Derivatives Symbology – MiFID II Regulatory Report

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1 Executive Summary

1.1 Regulatory Working Group Objective

The goal of the regulatory working group was to identify the direct and implied requirements on a derivatives' instrument identifier by MiFID II/MiFIR.

1.2 Key Findings

- MiFID II requires most OTC derivatives to have an ISIN
- There is no specification as to the level of granularity of the ISIN
- There are implied levels but these are not explicit.

1.2.1 MiFID II Objectives

MiFID II is focused on the orderly functioning of markets through transparency and market monitoring for abuse and through transaction reporting. From an instrument identifier perspective, the key obligations of the regulation are:
Venues and Systematic Internalisers (SI) must supply instrument reference data for derivatives that are tradable[1] on a venue to their national authority everyday

- Venues and SI for derivative instruments must make public pre-trade and post-trade data for the various trading models
- SI determination will be set at the instrument level, using the identifier as the basis for calculations
- Investment firms must submit transaction reports to the regulator detailing all in-scope derivative transactions they have executed.

1.2.2 MiFID II Instrument Scope

The different obligations have slightly different coverage from an instrument perspective:

Reference Data
- All derivatives tradable on a venue (including SI) need an ISIN.

Transparency
- All derivatives traded on an EU trading venue.

Transaction Reporting
- All derivatives tradeable on a venue need an ISIN
- For all derivatives that are in the reporting scope and that are not, as such, tradable on a venue, the underlyer (or its components) that is/are tradable on a venue need to be identified by an ISIN
- NB. Transaction reporting is required by all MiFID II Investment Firms (at a minimum).

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[1] 'Tradable' implies that the instrument has previously traded on, or has been requested to trade, on a venue.

Best Execution
- All derivatives tradeable on a venue
- Note that ISIN is optional in this obligation.

1.2.3 Alternatives to ISIN in MiFID II

- When an ISIN is not available, the transparency regulatory standards permit using an 'OTHR' identifier that is based on a set of fields[2]
  - We understand the rationale for the use of OTHR to be the following: Given that the list of ISINs related to the financial instruments traded on a given day is published by ESMA at the beginning of the following day, we understand that in exceptional circumstances and for technical reasons an ISIN might not be available to some firms before the publication deadline. However, this should not prevent such firms to provide timely pre-trade and post-trade information.
- The instrument details section of the transaction reporting obligations state that a set of fields can be used where an ISIN is not available[3]
- Note that for Reference Data, an ISIN is required before an instrument is made available for trading on a venue or SI[4].

1.2.4 Liquidity Classification for Transparency

- MiFID II has three categories of classification in this order of granularity:
  - class
  - sub-asset class
  - sub-class
- ESMA's transparency regime is designed around sub-asset class and sub-classes of financial products to which liquidity and size tests are applied[5]
  - The liquidity and size tests are conducted at the sub-class level
  - It is expected that SI calculations will also be done at this level
- There is no specification in the regulations of whether these classes should be included in an instrument identifier or should have an identifier of their own.

1.2.5 ISIN Specification

- The regulations do not specify a particular level of granularity. Essentially, for the various standards, they require a set of fields one of which is an ISIN. A relative coarse minimum level seems to be implied, but they are not explicit
- The Regulatory WG did have some specific recommendations for the project to consider:
  - An identifier (ISIN or other) to represent the liquidity sub-class to facilitate implementation of the liquidity & size tests (no consensus)
  - An identifier (ISIN or other) to represent the indicated level of granularity to meet the reporting and reference data requirements

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[2] 2015 ESMA Regulatory Technical and Implementing Standards – Annex I RTS 2 Annex II Table 2 p67

[3] 2015 ESMA Regulatory Technical and Implementing Standards – Annex I RTS 22 Annex I Table 2 p451

[4] 2015 ESMA Regulatory Technical and Implementing Standards – Annex I RTS 23 Article 3(1) p463

[5] 2015 ESMA Regulatory Technical and Implementing Standards – Annex I RTS 2 Annex III p74

- Use tenor rather than maturity date in the ISIN meta data so that consumers can track prices of the same instrument over time
- Use an indicator for non-standard so that consumers know which prices are comparable.

1.3 Key Open Issues

Given the current structure of ISINs and their issuance process alongside the regulatory requirements, there are a few key issues around their use:

- The reference data, transparency and transaction reporting standards all indicate potentially different levels of granularity for an ISIN depending on where they are in the hierarchy
- This provides the opportunity for a flexible solution that can support distinct uses and requirements
- Two options can be pursued to handle non-benchmark swaps:
  - Real-time ISIN creation – but current ISIN creation is not real-time
  - Pre-allocation of ISINs – but number of permutations is huge and there is a risk of running out of ISINs
- As of writing, there is no specification as to how pre-allocation might work – the different implementation models present different challenges to the industry around ISIN issuance and use. One obvious one is applying different identifiers to the same instrument when traded at different venues that each have their own blank pre-allocated identifiers.

1.4 Key Question

Does the granularity of an ISIN exactly match that suggested in RTS 23 & RTS 2?

