DOCUMENT TITLE

SmartPool TOPCAC

SmartPool market data message specifications

STATUS

Version 1.0 – June 2008

VERSION HISTORY

Version Number (1)	Date (2)	Nature of changes (3)	Indicative implementation date (4)	Sections Changed (5)
V1.0	June 2008	Initial version	Production: September 2008	

Notes:

(1) Version number of the document

(2) Date of creation / update

(3) Description of the type of changes made in the document.

(4) Indicative implementation date for the modifications. For the effective dates please refer to the official ones provided by SmartPool.

(5) Updated sections.

TABLE OF CONTENTS

Chapter 1

INTRODUCTION

1. INTRODUCTION

This document describes the market data messages sent by SmartPool to the dissemination system.

In this document, the specifications for the market data feed from SmartPool system portion are presented as follows:

- Description of the MMTP messages headers
- List and description of all the messages sent to the broadcast system
- Appendices for all the detailed information

Chapter 2

MESSAGE HEADERS

2. MESSAGE HEADERS

2.1 INTRODUCTION

The satellite feed is received from a CAP/MAP.

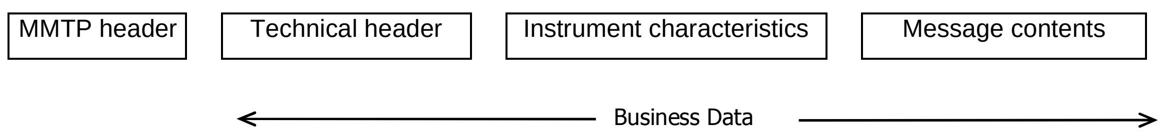
2.2 CAP/MAP

MMTP or Fix are the CAP/MAP access protocols.

2.3 MESSAGE FORMAT

A message received by the client application is subdivided into 4 sections:

1. MMTP header between the client application and the feed reception station.
2. Technical header.
3. Functional header (characteristic of the stock concerned by the message contents).
4. Message contents.



2.4 MMTP HEADER

This header is common to all TOPCAC messages. Its function is to delimit messages within the TCP/IP character stream and facilitate rapid resynchronization following transmission hitches.

MMTP HEADER	Type	Length	Position	Value	Comment
STX		1	0	02	Value in hexadecimal
Length of primitive	N	4	1	96+m	Total message length (including STX and ETX)
Primitive identifier	N	2	5	23	
Sequence number	N	8	7		
Admin data length	N	4	15	72	
Business data length	N	4	19	m	
Admin data type	X	2	23	E0	
Message id	X.	24	25		
Send Timestamp	N	12	49		
Delivery Timestamp	N	12	61		
Delivery Time-Out	N	6	73		HHmmss
Route Data	X	11	79		routable field
Filler	X	5	90		
Business data		m	95		m < 9500
ETX		1	95+m	03	Value in hexadecimal
		96+m			

Except for the STX and ETX delimiters, all the information making up a message is coded in printable ASCII: letters, figures and punctuation or arithmetic signs.

Numerical data is right-aligned, with zeros in all leftward spaces.

Other data is left-aligned, with spaces in all rightward spaces.

Description of the different fields:

- **Primitive identifier:**

ID of primitive

- **Sequence number:**

Message sequence number generated by sender.
For the first DATA-MSG received after START-ACK, sequence number takes the value indicated by the next sequence field in START-ACK. Thereafter, it is incremented by 1 on each successive DATA-MSG

- **Admin data length:**

Length of admin data field

- **Business data length:**

Length of business data field

- **Admin data type:**

Data format (E0)

- **Message id:**

Unique message ID assigned by sender

- **Send timestamp:**

Date and time of transmission, assigned by MMTP client when sending message to access point.

- **Delivery timestamp:**

Date and time of transmission, assigned by access point when sending message to MMTP client.

- **Delivery time-out:**

Reserved for subsequent application feature

- **Route data:**

Additional routing data

- **Business data:**

Business data containing technical header, instrument characteristics (see description below § 2.4.1) and the message body.

