

GMRA Clause Taxonomy & Library Project

An ICMA strategy paper

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Executive summary

The standardisation of documentation to facilitate repo trading over the last three decades has been critical to the growth of the market, with the [Global Master Repurchase Agreement \(the GMRA\)](#) playing a central role in this regard. It has become the “go-to” master trading agreement for this purpose, providing a basis on which to negotiate the trading relationship between two parties, based on a pre-print form of the industry agreement and customisation through its proforma Annexes.

With the pace of change in today’s world, driven by increasing automation via the use of technology and the importance of data as part of the all-pervasive digital agenda, a new approach is necessary, with the aim of streamlining the negotiation and execution of GMRA documentation.

There has been a proliferation of house styles of master agreement templates, with different forms of drafting and formatting used to achieve the same outcome across different market participants. The same business outcomes are described and explained in a variety of ways – and there is a well-played game of arriving at the same fallbacks, albeit drafted in a plethora of bespoke drafting forms. In addition, post financial crisis, the complex regulatory framework has put a strain on the approvals needed internally to ensure operational risk in the documentation is adequately managed.

With the increasing need for legal agreement data for downstream systems (such as collateral, risk, pricing and capital), each market participant has been forced to urgently create its own data representations, despite the need for a consistent representation as industry infrastructure grows.

Recognising the need to act, ICMA launched the GMRA Clause Taxonomy and Library Project in October 2021 – seeking to explore the benefits of a catalogue of GMRA clauses and their negotiated business outcomes, together with a library of model wordings that could be used to draft for such outcomes in a standardised manner across market participants. This project commenced with a review of ten GMRA clauses to establish the ability of such work to drive consistent wording across the industry in repo documentation, improve the efficiency of the documentation process and assist with the management of legal agreement data.

The project has been a great success based on the wide engagement from ICMA members, recognising the benefits of the creation of a new operating paradigm that is suitable for the digital world. The industry has started to create the necessary building blocks to realise this vision. However, this of itself does not achieve many of its goals until the completion of this effort across all of the clauses of the GMRA.

This paper articulates the work undertaken so far on the GMRA Clause Taxonomy and Library Project, scopes out the work that remains, and highlights the role market participants need to play in this journey to make it successful and of most benefit to them, noting that we all have a vital role to play. We urge all members to share their ideas and input into this transformational project in order to build on the key role GMRA documentation plays in repo trading. This is the time to embrace the enhanced benefits of a digital documentation approach to the GMRA.

ICMA and the role of the GMRA

For over fifty years ICMA, a not-for-profit association, and its members have worked together to promote the development of the international capital and securities markets, pioneering the rules, principles and recommendations which have laid the foundations for their successful operation. ICMA currently serves close to 600 member firms in sixty-five jurisdictions. Among its members are private and official sector issuers, banks, broker-dealers, asset managers, pension funds, insurance companies, market infrastructure providers, central banks, and law firms. It provides industry-driven standards and recommendations, prioritising four core fixed income market areas:

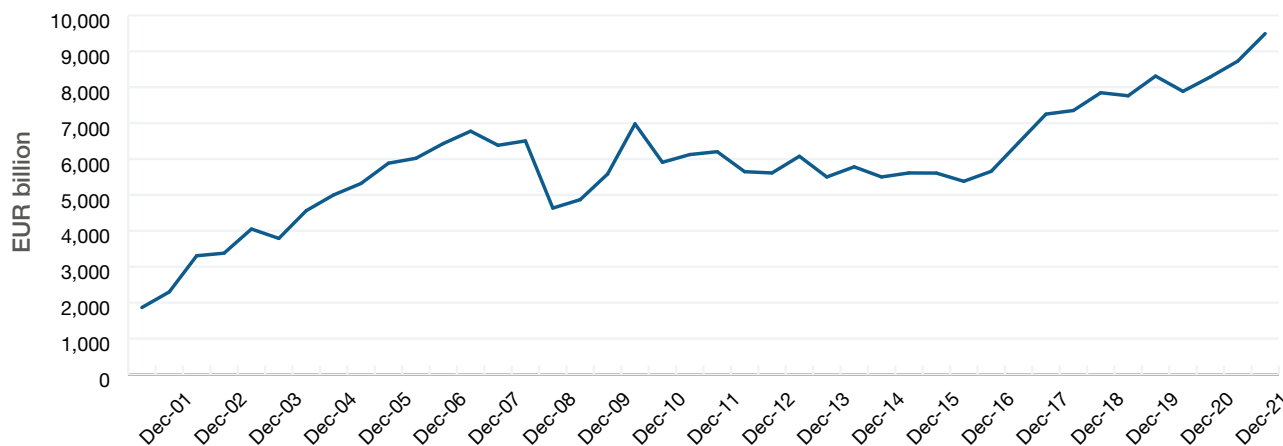
1. Primary;
2. Secondary;
3. Repo and collateral; and
4. Sustainable finance.

