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# LEGAL ENTITY DATA: MAPPING THE CORPORATE GENOME



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## INTRODUCTION

The quality of legal entity data has come to the forefront of issues faced by risk management and compliance professionals over the past few years. The 2008 financial crisis exposed serious gaps in the core architecture of the industry and the ability of financial services institutions to adequately measure credit and market risk. A major factor that exacerbated risk and contagion was the complexity and interconnected nature of the corporate structures of securities issuers and market counterparties.

As the industry debates regulatory reform and the course toward greater transparency and stability, we are entering a new phase in the evolution of financial data and a potential renaissance in the approach to risk management. Legal entity data will be the core building block of this renaissance. This paper provides an introduction to the issues and opportunities created by a renewed focus on legal entity data.

We propose a different perspective on value of legal entity data as the core foundation of how institutions manage financial information and risk. In the wake of crisis and the serious challenges faced by financial institutions, it's normal to think in defensive terms – reducing costs, avoidance of risks, etc.

However, it's been said that you measure risk and opportunity by the same benchmark, they are inseparable. Therefore, it would be a mistake to overlook the potential predictive value of legal entity data in terms of discovering revenue opportunity and supporting investment and trading decisions. Beyond risk, compliance, and other operational functions, the true potential of legal entity data will be realized when the focus evolves from looking at the world in term of cost to looking at it in terms of revenue – from playing defense to going back on offense.

When it comes to the global economy there are at least two things we know to be true. First, markets tend to surprise us. Second, there are great fortunes to be made by those that are slightly less surprised.

The ability to understand the full dimensions of the corporate organism may be the key to being slightly less surprised.

## SCOPE OF LEGAL ENTITIES:

- Issuers of securities and debt – corporations, sovereign governments, local government, non-government agencies, etc
- Institutional participants in capital markets – broker/dealers, banks, investment advisors, funds, insurance companies, etc
- Private companies

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# MAPPING THE CORPORATE GENOME

Whether they are issuers of securities or market counterparties to a transaction, there are thousands of financial and environmental variables that impact the risk profile of a legal entity. The nature of intricate ownership and governance structures between entities can create an endless amount of corporate relationships which adds further to complexity of risk assessments.

There are many parallels to be drawn from scientific efforts to explain the physical world by capturing the building blocks of entities at their constituent level. At its basic level, science considers the connectivity between individual components, develops hypotheses on what happens when you introduce external changes, and then makes observations on the outcome. The process must start with an understanding of the individual components. Managing complexity starts with discovering the corporate structure of an entity at an atomic level.

A good example is the study of genetics and how it began with a map of human genome and the sequences of genetic material that represent the building blocks of DNA. Capturing, documenting, and isolating the foundational components was the watershed event in the science and critical to start the process of understanding the complex interactions between genes, environment, and inheritance.

By mapping and isolating the components of the genome, scientists were able to develop and test predictive risk models. Are there genetic factors that indicate a vulnerability to disease – or other