2.4.1 BUSINESS DATA DESCRIPTION

Technical header description

- This technical header is used to keep statistics on message reception.
- It is used also to detect message losses.

TECHNICAL MESSAGE HEADER	Type	Long	Pos.
Technical header type	X	1	0
Item code	B	2	1
Session number	B	2	3
Absolute message number	B	4	5
Message number for the item code	B	4	9
Broadcast timestamp	B	4	13
Transmitter signature	B	8	17
		25	

B: Binary in BIG ENDIAN representation.

X: Alphanumeric.

N: Numeric.

- **Technical header type**
    - Value: ‘1’ (Hexadecimal).
    - Valid for the header described above, but in the future might take other values for structural descriptions different from the Technical header.

- **Item code**
    - This code is only used as an index to the numbering by “Item Code ".

- **Session number**
    - All numbering contained in the header (technical and instrument characteristics) are related to the same session.
    - Session changes reset all sequencing to zero.

- **Absolute message number**
  - A sequence number that is incremented for each message in the broadcasting stream.
  - For any given receiver, this numbering may contain gaps, because all messages may not be delivered to every receiver. In the case of a disconnection, it gives the RDF a feed resumption number.

- **Message number for the item code**
  - A sequence number incremented on each message for a given item code in the broadcasting stream. This numbering is specific for each “Item Code ".
  - This numbering should not contain gaps, because all messages belonging to a given item code are only delivered to the receivers who have the right to receive them.
  - A sequence error on this field signifies that one or several messages have been lost.

- **Broadcast timestamp**
  - This timestamp placed by the broadcasting system allows a determination of elapsed time between the transmission and processing by a client application. It can be used by a client application to ignore the oldest messages in case of delay, and help catch up with the real time feed.
  - The value of this field is the number of elapsed seconds since the first of January 1970.

- **Transmitter signature**
  - This field is reserved for a later utilisation.

Header Instrument Characteristics description

This header describes the main instrument characteristics, and message types contained in the body of the message.

INSTRUMENT CHARACTERISTIC	Type	Long	Pos.
Instrument characteristic (header type)	X	1	0
Market feed code	X	2	1
Quote place code	X	3	3
Financial market code	X	3	6
Group code for the instrument	X	2	9
Long Instrument code	X	12	11
Instrument mnemonic code	X	5	23
Event date	N	8	28
Event time	N	6	36
Message type code	X	4	42
Sequence number by instrument and message type code	N	6	46
		52	

X: Alphanumeric.

N: Numeric.

- **Instrument characteristic (Header type)**
  - Value: ‘1’.
  - Valid for the header described previously but different values could be used in future for structural descriptions different from the instrument characteristics (header).

- **Market feed code**
  - CF. Appendix § 4.2.1.

- **Quote place code**
  - CF. Appendix § 4.2.3.

- **Financial market code**
  - CF. Appendix § 4.2.2

- **Group code for the instrument**
  - Code of the instrument quotation group.

- **Long instrument code**
  - Code identifying the instrument to which the data, contained in the application message, refers.
  - For instruments traded on SmartPool, this code is assigned by SmartPool as described below
  - CF. Appendix § 4.3.

- **Instrument mnemonic code**
  - Mnemonic code of the instrument contained in the application message.

- **Event Date**
  - Date of message generation by the quotation system (format YYYYMMDD).

- **Event Time**
  - Time of message generation by the quotation system (Format HHMMSS).

- **Message type code**
  - Code identifying data type and format contained in the application message.

- **Sequence number by instrument and message type code**
  - A sequence number incremented for each couple (ISIN instrument code, Message type).
  - This sequence allows the client applications to identify a loss for a given instrument and message type.

Message Body

The message bodies are described in the following chapter 3 for each message type.

Chapter 3

Messages

3. MESSAGES

3.1. MESSAGE DESCRIPTION

3.1.1 LIST OF MESSAGES

This paragraph describes all the messages grouped by message code type.