As part of this work, ICMA works with regulatory and governmental authorities, helping to ensure that financial regulation supports stable and efficient capital markets.

The repo market is often described as the ‘plumbing of the financial system’ and the application and uses of repo trading are many:

- providing an efficient source of short-term funding;
- providing resilience to money markets;
- secure and flexible short-term investments;
- facilitating central bank operations;
- financing leveraged investors and covering short investors;
- hedging of primary debt issuance;
- supporting corporate bond investors;
- ensuring liquidity in the secondary debt markets;
- fostering price discovery;
- hedging and pricing of OTC derivatives;
- preventing settlement failures and permitting faster settlement times;
- preventing market “squeezes”;
- allowing more efficient collateral management; and
- allowing more efficient employment of capital.

In terms of size of the repo market, the total value was measured at a record EUR 9,198 billion in 2021¹ and its increasing size can be seen through the growth over the last decade illustrated below:



[ICMA European repo market survey December 2021.](#)

The development of the Global Master Repurchase Agreement (known as the “**GMRA**”) has been crucial to this growth of the repo industry. The GMRA is primarily designed for short-term repos of simple, high-quality fixed-income securities that take the form of repurchase transactions, “repos”, between principals under the laws of England². First published in 1992, it was updated in 1995 and in 2000, with its latest version published in 2011 in order to respond to issues identified and faced by market participants in terms of the preprint provisions. Since its initial publication, various additions have been made to its document architecture in order to meet the evolving provision requirements and needs of the industry through GMRA annexes.

The success of the GMRA can be easily seen through its prevailing use globally for the documentation of relationships between market participants as a master netting agreement. To support the use of the GMRA in this context, ICMA commissions [annual legal opinions](#) on behalf of its members on the enforceability of the agreement as a whole and, in particular, the effectiveness of the agreement’s netting provisions in over sixty-five jurisdictions. The GMRA legal opinions consider transactions entered into by companies, banks and securities dealers, as well as the central bank (where relevant) and various other types of non-bank financial institution. For prudentially regulated ICMA members, the GMRA legal opinions are essential in securing regulatory capital relief and assessing their portfolio on a net rather than gross basis³. The legal opinions work on the basis that the GMRA has not been amended in a material manner⁴.

¹ Based on repos and reverse repos outstanding on the books of the 57 institutions which participated in the latest survey ICMA European Repo Market Survey run in December 2021 and published in April 2022.

² Annexes to the GMRA have been published to support broader use

³ Regulators require repos to be documented under robust written legal agreements like the GMRA, supported by regularly updated legal opinions, as a condition of recognising the reduction of credit risk by collateral and close-out netting in the calculation of regulatory capital requirements and large exposures

⁴ If material amendments have been made, or if further jurisdictions are involved (for example, one of the parties is incorporated in a jurisdiction that is not covered by an industry legal opinion), bespoke legal opinions may need to be obtained by the relevant party to ensure the legality, validity, and enforceability of the GMRA.

Adapting the standard

Documentation remains key to the effective functioning of the market. The GMRA has been shown to be incredibly robust and to date, has withstood the test of time, including the challenges presented by the global financial crisis. There have been very few challenges to the core language used in these preprint forms,⁵ and crucially, none of these challenges have fundamentally undermined the enforceability of the GMRA. It has:

- achieved a high degree of market acceptance globally;
- increased efficiency and reduced transaction costs;
- reduced basis risk between different forms of agreement for different security types; and
- promoted market liquidity.