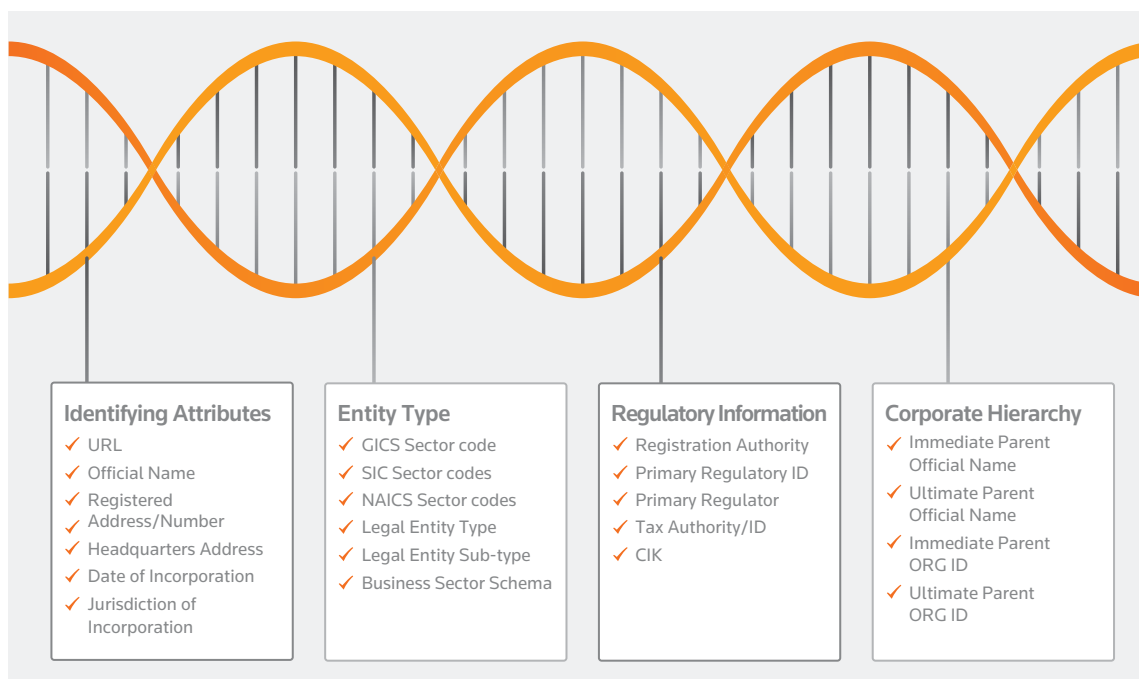
combinations that offer a sign the individual may have a lower risk of contracting disease? How are these factors influenced by environmental conditions? How are traits inherited by offspring? Which traits act alone – which act in concert with others? With the genome mapped, scientists could see alterations in the sequences of genes and the dramatic impact on the organism as a whole.

This analogy serves to remind us that the first step in developing the science of prediction is defining and documenting the core structure of the entity. It follows that to advance our understanding of credit and market risk, we first must map and document the core reference data of the corporate genome. Are there factors in the corporate genome that indicate the potential for distress or the potential growth of a company? Do these markers have predictive connotations on the value of a company and the price of a security? What factors act alone – which are correlated with others?

As it turns out, investment and risk decisions – like the science of genetics – ask many of the same questions. Many firms struggled with how they uniquely identify an entity, its core attributes, their corporate hierarchy, and how to link entities to outstanding positions, transactions and other data used to assess counterparty and credit risk.

We cannot begin to better understand the complex behaviour of markets and companies until we begin to understand their core structures at an atomic level.

## THE LEGAL GENOME:



*“I’ve abandoned free market principles in order to save the free market system.” – George Bush, President, United States of America.*

#### REGULATORY REFORM & LEGAL ENTITY

In the wake of the crisis of 2008 it became very clear that we didn’t understand the interactions between markets, liquidity, valuations, correlations, and prudent risk management. The severity of the crisis has fundamentally changed public perception of the banking industry and populist politics in many countries has influenced the approach to legislation and reform. The event will serve as a case study for public policy debates regarding the role of regulators in managing risk and when federal authorities should intervene in the markets with capital supplied by taxpayers. Former U.S. president George Bush ironically summed up the debate when describing TARP; “I’ve abandoned free market principles in order to save the free market system.”