Code 00xx

Code	Message
0005	Stock state change
0007	Session Opening
0016	Group state change
0023	Mail
0030	Last crossing price
0039	Session timetable
0042	Notice of interest

Code 03xx

Code	Message
0350	Beginning of stock initialisation (ISIN version)
0351	End of stock initialisation (ISIN version)
0353	Stock initialisation (ISIN version)

Code 04xx

Code	Message
0450	Beginning of D+1 stock initialisation (ISIN version)
0451	End of D+1 stock initialisation (ISIN version)
0453	D+1 stock initialisation (ISIN version)

3.1.2 DATA FIELD DEFINITIONS (IFT – QMT)

- **IFT (Format Indicator For A Numeric Data Field)**

Definition:

Gives information on:

- The number of figures after the decimal,
- The sign of the associated numeric data field in conformance with the current norm for the expression of prices and amounts.

Role:

Allows the interpretation of the contents of the zone which follows, and thus to stock in the minimum of space a data field capable of taking a value between -0,000000001 and + 999999999 (for a 9 figure number).

Allows the expression of amounts with a variable number of decimals (such as amounts expressed in a variable currency).
Lastly, defines the sign of the of the associated numeric data field.

Possible values:

Value	Description
Blank	Amount not filled in
0	positive amount, with 0 decimal
1	positive amount, with 1 decimal
2	positive amount, with 2 decimals
3	positive amount, with 3 decimals
4	positive amount, with 4 decimals
5	positive amount, with 5 decimals
6	positive amount, with 6 decimals
7	positive amount, with 7 decimals
8	positive amount, with 8 decimals
9	positive amount, with 9 decimals
A	negative amount, with 0 decimal
B	negative amount, with 1 decimal
C	negative amount, with 2 decimals
D	negative amount, with 3 decimals
E	negative amount, with 4 decimals
F	negative amount, with 5 decimals
G	negative amount, with 6 decimals
H	negative amount, with 7 decimals
I	negative amount, with 8 decimals
J	negative amount, with 9 decimals

Restrictions:

- o The data field "IFT" is always followed by the data field "QMT".
- o The significance of the data field represented by "IFT - QMT" is described in the data field grouping together IFT followed by QMT.
- o The possible values of "IFT" are limited by the length of the associated "QMT".

- **QMT (amount, characteristics + data, for a numeric data field)**

Definition:

Value of a numeric data field represented without taking its format into account (in the sense "to the power of 10").

The format is specified by a format indicator, which must precede the data field "QMT".

Role:

Allows, for example, with 18 characters only, to obtain real numbers between 0,000000001 and 999 999 999 999 999 999.

Allows the expression of amounts with a variable number of decimals (such as amounts expressed in a variable currency).

Possible values:

Always numeric.

Restrictions:

A data field expressed in the form "IFT - QMT" is described by the two consecutive data fields "IFT" and "QMT".

3.2 INSTRUMENT STATE CHANGE (CODE = 0005)

INSTRUMENT STATE CHANGE (0005)	**Type**	**Length**
HEADERS		172
Instrument trading status indicator (1)	X	1
Origin of reservation (2)	X	1
Start date of halting (3)	YYYYMMDD	8
Start time of halting (4)	HHMMSS	6
Instrument state (5)	X	2
Action affecting the instrument state (6)	X	1
Programmed opening time for instrument (7)	HHMMSS	6
Indicator 1 (8)	X	1
Indicator 2 (9)	X	1
Filler	X	21
End of text (ETX)	X	1
LENGTH (excluding headers)		49

When message is sent

This type of message is sent:

- When an instrument has been frozen
- When an instrument is halted or reserved by SmartPool Market Operations or halted or reserved on its reference market
- When trading on an instrument is resumed following a SmartPool Market Operations action or an action on the reference market

(1) Instrument trading status indicator

- Definition / Purpose:

Indicates whether trading on an instrument is halted, or if trading was halted, whether trading has been resumed.

- Possible values / Restrictions:

S halted

R trading resumed after the instrument was reserved

P simple reservation

' ' other types of transmission

(2) Origin of reservation

- Definition / Purpose:

Indicates whether the instrument was reserved automatically or was reserved manually by SmartPool Market Operations

- Possible values / Restrictions:

A automatic

M manual

‘ ‘ if an instrument is halted or if trading is resumed

(3) Start date of halting

- Definition / Purpose:

Date when suspension of trading started for an instrument.