As is the case with many industry standard legal agreements, market practice is to customise the GMRA, often a reflection of a market participant's individual form of templates or "house style". Even where customisation is required for specific business, regulatory or operational reasons, this customisation is achieved in a bespoke manner, or without an appreciation of the true cost of the exact detail of the contractual obligations being entered into that may not be supported by internal processes and systems.

The ever-increasing number of variants in the specific clauses used within the documentation framework increases the time taken for negotiation and onboarding of new client relationships. Where these variances have different commercial and operational effects, this has led to a need for often highly manual, bespoke business processes to monitor and respond to the contractual obligations in place. The rapidly evolving regulatory landscape that has emerged since the events of the financial crisis, requiring greater controls and much enhanced risk management, has put further strain on the processes and systems reliant on the specific legal agreement terms negotiated and their management. However, most of these documents are in hard copy form, or at best, scanned as image-based documents, forcing an analogue reality.

The digitisation of documentation

The world is increasingly marching to a new and exciting digital beat, where information through the medium of data can foster automation of previously manual tasks. We see this in our everyday lives, with innovation in technology being able to provide more and more assistance for broader society. As always, the financial services industry, through its ability to invest in nascent and then maturing technology, has led the way in many areas, from big data, artificial intelligence (AI) and machine learning, to distributed ledger technologies, such as the blockchain and its uses such as smart contracts.

⁵ In particular, challenges to the close-out provisions of the GMRA

Definitions

Big Data: High-volume, high-velocity and/or high-variety information assets that demand cost-effective, innovative forms of information processing that enable enhanced insight, decision making, and process automation⁶.

Artificial Intelligence: the science and engineering of making intelligent machines, especially intelligent computer programs. It is related to the similar task of using computers to understand human intelligence, but AI does not have to confine itself to methods that are biologically observable⁷.

Machine Learning: the science that is concerned with the question of how to construct computer programs that automatically improve with experience⁸.

Distributed Ledger Technology: a distributed database, in the sense that each node has a synchronized copy of the data, but departs from the traditional distributed database architectures in three important ways: (i) decentralisation; (ii) reliability in trust-less environments; (iii) cryptographic encryption⁹.

Blockchain: A distributed digital ledger of cryptographically signed transactions that are grouped into blocks. Each block is cryptographically linked to the previous one after validation and undergoing a consensus decision. As new blocks are added, older blocks become more difficult to modify. New blocks are replicated across copies of the ledger within the network, and any conflicts are resolved automatically using established rules¹⁰.

Smart Contract: an automatable and enforceable agreement. Automatable by computer, although some parts may require human input and control. Enforceable either by legal enforcement of rights and obligations or via tamper-proof execution of computer code¹¹.

It is, therefore, surprisingly the case that with regard to capital markets trading documentation, we are frequently still utilising technologies that are very much from the late 1990s. It is very common for market participants to utilise:

- MS Word templates in shared folders for their master agreement documentation
- Ad hoc know-how (for example in relation to amendments for QFC or recovery and resolution planning) in MS Word documents
- Spreadsheets to keep track of master agreement documentation negotiations and statuses, with emails utilised to obtain internal approvals where terms depart from internally approved standards
- Shared folders to store image-based versions of executed agreements and continued use of hard copy agreements in drawers
- Spreadsheets or simple manually inputted databases of legal agreement terms
- Wet-ink signatures being the norm¹² rather than digital signatures
- Hard copy signed documents, or image-based pdf documents that are not machine-readable

This clearly is a long way away from the promised world of AI-powered data extraction from our legal agreement documentation portfolios and smart contracts (see definition above) however, we cannot move forward with this digital agenda without the necessary foundations in place.

6 <https://www.gartner.com/en/information-technology/glossary/big-data>

7 McCarthy, J. (2007). What Is Artificial Intelligence? Technical report, Stanford University, Available online at: <http://jmc.stanford.edu/artificial-intelligence/what-is-ai/index.html> (Accessed June 2, 2018).