2 Introduction

This report details the requirements, both direct and implied, for an instrument identifier for derivatives by MiFID II and MIFIR.

The report focuses on the technical standards that specify the details on reference data, transparency and transaction reporting. It is segregated into the different product types that are currently being considered by the ISDA Derivatives Symbology project.

In addition, there are a set of challenges that connect the requirements to the practicalities of using an ISIN as it is currently specified.

The detailed field analysis is contained in the excel workbook 'Consolidated RTS Analysis – Symbology v5.1a.

3 Product Scope

In MiFID II, all derivatives that are admitted to trading or were traded on a venue will require an ISIN identifier. In addition, systematic internalisers will be required to identify the instruments for which they are an SI, with an ISIN.

Regulatory Use Case	Instruments	Organizations
Reference Data	• All derivatives admitted to trading or are traded on a venue • Derivatives for which a firm is acting as an SI	• Trading Venues – Regulated Markets, Organized Trading Facility & Multi-Lateral Trading Facility • Systematic Internalisers
Transparency	• All derivatives admitted to trading or traded on a venue	• Trading Venues • Systematic Internalisers (post-trade)
Transaction Reporting	• All derivatives admitted to trading or traded on a venue	• Trading Venues • Systematic Internalisers • Investment Firms
Best Execution (ISIN is optional)	• All derivatives admitted to trading or traded on a venue • Derivatives for which a firm is acting as an SI	• Trading Venues • Systematic Internalisers • Market makers & other liquidity providers

The sub-asset classes covered by MiFID II are[6]:

	Cash	Options	Futures	Forwards	CFDs	Other
Equities	X	X	X	X	X	X
Interest Rates	X	X	X	X	X	X
Credit	X	X	X	X	X	X
FX		X	X	X	X	X
Commodities		X	X	X	X	X

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[6] MiFID (65/2014). Annex I Section C p481

4 Product Analysis

4.1 Explanation

- Each product section is separated, where relevant, into individual products (e.g., CDS Single Name)
- Within each product section, the regulatory fields section specifies those fields for the following standards:
    - Reference Data[7]
    - Transparency[8]
    - Reporting[9]
- The field names and format are taken directly from the regulation
- The tables list the fields along with the format as required by MiFID II regulations for reference data, transparency and reporting. It is a combination of the relevant fields for those standards and is an indicator, but not a definition, of the level of granularity for a single ISIN
- The liquidity class column indicates whether the field is included in the liquidity classification.

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[7] 2015 ESMA 1464 Annex I. RTS 23. Annex I. Table 3 p471

[8] 2015 ESMA 1464 Annex I. RTS 2. Annex III p74-166 and IV. Table 2 p167-172

[9] 2015 ESMA 1464 Annex I. RTS 22. Annex I p443

4.2 Credit

4.2.1 CDS Single Name

Regulatory Fields

Fields	Format	Liquidity Sub-class[10]	Notes / Credit WG suggested fields
Instrument identification code	{ISIN}		
Instrument full name	{ALPHANUM-350}		Note: Different venues use different names - if included in the meta-data, this results in different ISINs for the same instrument
Instrument classification	{CFI CODE}	Yes	E.g., SCUCCC[11]
Commodities derivative indicator	=No		
Notional currency 1	{CURRENCYCODE_3}	Yes	Currency
Expiry date	{DATEFORMAT}	Yes	Credit WG: Termination Date
Price multiplier	{ DECIMAL-18/17}		
Underlying instrument code	{ISIN}		
Underlying issuer	{LEI}	Yes	Credit WG: Reference Entity
MiFIR identifier	=DERV		Static
Asset class of the underlying	=CRDT		Static
Contract type	=SWAP		Static
Issuer of sovereign and public type	'TRUE' or 'FALSE'	Yes	
Delivery Type	PHYS / CASH / OPT		Note: Specified by the CFI Code

Liquidity Assessment, LIS & SSTI Thresholds
These tests are segregated by class, sub-asset class and sub-class. These are defined as follows:
- **Class:** bonds, structured finance products, securitised derivatives, interest rate derivatives, equity derivatives, commodity derivatives, foreign exchange derivatives, credit derivatives, C10 derivatives, CFDs, emission allowances and emission allowance derivatives
- **Sub-asset Class:** Index credit default swap, Single name credit default swap, CDS index options, Single name CDS options and Other credit derivatives
- **Sub-classes (for a Single name):**
  - Underlying reference entity
  - Issuer of sovereign and public type
  - Notional Currency 1
  - Maturity bucket

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[10] This indicates if the field is used to specify the liquidity sub-classification for that calibration test. Full explanation of this structure for CDS Single name is below

[11] ISO 10962: S – Swap; C – Credit; U – Single Name; C- Credit default; C – Corporate; C – Cash delivery

- The regulatory working group expects this value to be derived from the 'Expiry Date' field which was determined as being equivalent to Termination Date
- Maturity bucket (Mb) is defined as the time maturity bucket of the CDS: Mb 1 = 0 ≤ 1yr; Mb 2 = 1yr ≤ 2yrs; Mb 3 = 2yrs ≤ 3yrs…. Mb m = (n-1) yrs ≤ n yrs

Working Group Additional Fields

The fields specified by the Credit Working Group but not included in the regulations are: Seniority, Transaction Type, Coupon, Restructuring

Recommendations

- An identifier (ISIN or otherwise) specified with a granularity at the liquidity sub-class level will facilitate the implementation of the MiFID II liquidity and size tests
  - NB. This is not specified by the regulations but will help the industry comply with these same regulations. In addition, there was not full consensus on this point in the working group
- Another identifier (ISIN or otherwise) specified at the granularity indicated by the reference data, post-trade transparency and transaction reporting will facilitate meeting those MiFID II requirements

Open Questions

1. What to do when an SRO does not have a valid ISIN?
2. What is the regulatory expectation if there is no LEI for a particular entity?