- Possible values / Restrictions:

In the format YYYYMMDD (year, month, day)

00000000: not provided

(4) Start time of halting

- Definition / Purpose:

Time when suspension of trading started for an instrument.

- Possible values / Restrictions:

In the format HHMMSS

000000: not provided.

(5) Instrument state

- Definition / Purpose:

The instrument's status (state) for trading.

The instrument state determines the functions that are authorized on the instrument and the management rules related to order entry and processing.

A value is always provided for this field.

- Possible values / Restrictions:

1st character:

I for forbidden

A for authorised

2nd character:

' ' open

S halted

R reserved

(6) Action affecting the instrument state

- Definition / Purpose:

Provides the code of the action that caused a change in the instrument state.

Indicates the phase of the trading day that the instrument is in currently.

- Possible values / Restrictions:

P a deferred opening or call has been programmed for the instrument.

D a deferred opening or call has been cancelled

M instrument reserved or halted manually by SmartPool Market Operations

C the instrument is currently being traded

O the instrument is now open (after R or S)

R the instrument has been automatically reserved after opening of its group

A order entry has been authorised for the instrument

I order entry has been forbidden for the instrument

E orders in the book have been eliminated

N the instrument is being initialized (beginning of the trading day)

Data always provided for SmartPool

(7) Programmed opening time for instrument

- Definition / Purpose:

Indicates the instrument's programmed opening time.

- Possible values / Restrictions:

HHMMSS	the instrument's opening or auction time.
000000	cancellation of an instrument opening or auction.

A value is provided if and only if the message was sent by SmartPool with an action code at "P"

(8) Indicator 1

Always blank

(9) Indicator 2

Always blank

3.3 START OF TRADING DAY (CODE = 0007)

START OF TRADING DAY (CODE =0007)	**Type**	**Length**
HEADERS		172
End of text (ETX)	X	1
LENGTH (excluding headers)		1

When message is sent

This type of message is sent once a day to indicate that the SmartPool system has started up for the day and that transmission has begun between SmartPool and the satellite transmitter.

3.4 GROUP STATE CHANGE (CODE = 0016)

GROUP STATE CHANGE (CODE =0016)	type	length
HEADERS		172
Instrument group code (1)	X	2
Instrument group state (2)	X	1
Filler	X	25
End of text (ETX)	X	1
LENGTH (excluding headers)		29

When message is sent

This type of message is sent: each time an instrument group changes state during the trading day.

(1) Instrument group code

- Definition / Purpose:

Identifies all the instruments that belong to the same trading group and that are traded using the same trading timetable.

(2) Instrument group state

- Definition / Purpose:

Indicates which phase of the trading day a given instrument group is in or the special state initiated by the Cash Market Operations for this group (interrupted or forbidden).

- Possible values / Restrictions:

P Cross Call session

C Beginning-of-Day Inquiry

O Crossing

S Continuous Matching session

N Surveillance Intervention

F End-of-Day Inquiry

Z Interrupted

I Forbidden.

3.5 MAIL (CODE = 0023)

MAIL (CODE=0023)	**Type**	**Length**
HEADERS		172
Stock group code (1)	X	2
Priority indicator (2)	X	1
Nature of message (3)	X	1
Address type (4)	X	2
E mail message number (5)	X	3
Number of messages in this E mail (6)	X	2
Sequence number of message within this E mail (7)	X	2
E mail message (8) Title Text	 X X	 80 854
End of text (ETX)	X	1
LENGTH (excluding headers)		948

When message is sent

This type of message is sent: by the SmartPool Market Operations to inform member firms about events of general interest that occurred in the market (halting of stocks, deletions of order books, various technical messages, etc).

A long E-mail message can be split into several transmissions. Each of them is a separate message (type 0023). Information in the E-mail header enables users to rebuild the entire E-mail message.

(1) Stock group code

- Definition / Purpose:

Identifies the type of market described in the E-mail message.