8 Mitchell, T. M. (1997). Machine learning. McGraw Hill Series in Computer Science. Maidenhead: McGraw-Hill

9 Bank of England (2017) The economics of distributed ledger technology for securities settlement. Staff Working Paper n.670.

Available at: <https://www.bankofengland.co.uk/-/media/boe/files/working-paper/2017/the-economics-of-distributed-ledger-technology-for-securities-settlement.pdf?la=en&hash=17895E1C1FEC86D37E12E4BE63BA9D9741577FE5>

10 Yaga, D., Mell, P., Roby, N., & Scarfone, K. (2018). Blockchain technology overview (Tech. Rep. No. NIST.40 R. V. PELT ET AL. IR.8202). Gaithersburg, MD: National Institute of Standards and Technology. Retrieved from <https://arxiv.org/abs/1906.11078>

11 Smart Contract Templates: foundations, design landscape and research directions, C.D.Clack, V.A.Bakshi and L.Brain. 2016. arXiv:1608.00771.

12 Noting that the recent pandemic has greatly assisted in the move to digital signatures in some cases purely down to necessity.

By way of introduction, the following technologies, systems, and standards are key to such a journey:

Master Agreement-type Taxonomies	<p>There are a number of different types of financial agreements, and more specifically, master agreements such as the GMRA, ISDA Master Agreement, GMSLA and MSFTA – as well as a number of local variants – with each having a number of preprint forms.</p> <p>An agreement type taxonomy creates a standardised manner in which to classify and identify such agreements (and for example, their vintages).</p>
Master Agreement Clause Taxonomies	<p>Master Agreements each contain a number of clauses that facilitate different outcomes in relation to particular topics. For example, a “Failure to Pay” clause is one that specifies whether, and if so, the conditions of, a failure to deliver securities constitutes an Event of Default. A Set-off clause is one that specifies whether obligations under the Agreement may be set-off (including what they may be set-off against and whose obligations are covered).</p> <p>A clause taxonomy enumerates and details the different variants a clause may take in terms of outcome it achieves (ignoring the particular drafting or formatting of how the clause is written out).</p>
Clause Libraries	<p>A clause library provides a library of wording for agreement clauses in order to achieve particular business outcomes. It may also provide, in addition to the text, a certain style and formatting for the wording it provides.</p>
Contract Lifecycle Management (CLM) Tools	<p>A system or platform that assists in the end-to-end management of legal agreements. They typically assist with the generation of wording from templates based on various user inputs (or from relevant onboarding systems).</p>
Legal Agreement Data Models	<p>A structure that can be used to represent the key terms and details of a legal agreement and its contents in the form of data in a standardised manner, noting relationships between clauses and definitions.</p>
Legal Agreement Management Systems	<p>A system that allows the storage of a portfolio of legal agreements and a record of its key terms and additional details about the documents (for example, the date they were executed, or details of the author of the document).</p>
Legal Agreement Data Extraction Systems	<p>A platform that assists with the automated extraction of key agreement terms from a portfolio of agreements based on a legal agreement data model that provides the structure and form in which the data should be presented.</p>

The case for a GMRA clause taxonomy and library

A master agreement such as the GMRA contains a number of clauses that aim to achieve certain business outcomes. In addition to those envisaged by the preprint itself, it is possible and common for further clauses to be added by the parties to the GMRA that create new business outcomes, or indeed, to amend the business outcomes in the preprint clauses. Such outcomes result in certain operational, regulatory, or other steps that must be taken (sometimes conditional on certain events occurring). Increasingly, such steps are automated through downstream systems such as margin management, risk, and settlement systems. It should therefore be possible to automate such steps if the documentation could be understood in terms of these business outcomes and if these outcomes were represented in a standardised manner across the industry. This would allow downstream systems to be better specified to operate with such a standardised representation of the contractual obligations contained in the documentation.

Efforts to represent such contractual obligations are today done individually by market participants in a bespoke manner, despite the fact that there is often little competitive advantage from the bespoke representation.

In addition, despite the fact that the preprint of the GMRA provides a market standard template, over the past thirty years, market participants have increasingly adopted their own house styles to drafting and formatting, despite the fact that exactly the same business outcome is being sought across many of these forms.