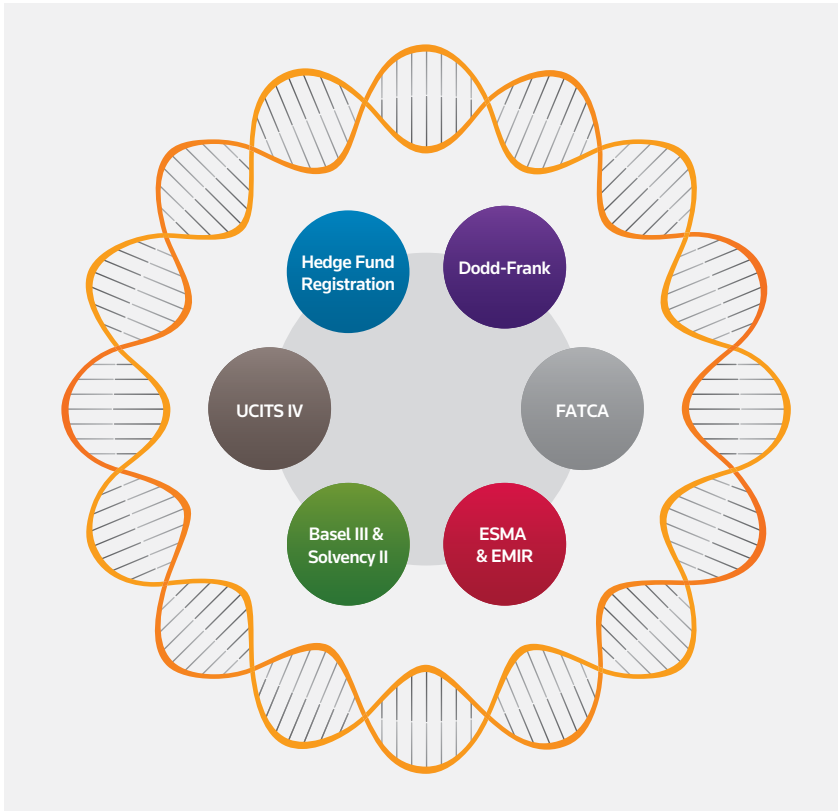
There are three common themes that many of these initiatives share. First, institutions must have the ability to uniquely and unambiguously identify the entities they do business with – be they an issuer of securities, a customer, or a trading counterparty. Second, the first principle of risk management and regulatory reform is know who you are dealing. That means institutions must understand the corporate structure and nature of the business of those entities – what is their national origin, industrial classification, credit rating, have they been sanctioned by a regulator, where is the capitalized entity or obligor located, etc. Third, institutions must have the ability to roll up, assess, and disclose aggregate exposure to those entities across all asset classes and transactions that have a credit risk.

The provisions that underpin Basel III offer a perfect example of how a firm’s ability to identify an entity has a material impact on its ability to trade and generate revenue. To the extent that it can define both the entity and the associated credit risk, it can justify the risk weighted capital that it must set aside under the new rules to protect the firm in the event that the counterparty defaults on an obligation. On the other hand, being unable to properly identify the counterparty, the new rules require that 100% of the exposure be set aside as tier 1 capital, meaning that cash on the sidelines no longer is available for generating revenue and profits from trading. Solvency II, often called Basel for insurance companies, will impose the same requirement in terms of identification of entities and the assessment of exposure needed to justify capital allocations.

The Foreign Account Tax Compliance Act (FATCA) will have a dramatic impact on all institutions that manage any type of asset owned by a US person. These assets aren’t limited to cash and securities but include any asset that has a taxable event – royalties, rent, real estate, insurance policies and direct ownership stakes in businesses. Foreign Financial Institutions (FFIs) will be required to report information directly to the Internal Revenue Service about financial accounts or foreign entities in which US taxpayers hold a substantial ownership interest, even if assets aren’t incorporated in or physically located within the United States. Depending on the identity of the FFI and their compliance with FATCA, any failure to comply will result in a punitive 30% withholding tax levied on these US investment flows, irrespective of whether these represent investor or corporate monies.

FATCA will require clear identification of individuals and corporate entities for screening, due diligence, and transaction processing. However, the US legislation could be a harbinger of increasingly aggressive tax collection policies that will require the ability to classify clients and banks relative to their regulatory status and domicile. If the US government is successful in generating more tax revenue with FATCA, there is a strong likelihood that other tax authorities will consider implementing similar policies to track the assets of their citizens held in foreign accounts.