- Possible values / Restrictions:

Each message relates to a group, of instruments identified by a code, AC for equities in general or the SmartPool group identifier.

(2) Priority indicator

- Definition / Purpose:

Indicates the urgency of the E-mail message.

- Possible values / Restrictions:

O urgent message.

N non-urgent message.

(3) Nature of message

- Definition / Purpose:

Indicates the general content of the E-mail message.

- Possible values / Restrictions:

B Message contains market information

T Message contains technical information

R Message contains both market and technical information

(4) Address type

- Definition / Purpose:

Indicates the users to whom the message is sent.

- Possible values / Restrictions:

TO TOPCAC message

FI FIM message

FT FIM and TOPCAC message

(5) E-mail message number

- Definition / Purpose:

Helps in rebuilding an E-mail message split in several messages.

- Possible values / Restrictions:

The message number is reset to zero every day. It is increased by 1 each time the SmartPool Market Operations sends an entirely new E-mail message.

(6) Number of messages in this E-mail

- Definition / Purpose:

Helps in rebuilding an E-mail message split in several transmissions.

- Possible values / Restrictions:

Between 1 and 10.

If the value is 1, the entire E-mail message is contained in the current transmission. Otherwise, this field indicates the number of messages making up the E-mail message.

(7) Sequence number of message within this E-mail

- Definition / Purpose:

Helps in rebuilding an E-mail message.

- Possible values / Restrictions:

Between 1 and 10.

(8) E mail message

Title

- Definition / Purpose:

Gives the title of the E-mail message.

If the message is urgent, the title can indicate this.

Text

- Definition / Purpose:

Text of the message.

Enables SmartPool Market Operations to inform member firms by means of text messages.

The length of this E-mail message when transmitted varies depending on the length of this field.

3.6 LAST CROSSING PRICE (CODE = 0030)

LAST CROSSING PRICE (CODE=0030)	**Type**	**Length**
HEADERS		172
Last Crossing price (1) Price format Price	 X N	 1 9
Filler	X	9
Indicator 3 (2)	X	1
Indicator 4 (3)	X	5
Filler	X	48
Indicator 5 (4) *Format indicator* *Price*	 *X* *N*	 *1* *9*
Filler	X	5
End of text (ETX)	X	1
LENGTH (excluding headers)		89

When message is sent

This message is sent at the end of the day for each security, 10 minutes before the last crossing session in order to let participants know the price used for the last crossing of the day.

(1) Theoretical opening price

- Definition / Purpose:

  Price at which transactions on a stock will occur during the last crossing session of the day.

- Possible values / Restrictions:

  Composed of a price format and a price. If not provided, (**price format** = 3, **price** = 000000000)

(2) Indicator 3

Always blank

(3) Indicator 4

Always blank

3.7 SESSION TIMETABLE (CODE = 0039)

SESSION TIMETABLE (CODE=0039)	**Type**	**Length**
HEADERS		172
Stock group code	X	2
Time of Cross Call	HHMMSS	6
Time of Crossing	HHMMSS	6
Time of Closing	HHMMSS	6
Time of End-of-Day inquiry	HHMMSS	6
Filler	X	36
End of text (ETX)	X	1
LENGTH (excluding headers)		99

3 times

When message is sent

This message is sent: before the opening of the market and when the time to start a certain market phase has been modified.

The message contains the time at which each stock group is scheduled to go into the different phases.

3.8 NOTICE OF INTEREST (CODE = 0042)

NOTICE OF INTEREST (CODE=0042)	Type	Length
HEADERS		172
Indicator of interest (1)	X	1
Filler	X	22
LENGTH (excluding headers)		23

Definition

One message is sent to inform SmartPool members that a new firm interest has been placed in the order book.

When message is sent

This message is sent: when a new order enters the book, if the option is activated at the order level and if the price entered in the order is compatible with the mid-point price when entering the order.

When an order is modified an alert is triggred only when the total quantity is increased.

The alert indicating that there is no more interest on the instrument is triggred only when the order book is empty.