This approach creates a number of issues:

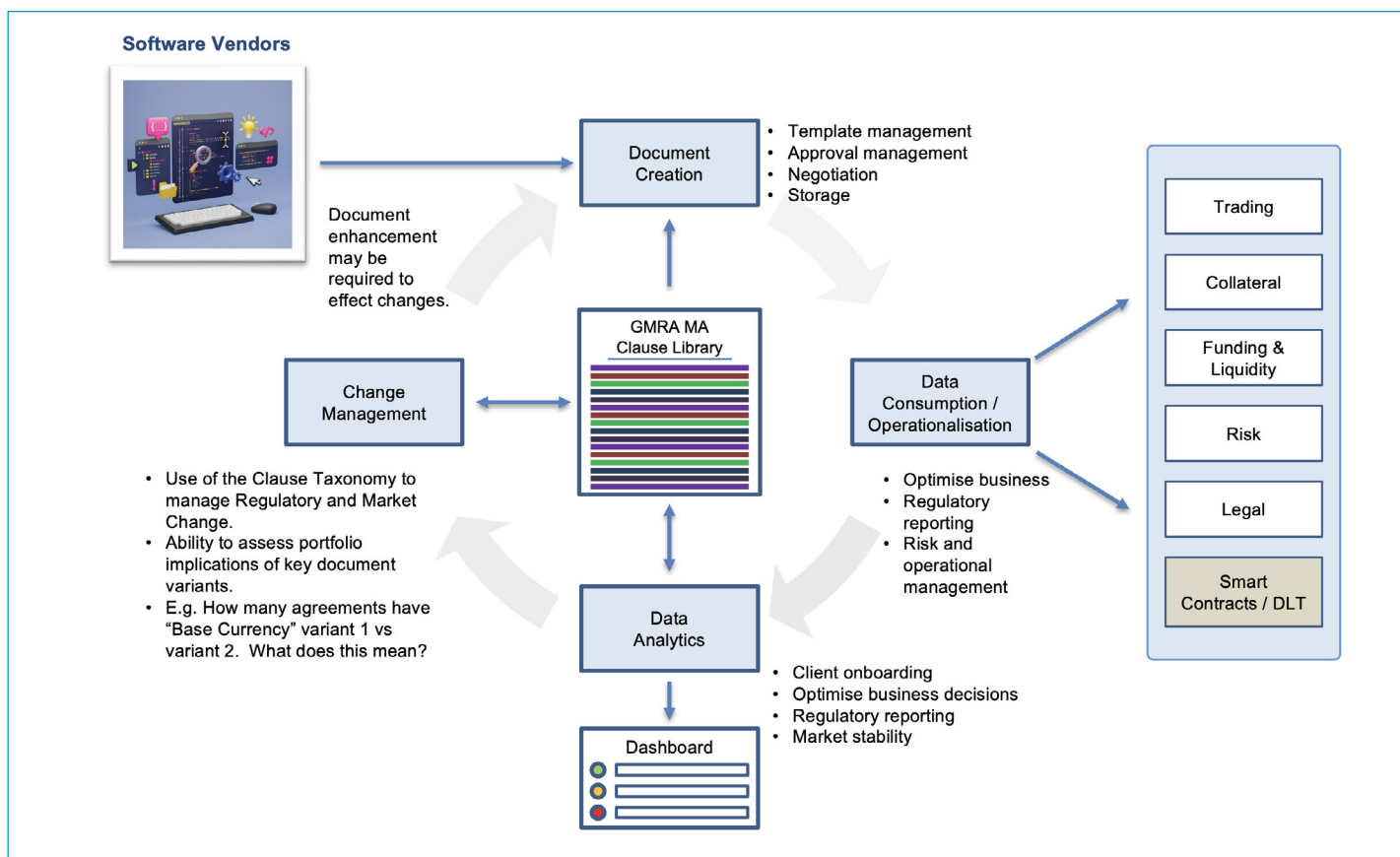
- it increases negotiation times due to the departure of wording from pre-approved positions;
- it increases operational risk due to the variety of wording used – some of which may be incorrect, sub-optimal or open to a different interpretation to other language that seemingly seeks to achieve the same business outcome; and
- it stunts the development of legal agreement data extraction tools that struggle to cope with the rich variety of wording and formatting utilised (as well as the lack of business outcome enumeration).