4.2.2   CDS Index

Regulatory Fields

Fields	Format	Liquidity Sub-Class[12]	Notes
Instrument identification code	{ISIN}		
Instrument full name	{ALPHANUM-350}		
Instrument classification	{CFI CODE}	Yes	E.g., SCICCC[13]
Commodities derivative indicator	=No		
Notional currency 1	{CURRENCYCODE_3}	Yes	
Expiry date	{DATEFORMAT}	Yes	Termination Date
Price multiplier	{ DECIMAL-18/17}		
Underlying instrument code	{ISIN}		ISINs of all underlying instruments or ISIN of Index
Underlying issuer	{LEI}		
Underlying index name	{INDEX} Or {ALPHANUM-25} - if the index name is not included in the {INDEX} list	Yes	
Term of the underlying index	{INTEGER-3}+'DAYS' - days; {INTEGER-3}+'WEEK' - weeks; {INTEGER-3}+'MNTH' - months; {INTEGER-3}+'YEAR' - years	Yes	
MiFIR identifier	=DERV		
Asset class of the underlying	=CRDT		
Contract type	=SWAP		
Issuer of sovereign and public type	'TRUE' – the reference entity is an issuer of sovereign and public type; 'FALSE' – the reference entity is not an issuer of sovereign and public type		
Delivery Type	'PHYS' - Physically Settled 'CASH' - Cash settled 'OPTL' - Optional for counterparty or when determined by a third party		Note: Specified by the CFI Code
Series	{DECIMAL-18/17}		
Version	{DECIMAL-18/17}		
Roll months	'01', '02', '03', '04', '05', '06', '07', '08', '09', '10', '11', '12'		Note: what purpose do these fields serve?
Next roll date	{DATEFORMAT}		

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[12] This indicates if the field is used to specify the liquidity sub-classification for that calibration test. Full explanation of this structure for CDS Single name is below

[13] S – Swap; C – Credit; I – Index; C – Credit default; C – Corporate; C – Cash delivery

Liquidity Assessment, LIS & SSTI thresholds
These tests are segregated by class, sub-asset class and sub-class. These are defined as follows:

- **Class:** bonds, structured finance products, securitised derivatives, interest rate derivatives, equity derivatives, commodity derivatives, foreign exchange derivatives, credit derivatives, C10 derivatives, CFDs, emission allowances and emission allowance derivatives
- **Sub-asset Class:** Index credit default swap, Single name credit default swap, CDS index options, Single name CDS options and Other credit derivatives
- **Sub-classes (for an Index CDS):**
    - Underlying Index Name
    - Notional Currency 1
    - Maturity Bucket
        - The regulatory working group expects this value to be derived from the 'Expiry Date' field which was determined as being equivalent to Termination Date
        - Maturity bucket (Mb) is defined as the time maturity bucket of the CDS: $Mb\ 1 = 0 \leq 1yr$; $Mb\ 2 = 1yr \leq 2yrs$; $Mb\ 3 = 2yrs \leq 3yrs$…. $Mb\ m = (n-1)\ yrs \leq n\ yrs$

There is a further categorization for whether the CDS Index is 'on-the-run'; 'off-the-run+ 30days' or 'off-the-run'. The group was unclear how the regulator would calculate these states given the required fields.

The expectation is that 'Maturity Bucket' will be a dynamic liquidity field that changes as the instrument matures.

Recommendations
- See Credit Single Name section for recommendations regarding the identifier and granularity
- The regulatory group recommends that Term of the Underlying is added to the liquidity classification for Credit Index Options

Working Group Additional Fields
There were no additional fields specified by the Credit Working Group not already captured in the regulations.

Open Questions
1. How do you expect to calculate the on-the-run/off-the-run and off-the-run + 30 days state?
2. Delivery Type is specified in the instrument classification – can this be omitted if that is the case?
3. The objective to include roll months and roll date is unclear.