(1) Indicator of interest

- Definition / Purpose:

  Indicates that firm interests have been placed in the book or indicates that no more interest are available in the order book for a dedicated security.

- Possible values / Restrictions:

  Alphanumeric, always provided.

  0 : No more interest on SmartPool (book empty for the security).

  1 : New interest placed in the book.

3.9 TRANSMITTER STARTUP (CODE = 0100)

TRANSMITTER STARTUP (CODE =0100)	**Type**	**Length**
HEADERS		172
End of text (ETX)	X	1
LENGTH (excluding headers)		1

When message is sent

This message is the first message sent when the TOPCAC transmitter starts up. The message is not sent again during the day.

Note: The ISIN code in this message has a value of zero.

3.10 PRESENCE (I'M ALIVE) (CODE = 0109)

PRESENCE (I'M ALIVE) (CODE=0109)	**Type**	**Length**
HEADERS		172
End of text (ETX)	X	1
LENGTH (excluding headers)		1

When message is sent

This type of message (also called an "I'm alive" message) is sent: every minute by the broadcasting system. **.** It indicates to member firms that TOPCAC message broadcasting is up and running.

NB: The ISIN code in this message has a value of zero.

3.11 START OF INSTRUMENT REFERENCE DATA FLOW (MORNING) (CODE = 0350)

START OF INSTRUMENT REFERENCE DATA FLOW (MORNING) (CODE=0350)	**Type**	**Length**
HEADERS		172
End of text (ETX)	X	1
LENGTH (excluding headers)		1

When message is sent

This type of message is sent:

- At the Start-up of the X-Diff system of each new trading day,
- Before the first X-DIFF type-0353 message.

This type of message signals the start of transmission of the “Instrument Reference Data Flow, Morning (ISIN Generation)".

This Instrument Reference Data Flow is a set of messages made up as follows:

- One type-**0350** message, Start of Instrument Reference Data Flow (Morning) - ISIN Generation
- N type-**0353** message, Instrument Characteristics for the Current Business Date (Morning) - ISIN generation
- One type-**0351** message, End of Instrument Reference Data Flow (Morning) - ISIN Generation

3.12 END OF INSTRUMENT REFERENCE DATA FLOW (MORNING) - ISIN GENERATION (CODE = 0351)

END OF INSTRUMENT REFERENCE DATA FLOW (MORNING) (CODE=0351)	**Type**	**Length**
HEADERS		172
Number of stocks initialised (1)	N	6
End of text (ETX)	X	1
LENGTH (excluding headers)		7

When message is sent

This type of message is sent:

- At the Start-up of the X-Diff system of each new trading day,
- After the last X-DIFF type-0353 message.

This type of message signals the end of transmission of the “Instrument Reference Data Flow, Morning (ISIN Generation)".

This Instrument Reference Data Flow is a set of messages made up as follows:

- One type-**0350** message, Start of Instrument Reference Data Flow (Morning) - ISIN Generation
- N type-**0353** message, Instrument Characteristics for the Current Business Date (Morning) - ISIN generation
- One type-**0351** message, End of Instrument Reference Data Flow (Morning) - ISIN Generation

(1) Number of stocks initialised

- Definition / Purpose:

Indicates the total number of instrument characteristics messages sent in a given instrument reference data flow.

Allows the receiver to check that the total number of messages received is equal to the total number of messages that have been sent.

- Permitted values:

Unsigned integer.