## REGULATORY REFORM



This exhibit lists just a few of the regulatory initiatives that will have profound impact on the industry and will require banks to collectively invest perhaps billions in new infrastructure and operation to comply with new rules, disclosures, and risk management systems. These new investments occur as banks face some of the stiffest headwinds their core business model has seen in years.



The Dodd-Frank legislation and new U.S. Commodity Futures Trading Commission (CFTC) disclosure requirements also emphasize the issue of clearly identifying the nature of those entities with whom we are dealing, in this case, the identify of the trading counterparty. Specifically, to promote a greater degree of transparency in the OTC derivative market, Title 7 requires the disclosure of OTC positions to the CFTC. This measure has spawned a number of academic papers and prompted the creation of working groups, all of which are intent on finding ways to uniquely identify swaps (Unique Product Identifier) and their counterparties (Legal Entity Identifier).

Dodd-Frank also calls for the establishment of “living wills” of institutions that have more than 250 billion in assets. In the wake of Lehman Brothers living wills are designed to define a blueprint on how an insolvent bank could be unwound or sell off subsidiaries without the need for a taxpayer funded intervention. Again, given their complexity, global banks are even challenged to understand the structure of their own organization in order to comply with new regulations. The regulatory reforms described above have clearly put a premium on legal entity identification and will serve as a catalyst for higher expectations on the reporting and risk management capability of financial institutions.



**LEI ORIGINATION:**

The Legal Entity Identifier (LEI) initiative and the need for unique identification of counterparties began with academic papers written in the post-mortem of the financial crisis. Previous initiatives to standardize the identification of entities lacked appropriate sponsorship by regulators and institutions and failed to gain momentum. The promotion on an LEI system was reborn with a consortium of trade associations under the direction of the Office of Financial Research (OFR). Its aim is the creation of an accurate and distinctive identifier for legal entities that have a systemic importance when it comes to the stability of financial markets, and that are active in markets in general and specifically in the trading of OTC derivatives. Ultimately, LEI's reach will extend to all issuers of both debt and equity securities and even to privately-owned corporations.

**THE LEI INITIATIVE**

The initiative gained additional support with the Financial Stability Board (FSB), the OFR, and the Group of Twenty Finance Ministers and Central Bank Governors (G20) all endorsing the development of a global LEI system along with an appropriate governance structure representing the public interest.

Adopting the LEI as a foundational standard will improve the industry's ability to link and share information on legal entities. For the last 25 years the industry has employed data standards such as the SEDOL, CUSIP and ISIN in an effort to uniquely identify securities issues when processing trades and reporting on financial markets transactions. The LEI system will bring to the capital markets the same kind of clarity and insight, not only helping to identify institutions but becoming a kind of key that will assist market participants in linking specific financial activities with the risks associated with a particular entity or its affiliates. By helping to automate the exchange of information between financial institutions and regulators, and eventually between market data vendors and their customers, LEI will help firms to manage both counterparty risk and concentration exposure.

When it launches, the LEI will replace the proprietary symbology currently being used by individual banks and data vendors as a means of matching records and as a way to exchange information between institutions and organizations with disparate systems. At the end of the day, symbology just serves the role of a key, giving its holder the ability to unlock information and analyze it more effectively. Unfortunately, today's system, in which an individual vendor's proprietary code structure is a key unlocking only a single door, has limited utility for anyone trying to understand systemic sources of risk. Once adopted by a critical mass of systems, the LEI could ultimately become a skeleton key capable of unlocking many doors.

The Financial Stability Board has issued a set of recommendations on how to move forward with the LEI. These include the establishment of a Regulatory Oversight Committee (ROC) that will have the authority to create a governance process to manage the collection, validation, and distribution of LEIs. The ROC would be responsible for implementing and overseeing the establishment of a federated model where a Central Operating Unit will logically centralize the identifiers of a network or Local Operating Units representing individual countries or jurisdictions. The governance and implementation model is early in its formation and it has not been determined which local utilities in each market that will provide the technology and services to support this federated model. The FSB set an aggressive timeline of March 2013 for the initial stages of implementation but a fully functioning system capable of publishing LEIs on a critical mass of entities will take much longer.