4.3　Rates

4.3.1　Interest Rate Swap Fixed Floating (single currency)

Regulatory Fields

Fields	Format	Liquidity Sub-Class[14]	Notes
Instrument identification code	{ISIN}		
Instrument full name	{ALPHANUM-350}		
Instrument classification	{CFI CODE}		E.g., SRCCSC[15]
Commodities derivative indicator	=No		
Notional currency 1	{CURRENCYCODE_3}	Yes	
Expiry date	{DATEFORMAT}	Yes	
Price multiplier	{DECIMAL-18/17}		
Underlying instrument code	{ISIN}		ISINs of all underlying instruments or ISIN of Index
Underlying issuer	{LEI}		
Underlying index name	{INDEX} Or {ALPHANUM-25} - if the index name is not included in the {INDEX} list		
Term of the underlying index	{INTEGER-3}+'DAYS' - days; {INTEGER-3}+'WEEK' - weeks; {INTEGER-3}+'MNTH' - months; {INTEGER-3}+'YEAR' - years		
Delivery type	PHYS' - Physically Settled 'CASH' - Cash settled 'OPTL' - Optional for counterparty or when determined by a third party		
IR Term of contract	{INTEGER-3}+'DAYS' - days, {INTEGER-3}+'WEEK' - weeks, {INTEGER-3}+'MNTH' - months, {INTEGER-3}+'YEAR' - years		
Notional currency 2	{CURRENCYCODE_3}		
Fixed rate of leg 1	{DECIMAL -11/10}, Expressed as a percentage (e.g. 7.0 means 7% and 0.3 means 0.3%)		
Floating rate of leg 2	{INDEX} or {ALPHANUM-25} - if the reference rate is not included in the {INDEX} list		
IR Term of contract of leg 2	{INTEGER-3}+'DAYS' - days, {INTEGER-3}+'WEEK' - weeks, {INTEGER-3}+'MNTH' - months, {INTEGER-3}+'YEAR' - years		
MiFIR identifier	=DERV		
Asset class of the underlying	=INTR		
Contract type	=SWAP		
Underlying type	=INTR		

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[14] This indicates if the field is used to specify the liquidity sub-classification for that calibration test. Full explanation of this structure for IRS Fixed-Float is below

[15] S – Swap; R – Rates; C – Fixed-Floating; C – Constant; S – Single Currency; C - Physical

Note: There is no field for the payment frequency of the Fixed leg

Liquidity Assessment, LIS & SSTI thresholds
These tests are segregated by class, sub-asset class and sub-class. These are defined as follows:
- **Class:** bonds, structured finance products, securitised derivatives, interest rate derivatives, equity derivatives, commodity derivatives, foreign exchange derivatives, credit derivatives, C10 derivatives, CFDs, emission allowances and emission allowance derivatives
- **Sub-asset Class:**
  - Bond futures/forwards
  - Bond options
  - IR futures and FRA
  - IR options
  - Swaptions
  - Fixed-to-Float 'multi currency swaps' or 'cross-currency swaps' and future/forwards on Fixed-to-Float 'multi currency swaps' or cross-currency swaps'
  - Float-to-Float 'multi currency swaps' or 'cross-currency swaps' and future/forwards on Float-to-Float 'multi currency swaps' or cross-currency swaps'
  - Fixed-to-Fixed 'multi currency swaps' or 'cross-currency swaps' and future/forwards on Fixed-to-Fixed 'multi currency swaps' or cross-currency swaps'
  - Overnight Index Swap (OIS) 'multi currency swaps' or 'cross-currency swaps' and future/forwards on OIS 'multi currency swaps' or cross-currency swaps'
  - Inflation 'multi currency swaps' or 'cross-currency swaps' and future/forwards on Inflation 'multi currency swaps' or cross-currency swaps'
  - Fixed-to-Float 'single currency swaps' and futures/forwards on Fixed-to-Float 'single currency swaps'
  - Float-to-Float 'single currency swaps' and futures/forwards on Float-to-Float 'single currency swaps'
  - Fixed-to-Fixed 'single currency swaps' and futures/forwards on Fixed-to-Fixed 'single currency swaps'
  - Overnight Index Swap (OIS) 'single currency swaps' and futures/forwards on (OIS) 'single currency swaps'
  - Inflation 'single currency swaps' and futures/forwards on Inflation 'single currency swaps'
  - Other Interest Rate Derivatives
- **Sub-classes:**
  - Notional Currency 1
  - Maturity Bucket
    - The regulatory working group expects this value to be derived from the 'Expiry Date' field which was determined as being equivalent to Termination Date
    - Maturity bucket (Mb) is defined as the time maturity bucket of the IRS: Mb 1 = $0 \leq$ 1yr; Mb 2 = 1yr $\leq$ 2yrs; Mb 3 = 2yrs $\leq$ 3yrs…. Mb m = (n-1) yrs $\leq$ n yrs

Recommendations
- See Credit Single Name section for recommendations regarding the identifier and granularity
- A forward starting swap 5YR/5YR will have the same end date as a spot starting 10YR swap. Therefore, in order to distinguish between the two there would need to be a "start Tenor" field in addition to the tenor (or length of swap field) to ensure the instrument is accurately defined. As discussed elsewhere we would rather see tenors than specific effective and termination/maturity dates otherwise a spot 10yr swap and a 5yr/5yr forward swap would get a new identifier every day making time series impossible.

Open Questions
1. Payment frequency for the fixed leg should be added because of the potential variation.