In a world adjusting to new technology, it has to be the case that the industry should converge around a common data /technology landscape that provides transparency and efficiency and fosters the development of an ecosystem of downstream systems that can operate across the industry and increases the total system development costs of the industry.

The first step to achieving this is to enumerate the clauses in an agreement such as the GMRA, and then enumerate the various different business outcomes that are commonly catered for by market participants in the industry.

Once clause taxonomies are in place, clause libraries can be created that provide for model wording to achieve the various business outcomes one might seek in the documentation.

Adoption of a clause taxonomy and library by a critical mass of market participants allows the industry to overcome the issues listed above. Accordingly, as convenors of their members that represent market participants, trade associations such as ICMA can assist by providing their credibility and support to such initiatives. This is especially true if the process by which such a clause taxonomy and library is developed involves engagement and active participation by the industry stakeholders in pursuit of a more efficient and enhanced documentation infrastructure.



Contract lifecycle management (CLM) tools

A contract lifecycle management tool typically assists in the end-to-end management of legal agreements. This can involve:

- management of agreement templates
- the generation of first drafts of agreements (either based on an “interview” process of those initiating the requirement for documentation, or through a feed of the information needed to generate the documentation from upstream systems – or a combination of these)
- workflow to assist the documentation negotiation process¹³, including the approvals needed as terms vary from those that might be pre-approved, and various document drafts during the negotiation process.
- management information and reporting on documentation negotiations
- document execution (including the use of digital signatures)
- capture of the terms in the executed agreements
- monitoring of events that might trigger some contractual rights or obligations within the documentation
- management of amendment or termination of agreements

There have been a number of attempts to utilise such CLM systems in respect of master trading agreements such as the GMRA. However, each user has individually borne the burden of defining clause libraries and the various negotiation standpoints applicable (essentially, the business outcomes detailed in a clause taxonomy). Accordingly, the development of an industry-agreed Clause Taxonomy and Library for a master agreement allows the market participants to unlock the utility of such systems.

CLM systems can assist market participants with a range of agreement and documentation types, for example ranging from non-disclosure agreements, employment agreements, notices, trade confirmations – all the way through to master trading agreements. Accordingly, in many cases, the business case to invest in CLM technology will usually extend far beyond that of simply master trading agreements and firms will have made system choices accordingly. It is therefore imperative to encourage maximum adoption for a particular industry vertical, such as the repo industry, that trade associations remain agnostic in terms of CLM vendor-selection, and rather assist with the creation of the standards (such as of a Clause Taxonomy and Library as well as legal agreement data models) that such systems can be built upon.

Integration with legal opinions

The ICMA GMRA Legal Opinions identify GMRA provisions whose modification is required for the enforceability and validity of the netting provisions, core provisions whose material alteration could affect the legal opinion conclusions, and those provisions whose modification would not impact them. The identification of the provisions in these categories can be difficult and imprecise. It would greatly enhance the process of applying the legal advice contained in ICMA GMRA legal opinions to particular legal agreements if the GMRA Clause Taxonomy and Library were to identify the classification of these clauses. This would simplify the process by which required (or helpful) language indicated by ICMA-commissioned legal opinions are incorporated into documentation in an orderly and controlled manner, as well as simplifying the netting determination process.

¹³ In some cases, these systems/platforms function as a negotiation platform, where the parties to the agreement can collaborate and negotiate terms, rather than sending word documents or markups to each other. This can help constrain the negotiations and form in which the negotiated agreement evolves.

Legal agreement data models

Although a clause taxonomy provides an enumeration of clauses and their possible business outcomes, the formal data representation of the information contained within a legal agreement such as the GMRA, needs to be provided as a logical data model or logical schema. This is a data model of a specific problem domain expressed independently of a particular database management product or storage technology – noting, of course, that different market participants may differ in their technology stacks. The data model is expressed through data structures such as relational tables and columns, object-oriented classes or XML tags which adds fixed structure and standards to the manner in which one collects information about contractual obligations contained in a legal agreement.

