called KRIS (KPMG Regulatory Integrated Solution). KRIS is targeted at banks looking for a comprehensive regulatory reporting solution. It is offered on a subscription basis. Banks' only responsibility would be to review and validate the contents of the finished version of the reports, before they are submitted to MASNET (the gateway through which information and data exchange happens between financial institutions and MAS).

Through KRIS, KPMG will manage changes that arise from MAS. KPMG says this approach can help banks generate considerable savings in complying with the MAS regulatory reports, including MAS Notices 610/1003.⁸

AxiomSL is offering its own cloud-based regulatory reporting solution for MAS 610, and so is Argus Cloud, a Verisk Business Company.^{9,10}

Reasons why banks in Singapore may take the off-premise cloud-based route for MAS regulatory reporting include:

- Lower capital expenditure.** A cloud-based solution almost completely eliminates infrastructure setup, requiring less investment. With a subscription-based model, the software is provided as a preconfigured solution that simulates a typical bank operation and can be rolled out as the bank requires. Banks benefit greatly from the pre-built report templates with configurable rules that minimize overhead costs for report preparation and submission to MAS.
- Easy management of MAS updates.** Regtechs would regularly provide regulatory updates published by MAS in the form of data- and template-level changes and business logic as mandated by MAS.
- Increased flexibility.** Banks can leverage the flexibility that the cloud platform provides by appropriately scaling up/down the required capacity. It can also provide business analytics much faster than an on-premise model, and can be used more effectively for reporting purpose. Data reconciliation becomes much easier for banks because of the unlimited computing capacity that cloud solutions provide.



- I Data privacy and security.** For regulatory reporting, banks can exercise their desired level of privacy control of client data through a private or hybrid cloud platform.
- I Delegated ownership.** Responsibilities such as procurement, upgrades, maintenance of software/hardware, and infrastructure lie with

the cloud solution provider and not the bank. The provider also takes care of issues like backup, recovery and continuity.

- I Regular software upgrades.** Subscriber banks get periodic software and version upgrades from the cloud solution provider, thus minimizing the risks associated with version upgrades.

Template-based vs. cube-based regulatory reporting

Considering that the archaic template-based regulatory reporting has numerous bottlenecks, the Austrian banking system has adopted something radically different – a cube-based data-input reporting model.¹¹ AuRep, an organization formed by seven of the largest Austrian banks, is the pivotal entity in this approach, and acts as the central reporting platform. It interfaces between the banks and OeNB (Oesterreichische Nationalbank), the Austrian Central Bank. Granular bank data sets are captured automatically within OeNB for examination. However, the banks exercise control on the sensitive data and maintain a “passive data interface” on the AuRep platform. Each bank prepares its data in a standard format in multiple data cubes (separate cubes for loan, deposits and securities, as defined by OeNB).

Since AuRep receives the data in a specific format, any change in the required data can be conveyed to the banks in a single update. The benefits of the new model include more consistent data, improved data quality, cost sharing of compliance, and standardization of data collection. Moreover, banks are not required to complete templates, as ad hoc change requests can be handled through data uploaded with AuRep.

In the future, MAS may adopt a cube-based approach rather than a template-based one. However, there are a number of factors that the regulator would need to consider to make this happen, including regulatory constraint, feasibility of forming a central reporting platform, cohesion between participating banks, and a willingness of MAS and banks to adopt new technology.

Comparing regulatory reporting approaches

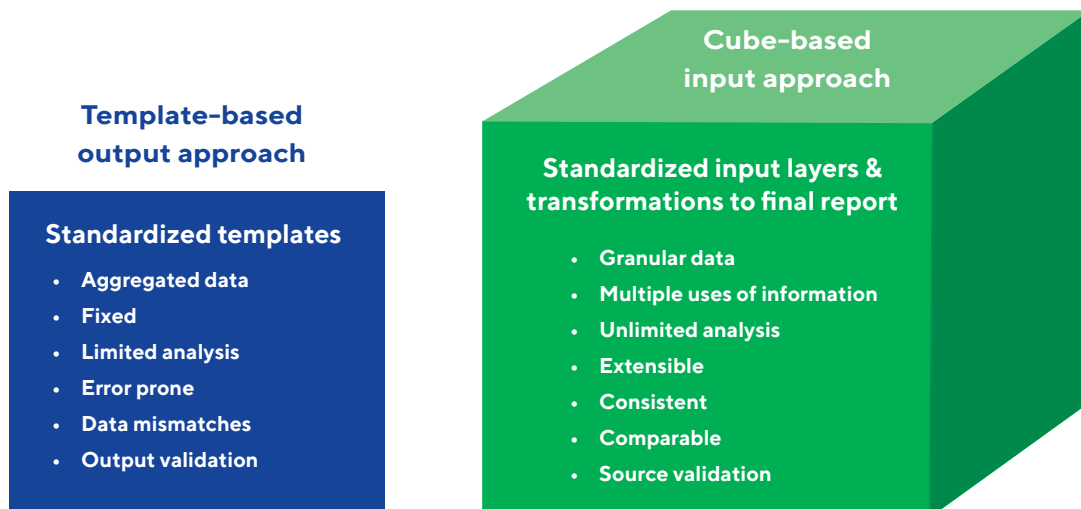


Figure 7

The road ahead

In the face of increasing demands and challenging requirements from financial regulators, banks in Singapore will need to adapt to ongoing changes in the country's regulatory data requirements. This means their internal systems must be able to cope with changes from MAS (and other financial regulations such as MiFID II). The revised MAS 610 guidelines are complex and detailed and banks should have a sound project plan in place. Proper interpretation of the rules is essential and they will have to leverage their internal resources, as well as the regulatory and technology expertise of fintechs/regtechs where required, to pull through.