4.4 Equity

4.4.1 Equity Swaps

Regulatory Fields

Fields	Format	Liquidity Sub-class[16]	Notes
Instrument identification code	{ISIN}		
Instrument full name	{ALPHANUM-350}		
Instrument classification	{CFI CODE}		E.g.,SEIPXC[17]
Commodities derivative indicator	=No		
Notional currency 1	{CURRENCYCODE_3}		
Expiry date	{DATEFORMAT}	Yes	
Price multiplier	{ DECIMAL-18/17}		
Underlying instrument code	{ISIN}		ISINs of all underlying instruments or ISIN of Index
Underlying issuer	{LEI}	Yes	
Underlying index name	{INDEX} Or {ALPHANUM-25} - if the index name is not included in the {INDEX} list		
Term of the underlying index	{INTEGER-3}+'DAYS' - days; {INTEGER-3}+'WEEK' - weeks; {INTEGER-3}+'MNTH' - months; {INTEGER-3}+'YEAR' - years		
Delivery type	PHYS' - Physically Settled 'CASH' - Cash settled 'OPTL' - Optional for counterparty or when determined by a third party		
MiFIR identifier	'SDRV' - Securitised derivatives, 'DERV' - Derivative		
Asset class of the underlying	'=EQUI		
Contract type	=SWAP		
Underlying type	'STIX' - Stock Index 'SHAR' – Share/Stock 'DIVI' - Dividend Index 'DVSE' - Stock dividend, 'BSKT' - Basket of shares resulting from a corporate action, 'ETFF' - ETFT, 'VOLI' - Volatility Index, 'OTHE' - Other (including depositary receipts, certificates and other equity like financial instrument), 'STIX' - Stock Index 'DIVI' - Dividend Index 'VOLI' - Volatility Index 'OTHE' - Other, 'BSKT' - Basket	Yes	
Parameter	'PRBP' - Price return basic performance parameter, 'PRDV' - Parameter return dividend 'PRVA' - Parameter return variance 'PRVO' - Parameter return volatility	Yes	

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[16] This indicates if the field is used to specify the liquidity sub-classification for that calibration test. Full explanation of this structure for Equity Swaps is below

[17] S – Swap; E – Equity; I – Index; P – Price return; X – undefined; C – Cash delivery

Liquidity Assessment, LIS & SSTI Thresholds
These tests are segregated by class, sub-asset class and sub-class. These are defined as follows:
- **Class:** bonds, structured finance products, securitised derivatives, interest rate derivatives, equity derivatives, commodity derivatives, foreign exchange derivatives, credit derivatives, C10 derivatives, CFDs, emission allowances and emission allowance derivatives
- **Sub-asset Class:**
    - Stock index options
    - Stock index futures/forwards
    - Stock options
    - Stock future/forwards
    - Stock dividend options
    - Stock dividend futures/forwards
    - Dividend index options
    - Dividend index futures/forwards
    - Volatility index options
    - Volatility index futures/forwards
    - ETF options
    - ETF futures/forwards
    - Swaps
    - Portfolio Swaps
    - Other equity derivatives
- **Sub-classes (for a swap):**
    - Underlying type
    - Underlying single-name index basket,
    - Parameter
    - Maturity bucket:
        - The regulatory working group expects this value to be derived from the 'Expiry Date' field which was determined as being equivalent to Termination Date
        - Maturity bucket (Mb) is defined as the time maturity bucket of the Equity Swap: Mb $1 = 0 \leq 1yr$; Mb $2 = 1yr \leq 2yrs$; Mb $3 = 2yrs \leq 3yrs$.... Mb m = $(n-1)$ yrs $\leq$ n yrs

Note that all equity derivative options are deemed 'liquid' from a transparency perspective.

Working Group Additional Fields
None specified.

Recommendations
- See Credit Single Name section for recommendations regarding the identifier and granularity

Open Questions

1. Why is the underlying issuer part of the equity derivative fields? Equities, unlike credit and interest rate derivatives, are based on an actual security that is used to define the cashflows and as such the issuer is not relevant.
2. As currently specified, the underlying type is not future proof.

5 ISIN Challenges

5.1   Fungibility

As defined by ISO 6166, an instrument is 'fungible' when it is "equivalent, substitutable, interchangeable, and not individualized". ISINs are issued to uniquely identify an instrument.

However, market practice doesn't necessarily adhere to these principles. For example: Commodities, whilst segregated by domicile of the exchange, have a single ISIN regardless of quality (see ISIN Guidelines Version 10 2011; p.6 as published by ANNA).

If we strictly follow the principles in ISO 6166, we will generate a multitude of ISINs that will either be at, or very close to, a transaction granularity level. These will not help market participants nor regulators to identify systemic risks or disorderly markets at a meaningful level.

For example: A client inquires to buy a 3 month PUT option on the GBP/USD exchange rate at a particular strike. The dealer quotes and then completes the transaction. Another client asks to buy a 3 month PUT option on the GBP/USD exchange rate at the same strike. However, they want the exercise date to be 92 days. Maintaining the economic fungibility principle, this would generate a separate ISIN but from market and client systemic risk perspective, these trades could be viewed as similar enough. There is no connection between the two ISINs.