If it is to achieve its full potential, LEI will require the support of market data vendors. The vast majority of institutions won't create direct links to the LEI central operating unit in order to acquire and maintain LEIs. Rather, firms will license legal entity data from vendors that offer the LEI as an attribute cross-reference within a data product.

Thomson Reuters is a strong supporter of standards in the data industry and has participated in expert working groups helping to create the LEI. We believe the identification of an entity and its corporate structure is only a first step, however. The bigger opportunity is devise a way to link a specific entity with a broad array of data and analytics that will help market participants gain predictive insight into an issuer or counterparty. The LEI will be one building block that will support the evolution of risk management.

With all the discussion and debate about the appropriate governance and implementation model, we should not lose sight that the development of an LEI system is not the ultimate goal. Likewise, the disclosure of swap positions in and of itself is not the objective. The goal is greater financial stability and a proactive risk management system that can take remedial action before an episode of systemic risk.

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# EVOLVING FROM SECURITIES-CENTRIC TO ENTITY-CENTRIC

The ability to aggregate, link, and assess total exposure to a given counterparty or issuer is a primary pillar of enterprise risk management. This “roll-up”, as it is known, is vital to any individual or organization who is trying to track credit limits, monitor capital allocations, and calculate the collateral required to protect the institution in the event of a default on an obligation or the insolvency of an issuer. Being able to assess total exposure to a given entity on a timely basis can spell the difference between survival and collapse during times of financial chaos. It’s important even in less volatile times, which is why the latency and imprecision of tracking exposure and providing actionable information to executives on risk positions remains a major industry challenge.

Assessing exposure is a complex matter, because it’s not limited to any single asset class; rather, an institution has to take into consideration positions that may exist in areas ranging from exchange-traded stocks (such as unsettled equity trades) to OTC derivatives. Trading desks, business applications, and operations for most firms were developed to meet the specific needs of one asset class. National and supranational utilities from exchanges to clearing houses evolved in the same way as separate infrastructure was created to manage FX, equities, fixed income, and derivatives.

As the infrastructure in the capital markets industry evolved, silos of incompatible data structures and technologies storing all of the relevant transactions, positions, and reference data were the logical result. Multiply asset class silos by the number of lines of business and geographies a global firm competes in and the challenge of risk aggregation grows larger. Now consider the complexity of the interwoven corporate structures and legal entity hierarchies that represent market counterparties linked to asset class, transitions, and positions and the problem grows exponentially. All of these factors have led to the fact that most firms are unable to execute timely or accurate roll-ups of exposure across asset classes, lines of business, and geography.

The primary challenge in risk reporting stems from this proposition that the capital markets industry evolved with a “securities-centric” view, where the asset class or security became the center of the data universe. Various security master files became among the most important databases of record within the institution and drove the processing of trades and reporting across the enterprise. The data model, often asset class specific, collected hundreds of attributes to describe the characteristics, terms, conditions of an individual security based on the investor’s rights of ownership. Additional data was attached to a securities record in an attempt to better understand and predict the price of the security and how it correlated to other financial information.

The approach to data management, risk, and investment decision support all focused on trying to explain the price of a security as the dependant variable in every equation. A security and its price became the center of the data universe.

This isn’t irrational; the security instrument is the tangible evidence of an investor’s participation in the equity or debt of a legal entity. Since it is the instrument of trade and measurement, it is logical that it evolved as the focus of our data management strategy. Developing siloed systems and processes to cater for the unique behavior of an asset class was a practical approach to manage new securities as they emerged. Given the sheer complexity, trying to develop monolithic systems that claim to support trading of all asset classes should be looked at with great suspicion.