The Common Domain Model (CDM) is a standardised, machine-readable, and machine-executable blueprint for how financial products are traded and managed across the transaction lifecycle. It should be noted that the CDM has a placeholder for a legal agreement data model that could be utilised to build out a legal agreement data model that can be used by market participants. This would provide a consistent data structure to avoid each market participant (and related entities, such as software vendors) taking on this burden.

Legal agreement management systems and legal agreement data extraction systems

The management and tracking of legal agreement terms contained within master agreement trading portfolios has become increasingly important from the perspective of resource optimisation (such as capital, collateral, and liquidity), regulatory reporting, compliance and operational management.

Accordingly, a number of vendor products have emerged to facilitate this, as well as bespoke systems built for market participants. Due to the lack of an industry clause taxonomy and legal agreement data model, these system vendors as well as trading market participants have had to invest significant resources into bespoke data representations that can have little competitive advantage and stunt development and innovation in this area. This also extends to systems that attempt to automate the extraction of such data, for example using pre-written rules, artificial intelligence, or machine learning.

It should be noted again that market participants are likely to have chosen systems in this regard based on broader technology stack considerations, and accordingly, trade associations such as ICMA can best assist through the creation of standards to best unlock the value from such platforms, rather than alignment to particular systems or technologies.

The position today and next steps

Area	Progress in respect of Repo Documentation
Agreement-Type Taxonomy	Completed for the most recent versions of GMRA documentation (but not for Annexes) Effort to complete: Low
Clause Taxonomies	Completed for 10 clauses of the GMRA Effort to complete: Medium (there are c. another 30 clauses in order to complete this). With member engagement, this could be completed in c. 6 months.
Clause Libraries¹⁴	Completed for 10 clauses of the GMRA Effort to complete: Medium (there are c. another 30 clauses in order to complete this). With member engagement, this could be completed in c. 6 months (in parallel with the clause taxonomy).
Integration with ICMA Legal Opinions	Not commenced. Requires an analysis of the existing legal opinions and the GMRA provisions considered therein, as well as development of a methodology to ensure any integration can be maintained as legal opinion updates are obtained. Effort to complete: Medium (c. 6 months) once an agreed approach is developed.
Legal Agreement Data Model¹⁵	Not Commenced. Dependent on completion of the Clause Taxonomy and Library. The CDM for Repo and Bonds currently covers five of the seven dimensions of the ISDA CDM, namely: <ul style="list-style-type: none"> - product model - event model - process model - reference data model - mapping (synonym). It does not cover legal agreement. Effort: High (c. 12-18m of effort. Dependency on completion of the Clause Taxonomy and Library for all GMRA clauses).

The path to smart contracts

In the current decade, smart contracts have the ability to allow for the written contract-based industry to embrace the advantages of the data economy with their ability to record and perform the obligations of a legally binding contract.

Several different types of clauses exist within legal agreements, such as operational and non-operational clauses, as well as clauses that might be susceptible to automation and self-execution, or indeed, those where this would be undesirable.

The clause taxonomy provides a much-needed standardised way of identifying and categorising the clauses (and the relevant variants), as well as the outcomes that would, where relevant, be automated, and those that would continue to remain manual in a distributed ledger/smart contracts environment.

¹⁴ It should be noted that a completed GMRA clause library would provide a significant accelerator in respect of the use of contract lifecycle management tools that exist today.

¹⁵ It should be noted that a completed GMRA clause taxonomy and data model would provide a significant accelerator in respect of the use of legal agreement management, as well as data extraction systems that exist today.

Conclusion

The current ICMA GMRA Clause Taxonomy and Library Project has shown the desire of the ICMA membership to take this foundational step towards achieving greater efficiencies in the negotiation of GMRA documentation, greater standardisation of drafting and a more data-centric approach to documentation. The real benefits however can only be realised upon the completion of this work across the entirety of the GMRA.

It is therefore imperative that we are able to build on the momentum of the current work and drive its completion across the whole document and seek to embrace the benefits that its digitisation will bring. We urge members to proactively engage with this important journey and join the Clause Library and Taxonomy Working Group leading this work.

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