The fields specified by the reference data, transparency and reporting standards present the opposite problem: A combination of these fields will be associated with a unique ISIN identifier. However, for Credit, the coupon, transaction type, restructuring indicator and seniority have been omitted from the fields required. This means that instruments that are the same except for the above two fields, will have the same identifier and yet represent different risks and would definitely have different values in the market.

5.2   Timeliness & ISIN Pre-Issuance

There are two use cases that are specific regarding timeliness that also require an ISIN to be present:
- RTS 23 Article 3(1): Before trading, venues and systematic internalisers must obtain an ISIN before making the instrument available to trade
- RTS 2 Article 7(4): Post-trade information shall be made available as close to real time as is technically possible (<15mins)

Both of these use cases emphasize the immediacy with which an ISIN is required to meet MiFID II requirements.

Today, the ISIN creation process involves the submission of forms via a website and, at best, turns-around in approximately 24 hours. Given the requirements stated above, this will not be quick enough to satisfy either the regulations or the business requirement for dealing with a client requesting a price.

A potential solution is for venues and SIs to pre-purchase ISINs. This 'pre-purchasing' can be done in a couple of ways:

- (a) The numbering agency issues 'blank' ISINs to the venues who then, as instruments are traded or quoted, allocate these identifiers to those instruments
- (b) Venues inform the numbering agency of the details for the deals they expect to be traded and the agency 'pre-allocates' ISINs against these details.

The issue with approach (a) is that two venues might trade the same deal at approximately the same time resulting in two ISINs for the same instrument.

For (b), depending on the granularity, a large number of potential trades all need to be allocated an ISIN. This potentially introduces the risk that the maximum combination of ISINs, given the number of characters available will soon be exceeded.

5.3   Obligation Suspension

Currently, it is not clear at what level NCAs or ESMA may suspend obligations – potentially, this could be at the class, sub-class or instrument level. The granularity as specified for the ISIN by the reference data, transparency and reporting obligations will potentially capture those liquid products on which the regulators want to maintain obligations as well as those for which they don't.

5.4   Granular ISIN & 'Killing' a Trading Algorithm

If the product working groups decide on a much more granular ISIN code – close to the transaction level – then from an electronic and algorithmic trading perspective there would be additional challenges in obeying any kill instructions from regulators since the 'instrument level' would have a very narrow scope.

6 Outstanding Questions

6.1 Business Questions

The regulatory working group also identified a couple of 'business' questions that each of the product groups or, potentially, the Governance working group should consider:
- How do the participants want pre-trade data to appear to clients?
- How does this help / hinder best execution?

6.2 Questions Summary

Summary of the questions from each of the product sections:
1. (CDS Single Name) What to do when an SRO does not have a valid ISIN?
2. (CDS Single Name) What is the regulatory expectation if there is no LEI for a particular entity?
3. (CDS Index) How do you expect to calculate the on-the-run/off-the-run and off-the-run + 30 days state?
4. (CDS Index) Delivery Type is specified in the instrument classification – can this be omitted if that is the case?
5. (CDS Index) The objective to include roll months and roll date is unclear
6. (Rates) Payment frequency for the fixed leg should be added because of the potential variation.
7. (Equity) Why is the underlying issuer part of the equity derivative fields? Equities, unlike credit and interest rate derivatives, are based on an actual security that is used to define the cashflows and as such the issuer is not relevant.
8. (Equity) As currently specified, the underlying type is not future proof.

General Questions
9. Do the fields specified as reference data for RTS 23 & RTS 2 specify the exact expected level of granularity required for an instrument identifier?
10. Under what circumstances can 'OTHR' be used in RTS 2 for the instrument identifier? Especially given the stipulation in RTS 23 that requires an instrument have an ISIN.
11. How will the 'pre-allocation' of ISINs would work – i.e. would the numbering agency issue 'blank' ISINs to the venues or specify them based on the trading patterns as informed by the venues?
12. What should the industry do when a Standard Reference Obligation does not have an ISIN (such as a new bond issuance)?
13. If the entity has no LEI, how should the underlying issuer field be populated?
14. It isn't clear what purpose the fields 'MiFIR Identifier; Asset class of the underlying and Contract Type' are meant to serve. If they are important fields, why are they not specified in RTS 23?
15. For interest rate derivatives, should the payment frequency of the fixed leg also be included in the field list?
16. Why is the underlying issuer part of the equity derivative fields – equity derivatives are based on actual securities rather than an entity?
17. As currently specified, the underlying type for equity derivative fields is not future-proof. How will new developments?

7 Appendices

7.1 Appendix I: Trading Obligation

Of those instruments traded on an RM, OTF or MTF, a subset will be compulsory.

- ESMA will determine which derivative transactions must be cleared. This is an ongoing process as part of the EMIR obligation to clear derivatives.[18]

Class	Covered	Status
Rates	Currencies: EUR, GBP, JPY & USD IRS: Fixed-to-Float; Float-to-Float; FRAs & Overnight Index Swaps	Approved by Commission
Credit	Currencies: EUR (Settlement) CDS Index – Untranched (iTraxx Europe Main / iTraxx Europe Crossover; Series 17 onwards; 5Y Tenor	In Draft[19]
Equity	Not prioritised[20]	Not being considered

- Once specified as cleared, ESMA will have six months to decide whether those cleared transactions should come under the trading obligation
- Implementation of the clearing obligation is phased and is based on three categories of institutions as stipulated by the EMIR.