While this makes sense, the actual legal entity that issued the security, and all the variables that explain its prospects for the future, was almost an afterthought. As further evidence to support this notion, we even generically refer to our business as the “securities industry.”

In a perfect world it might be possible to have all systems that are multi-asset class, but the reality is that silos are here to stay. The task that remains is how to logically join together silos of trade and position data for functions that require a holistic view. Legal entity data will be the cornerstone of this effort.

# THE NEW CENTER

*“The capital markets industry will embrace a more ‘entity centric’ view of the business and will focus on how to put legal entity at the centre of our data universe.”*

At the end of the day the performance of the legal entity predicts the value of the security. It is, perhaps, the ultimate irony that an investment analyst may be familiar with every detail of a specific stock and how its performance is correlated with other indicators, and yet know considerably less about the detailed corporate structure of the legal entity that issued it.

This paper suggests the capital markets industry will embrace a more “entity-centric” view of the business. We believe the evolution of the industry will focus on how to put the legal entity at the center of our data universe and make it the dependent variable of the equation. The approach will not only advance the ability to aggregate and measure exposure for risk management or compliance but will join data sets together for the first time that will help discover trading and investment opportunities.

The journey toward this goal starts with acquiring and linking as much information to the entity itself. This includes not only unique identification and an accurate description of the entity and its corporate hierarchy, but all relevant information that can provide predictive insight into the risks of doing business with the entity, whether it is as a customer, counterparty, or investor. It is impossible to over-emphasize the importance of obtaining correct core attributes for every piece of legal entity data. This means verifying such basic information such as an entity’s name, address, country of domicile/risk, cross-referencing of identifiers, and industrial classifications.

The next step is linking securities instruments to a specific issuing entity, and then tying the entity to its ultimate parent. It isn’t just a question of linking securities with the ultimate parent company; this process must include cross-linkages amongst a legal entity’s subsidiaries, affiliates, special purpose vehicles, and must take into account the percentage ownership within the whole corporate structure. As discussed above, the ability to roll up exposure to a single entity is a primary use-case for a host of critical functions related to concentration and exposure. This is the foundation for legal entity data but it’s the ability to link value added content sets to the entity that holds the greatest potential.

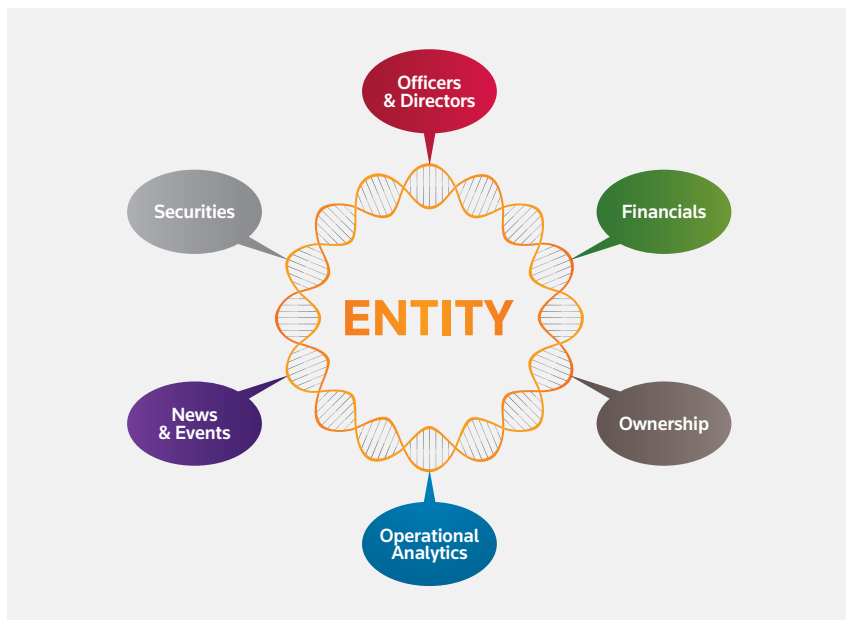
## THOMSON REUTERS VISION

We believe it is the role of firms like Thomson Reuters to leverage the legal entity as the core object to link value added information together. This will promote the development of innovative content packages and analytics to support specific business processes such as client on-boarding, portfolio compliance, risk management, customer relationship management, and investment decision support. As the genome analogy suggests, it starts with a clear vision of hierarchies and relationships. Still, while understanding the entity is crucial, the goal is a broader one: it is about what information that can be attached to that entity that will give insight into the potential for prosperity or the risk of distress.