Banks may resort to automation where appropriate and use cloud services offered by regtechs. Consulting majors are also developing solutions with regtechs to help banks consolidate their reporting solutions. AxiomSL recently stated that it has completed the Open Data Taxonomy definition, and it would be made available to all banks, thereby

ensuring uniformity in data requirement across the board.¹² These should help the banks in Singapore comply with the ambitious changes brought by MAS Notice 610.

It is also important that banks have the resources to deal with the new requirements. MAS understood the difficulties that banks would face in implementing the required data reporting changes and has set a reasonable timeframe for compliance. The country's unique regulatory context and highly granular and complex reporting requirements that have emerged with MAS 610 have made it essential for banks to source reporting solutions based on deep regulatory domain expertise. In this dynamic regulatory reporting regime, reporting forms and their underlying business rules will continuously evolve. As a result, banks need to make sure these embedded rules and reporting solutions are set up in a way that is easily adopted, which should eventually help them in absorbing future changes.

Endnotes

- ¹ "Second Consultation - Proposed Revisions to MAS Notice to Banks 610 and Merchant Banks 1003," May 17, 2018, http://www.mas.gov.sg/~media/MAS/News%20and%20Publications/Consultation%20Papers/MAS%20Response%20to%20Second%20Consultation_17%20May%202018.pdf.
- ² "Wolters Kluwer Survey Shows Singapore's Bankers Concerned Over MAS 610," Fintech Finance, June 14, 2018, <https://www.Fintech.finance/01-news/wolters-kluwer-survey-shows-singapores-bankers-concerned-over-mas-610/>.
- ³ "AxiomSL Announces Completion of Open Taxonomy to Streamline MAS 610 Compliance," July 9, 2018, <https://www.axiomsl.com/resource-center/media-coverage/2018/07/11/axiomsl-announces-completion-of-open-taxonomy-to-streamline-mas-610-compliance/>.
- ⁴ "Second Consultation Paper and Response to Feedback Received on Proposed Revisions to MAS Notice 610 and MAS Notice 1003 - Submission of Statistics and Returns," February 2017, <http://www.mas.gov.sg/News-and-Publications/Consultation-Paper/2017/MAS610-CP-and-Response-Feb-2017.aspx>.
- ⁵ "MAS Issues New Guidelines on Outsourcing Risk Management; Introduces Guidance on Cloud Services," <http://www.mas.gov.sg/News-and-Publications/Media-Releases/2016/MAS-Issues-New-Guidelines-on-Outsourcing-Risk-Management.aspx>.
- ⁶ "MAS Guidelines on Outsourcing," July 27, 2016, http://www.mas.gov.sg/~media/MAS/Regulations%20and%20Financial%20Stability/Regulatory%20and%20Supervisory%20Framework/Risk%20Management/Outsourcing%20Guidelines_Jul%202016.
- ⁷ "Wolters Kluwer Survey Shows Singapore's Bankers Concerned Over MAS 610," Fintech Finance, June 14, 2018, <https://www.Fintech.finance/01-news/wolters-kluwer-survey-shows-singapores-bankers-concerned-over-mas-610/>.
- ⁸ "KRIS: The next-generation, end-to-end integrated regulatory solution," March 20, 2018, <https://home.kpmg.com/sg/en/home/media/press-releases/2018/03/kris-the-next-generation-end-to-end-integrated-regulatory-solution.html>.
- ⁹ "AxiomSL's Regulatory Reporting Solution for Singapore Is Fully Compliant with The Revised MAS 610/1003 Reporting Forms," April 2, 2018, <https://www.axiomsl.com/resource-center/press-releases/2018/04/02/axiomsls-regulatory-reporting-solution-for-singapore-is-fully-compliant-with-the-revised-mas-610-1003-reporting-forms/>.
- ¹⁰ www.arguscloud.com.
- ¹¹ "Reforming regulatory reporting: Are we headed toward real-time?" <https://www.bearingpoint.com/en-sg/our-success/thought-leadership/reforming-regulatory-reporting-are-we-headed-toward-real-time-1/>.
- ¹² "AxiomSL Announces Completion of Open Taxonomy to Streamline MAS 610 Compliance," July 9, 2018, <https://www.axiomsl.com/resource-center/media-coverage/2018/07/11/axiomsl-announces-completion-of-open-taxonomy-to-streamline-mas-610-compliance/>.

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Biswadeep is a Senior Manager within Cognizant's Banking & Financial Services Consulting Practice. He is a proven talent for aligning business strategy and objectives with established business consultation and process management paradigms to achieve maximum operational impact with minimum resource expenditures; he has 15 years of banking and financial services industry experience with international clients across North America, the European Union and APAC regions. A growth-focused individual, his expertise spans account management, digitization and automation solutions, risk assessment, financial and process analysis, customer experience management, cross-functional team leadership, client relationship management, and project management. He holds an MBA in finance and strategy from the International Management Institute (IMI), New Delhi, India, and can be reached at Biswadeep.Sengupta@cognizant.com | <https://www.linkedin.com/in/biswadeepsengupta/>.

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