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[18] See http://www.esma.europa.eu/page/OTC-derivatives-and-clearing-obligation
[19] See http://www.esma.europa.eu/system/files/2015-1481_final_report_clearing_obligation_index_cds.pdf page 13
[20] See http://www.esma.europa.eu/system/files/esma-2014-1184_final_report_clearing_obligation_irs.pdf page 34

7.2 Appendix II: Use Cases

UC #	RTS	Article	Description	Frequency	Granularity	Timeliness	Identifier	Condition
2.01	2	2(2)	Pre-trade - Trading venues & SIs shall make public the range of bid/offer prices and depth of trading interest for a continuous order book system - aggregated across orders	Ongoing	Instrument	Immediate		
2.02	2	2(2)	Pre-trade - Trading venues & SIs shall make public the best bid/offer of each market maker with volumes in a quote driven system	Ongoing	Instrument	Immediate		
2.03	2	2(2)	Pre-trade - Trading venues & SIs shall make public the price that best fits the trading algorithm for a periodic auction system	Ongoing	Instrument	Immediate		
2.04	2	2(2)	Pre-trade - Trading venues & SIs shall make public the quotes and volumes which would lead to a transaction in a RFQ system	Ongoing	Instrument	Immediate		
2.05	2	2(2)	Pre-trade - Trading venues & SIs shall make public the bid/offer and volumes which would lead to a transaction under the voice system	Ongoing	Instrument	Immediate		
2.06	2	7(1)	Post-trade - Investment firms on a venue & IFs operating a venue SI will make public by reference each transaction	<15 mins	Trade	Immediate	ISIN/OTHR	For all liquid instruments - OTHR only permitted if ISIN not available
2.07	2	7(2)	Post-trade - When a trade is cancelled, IFs must reflect that in their reporting	<15 mins	Trade	Immediate	ISIN/OTHR	OTHR only permitted if ISIN not available
2.08	2	7(7)	Post-trade - IFs must report package transactions as a single transaction	Ongoing	Trade	Immediate	ISIN/OTHR	
2.09	2	8(1)	Venues & SIs can test whether their trade meets the LIS criteria.	Ongoing	sub-class	Immediate		
2.10	2	8(1)	Venues & SIs can test whether their trade is in an illiquid instrument	Ongoing	sub-class	Immediate		
2.11	2	8(1)	Venues & SIs can test whether their trade is matched principal basis and above SSTI	Ongoing	sub-class	Immediate		
2.12	2	11(1)	NCAs can allow the omission of volume on transactions for four weeks	Ongoing	sub-class			
2.13	2	11(1)	NCAs can allow aggregation of several transactions over a week	weekly	Instrument	D+7	ISIN/OTHR	
2.14	2	11(4)	Venues & SIs can publish aggregated data on a weekly or daily basis including weighted avg price, total volume & total # of transactions	daily / weekly	Instrument	daily/weekly	ISIN/OTHR	
2.15	2	13(2)	NCAs must calculate whether an instrument is part of a liquid market	Annually	sub-class			
2.16	2	13(3)	NCAs musts calculate the SSTI for a financial instrument	Daily	sub-class			
2.17	2	16	NCAs can suspend transparency obligations for a particular class when 30 day volume < 40% of avg monthly from the previous 12 months	Monthly	sub-class			
2.18	2	13(5)	NCAs must collect the data to necessary to calculate liquidity, LIS and SSTI thresholds	Daily	sub-class			
2.19	2	13(6)	NCAs must share the aggregation of the data across the EU to enable calculations	Daily	sub-class			
2.20	2	13(17)	NCAs must publish calculation results	Annually	sub-class			
22.01	22	1(1)	Transaction report shall be provided using all details specified including 4(2) identification code of financial instrument.	As needed	Trade	T+1	ISIN	When a transaction is executed. (Dir 065, Annex I 1,2,3)
22.02	22	10	Reporters should identify the applicable waiver in the transaction report	As needed	Trade	Immediate	ISIN	
22.03	22	11(1)	Reporters should identify which are short sale transactions	As needed	Trade	Immediate		
22.04	22	12	Investment firm should report a transaction for a combination of financial instruments separately but linked by an identifier	As needed	Trade	T+1	Firm	
22.05	22	13(1)	Member States shall develop LEIs as per the principles listed	As needed				
22.06	22	13(2)	Investment firm will not provide a service that requires a client LEI before the LEI is available	Ongoing				
22.07	22	15(1)	Venues and investment firms will maintain methods and arrangements to submit transaction reports	Ongoing				
22.08	22	15(2)	Venues and investment firms will notify the NCA of ommissions and errors	Ongoing	Trade	Immediate	ISIN	
22.09	22	15(3)	Investment firms will test and reconcile their FO trading records vs. NCA sample	Ongoing	Trade		ISIN	
23.01	23	1(1)	SI & Venues send reference data to their NCA in electronic format using ISO 20022.	Daily	Instrument	EOD 2100	ISIN	For all instruments they have the intention to trade on a venue or SI
23.02	23	2(1)	SI & venues send new instrument reference data to NCA	As needed	Instrument	D+1,2100	ISIN	For all instruments they have the intention to trade on a venue or SI
23.03	23	3(1)	SI & venues, before trading, will obtain the ISO 6166 ISIN	As needed	Instrument	Immediate	ISIN	For all instruments they have the intention to trade on a venue or SI
23.04	23	4(1)	NCAs monitor and assess reference data for completeness	Daily	Instrument	EOD	ISIN	
23.05	23	4(2)	NCAs notify trading venues & SI of any incompleteness	Daily	Instrument	EOD 2359	ISIN	
23.06	23	4(3)	ESMA shall monitor and assess completeness of reference data	Daily	Instrument	D+1; 0800	ISIN	
23.07	23	4(4)	ESMA shall notify NCAs of incompleteness	Daily	Instrument	D+1	ISIN	
23.08	23	5	NCAs will conduct quality assessments on reference data	Quarterly	Instrument	N/A	ISIN	
23.09	23	6(2)	SI & venues will identify incomplete or inaccurate reference data, notify & correct	Daily	Instrument	Ongoing	ISIN	For all instruments they have the intention to trade on a venue or SI
23.10	23	7(1)	NCAs will deliver reference data to ESMA	Daily	Instrument	EOD 2359	ISIN	
23.11	23	7(2)	ESMA will consolidate the data on D+1 and make available to NCAs	Daily	Instrument	D+1; 0800	ISIN	
23.12	23	7(4)	NCAs will validate transaction data against the reference data	As needed	Instrument	Ongoing	ISIN	
23.13	23	7(6)	ESMA will publish the reference data in an electronic, downloadable form	Daily	Instrument	D+1	ISIN	