Thomson Reuters vision of the future is one in which its clients will be able to access any piece of data related to a legal entity that could affect that client's view of the risk associated with any kind of relationship it has to that entity – as an investor, as a counterparty, as a customer, a lender, and so on; regardless of whether that data alters a credit, compliance or investment decision.

#### LEGAL ENTITY: CREATING THE LINCHPIN



The value we create comes from being able to link data sets that were previously siloed and from creating common semantics between data sets, establishing reliable cross-referencing methodologies between regulatory taxonomies, and offering links to standard symbolologies like LEI. To achieve this vision we will leverage our global collection infrastructure and emerge as the premier provider of information linked to the corporate entity. Our goal is to provide the standardized delivery platforms to navigate, visualize, and access the connections. Our entity-centric approach will give users a 360-degree view of risk exposure, enabling institutions to untangle the complex dimensions of modern business entities and hierarchies

The future of the market data industry is open, not closed. Open means the ability access the broadest variety of data and integrate content into the workflow of business applications with a minimal amount of friction. Open means freedom of choice on platforms and independent and neutral technology to manage data from content suppliers. Open means the elimination of proprietary lock-ins and standards.

Market data providers ultimately will be judged on their ability to link to and coordinate the widest variety of content available, to make it consistent, and to be able to deliver it through open platforms. To this end, Thomson Reuters is committed to mapping the "corporate genome" and promoting the evolution of legal entity data for the benefit of forward-looking institutions looking for innovation in risk management and an edge in the marketplace.

#### THOMSON REUTERS VISION IS TO LINK LEGAL ENTITIES TO:

- Fundamental and historical financial data and research on securities
- Evaluated pricing for OTC instruments, structured products, and loans
- Data to screen entities for client onboarding, KYC, and AML, to determine risk of sanctioned by regulators or governments and potential reputational risk
- Credit analytics and operational metrics
- Linking funds to fund management companies, trustees, transfer agents, and custodians
- People are a huge part of the legal entity equation – officers, directors, analysts, traders, portfolio managers, politically exposed persons – and how they are linked to entities
- Ownership structures of private companies
- Sentiment indices compiled from aggregated transaction data sources from industry utilities
- Tracking M&A activities, deals, and changes in corporate structure
- Linking news and real time events as they happen
- Lawsuits, patents, and other legal filings
- Supply chain risks including ownership details, environmental compliance, political risks, and geographical risk
- Third-party content and analytics

### ABOUT THOMSON REUTERS

Thomson Reuters DataScope Legal Entity Data provides comprehensive, auditable, fully maintained business entity data for your compliance and audit needs. We have more than a million entity records in our database consisting of issuers of equity and debt instruments along with their ultimate parents, subsidiaries, and affiliated organizations. To build and maintain our universe of legal entities, we maintain a global team of more than 250 market analysts, gathering data from more than 1,000 authoritative sources, with a clear focus on the highest quality and efficiency. Get the insight you need to effectively manage your global risk exposure and ensure regulatory compliance.

For more information on Thomson Reuters DataScope Legal Entity, [click here](#)

### ABOUT THE AUTHOR

Tim is a financial services technology executive with more than 20 years of experience domestic and international experience in the securities industry. His particular focus has been on the strategic deployment of technology to manage data, transaction processing and risk management. He joined Thomson Reuters in 2010, and as the Global Head of Legal Entity Content he is responsible for driving continued growth in the firm's content business related to reference data, corporate actions, and legal entity.