UC #	RTS	IT	Article	Description	Frequency	Granularity	Timeliness	Identifier	Condition
3.01	3		2(2)	Trading venues, APAs and CTPs must respond to NCA requests for avg frequency of trades	On request	Trade	within 4 weeks	ISIN	
3.02	3		2(2)	Trading venues, APAs and CTPs must respond to NCA requests for avg size and distribution of trades	On request	Trade	within 4 weeks	ISIN	
3.03	3		2(2)	Trading venues, APAs and CTPs must respond to NCA requests for number and type of market participants	On request	Participant	within 4 weeks		
3.04	3		2(2)	Trading venues, APAs and CTPs must respond to NCA requests for avg spread size	On request	Trade	within 4 weeks	ISIN	
3.05	3		5	Trading venues, APAs and CTPs must store data as set in Article 2 for a minimum of 3 years				ISIN	
3.06	3		6	Trading venues must submit total volume of trading where volume = #units x price and for a particular currency	Bi-monthly	Instrument		ISIN	
3.07	3		6	Trading venues must submit total volume of trading falling under the waivers	Bi-monthly	Instrument		ISIN	More useful if done @ sub-class level
3.08	3		7(1)	NCAs must provide ESMA with data received by the next day	Bi-monthly	Instrument		ISIN	
3.09	3		8(3)	ESMA will convert all other currencies into EUR	Bi-monthly	Instrument			
6.01	6		1	IFs must monitor trading systems and algorithms setting out accountability, communication, segregation of function	Ongoing	N/A			
6.02	6		2(2)	IF Compliance must have access to kill functionality for traders, algorithms & unexecuted orders	As needed	N/A			
6.03	6		3	IFs must maintain staff in compliance with enough knowledge to challenge the algorithmic staff	As needed	N/A			
6.04	6		5	IFs must develop and test design, performance of the system/algorithm or strategy	Ongoing	N/A			
6.05	6		7	IFs must test in a testing environment segregated from production	Ongoing	N/A			
6.06	6		8	IFs set limits on the # instruments being traded based on price, value and # orders	Ongoing	N/A	Ongoing	ISIN	
6.07	6		9	IFs must conduct and annual self-assessment and validation of their algorithmic systems, governance, BCP etc.	Annually	N/A			
6.08	6		10	IFs must conduct stress tests including high messaging volumes & high trade volumes (>200%)	Annually	N/A			
6.09	6		13	IFs establish and maintain surveillance systems to monitor orders, transactions and generate alerts for breach	Ongoing	N/A			
6.10	6		13(4)	IFs must review their surveillance system to ensure it is fit for purpose	Annually	N/A			
6.11	6		13(7)	IFs must reconcile trade and account information with trading venues and brokers	Ongoing	N/A			
6.12	6		14(1)	IFs must maintain a BCP that enables activity within a set period of time after a catastrophic event	Ongoing	N/A			
6.13	6		15(5)	IFs must be able to automatically block or cancel orders	Ongoing	Trade	Ongoing	ISIN	
6.14	6		15(7)	IFs can override pre-trade controls for specific trades	Ongoing	Trade	Ongoing		
6.15	6		16(1)	IFs can monitor in real time all algorithmic trading activity	Ongoing	Trade			