3.13 INSTRUMENT CHARACTERISTICS FOR THE CURRENT BUSINESS DATE (MORNING) - ISIN GENERATION (CODE = 0353)

INSTRUMENT CHARACTERISTICS FOR THE CURRENT BUSINESS DATE (MORNING) (CODE=0353)	**Type**	**Length**
HEADERS		172
Instrument name (1)	X	18
Last adjusted and super-adjusted closing price (2) *Price format* *Price*	 *X* *N*	 *1* *9*
Type of market admission of an instrument (3)	X	1
Code for country issuer (4)	X	3
Trading currency code (5)	X	3
Type of unit of expression for instrument price (6)	N	1
Filler	X	5
Short instrument ID (7)	N	6
Code for broad instrument category (8)	X	1
Type of market management (9)	N	1
Number for section (10) Number for heading of Official List Number for heading in Official List	 N N	 1 3
Market place Id. For instrument (11)	N	3
Instrument group ID (12)	X	2
Amount of capital traded previous day on instrument (with 2 decimals) (13)	N	13
Filler	X	3
Type of relationship of instrument to an index (14)	X	4
Filler	X	1
ISIN code (15)	X	12
Type of derivative for a given instrument (16)	X	1
Type of instrument (17)	N	3
Filler	N	7
Filler	X	1
Code for special tax treatment for equity savings plan (18)	N	1
Date of last price (19)	N	8
Long ID for the underlying instrument of lending/borrowing contracts (20)	N	12

INSTRUMENT CHARACTERISTICS FOR THE CURRENT BUSINESS DATE (MORNING) (CODE=0353)	**Type**	**Length**
Amount of par value for instrument for calculating trade amount (21) *Format price* *Price*	 *X* *N*	 *1* *12*
Filler	N	11
Quantity of shares/bonds traded on previous day (23)	N	9
Indicator for instrument in the SRD deferred settlement system (24)	X	1
Expiration date for lending/borrowing contract (25)	N	8
Instrument lot size (26) *Format indicator* *Quantity*	 *X* *N*	 *1* *12*
Filler	X	5
First possible settlement date for instrument (27)	X	8
FTSE ID for Economic sub-sector for issuing company (28)	X	3
ICB ID for Economic sub-sector of the issuing company (29)	X	4
BIC code of depository/settlement system for instrument (30)	X	11
Market identification code (MIC) of the listed security (31)	X	4
Long ID of the underlying instrument of a warrant (32)	X	12
ID for depository/settlement system for listed instrument (table) (5x) (33)	X	5 (5x)
ID for main depository/settlement system for listed instrument (34)	X	5
Type of corporate event causing order books purges (35)	X	2
Time difference between CET and UTC (36)	X	5
Time difference between MiFID regulators and UTC (37)	X	5
Category of Financial Instrument (CFI) of an instrument (38)	X	6
Quantity notation (39)	X	3
Number of shares issued/ bonds outstanding after repayments (40)	N	16
Index of the set of variable price ticks for the instrument	X	2
Amount of the fixed price tick for an instrument	X N	1 9
MICs of listing place (43)	X	4(6x)
Filler	X	270
End of text (ETX)	X	1
LENGTH (excluding headers)		600

Definition

This message indicates the main characteristics of a listed instrument:

- Characteristics of the instrument itself
- Trading characteristics of the instrument
- Previous trading day price and amount of capital traded.

These characteristics are valid for the trading day at the start of which it was transmitted. The message is intended for TOPCAC and FIM clients.

The message is part of a set of messages, called Instrument Reference Data Flow (Morning) - ISIN generation, made up as follows:

- One type-0350 message, Start of Instrument Reference Data Flow (Morning) - ISIN Generation
- N type-0353 message, Instrument Characteristics for the Current Business Date (Morning) - ISIN generation
- One type-0351 message, End of Instrument Reference Data Flow (Morning) - ISIN Generation

When message is sent

This type of message is sent:

- Immediately after the Transmitter start-up message.
- At the start-up of the X-DIFF system, therefore at the start of each new trading day. It contains an occurrence of message 0353 for each instrument present in the X-DIFF reference database.

(1) Instrument name

- Definition / Purpose:

Short text description of an instrument.

(2) Last adjusted and super-adjusted closing price

This value is never provided for SmartPool instruments (default value = '0000000000')

(3) Type of market admission of an instrument

Always blank for SmartPool instruments

(4) Code for country issuer

- Definition / Purpose:

Provides the ISO3A code for the country of location for the corporate headquarters of the company that issued the instrument.

The term country code is synonymous with the nationality of the issuer in certain screen displays.

- Possible values:

See Appendix (section 4.2.4)

(5) Trading Currency Code

- Definition / Purpose:

Code of the currency in which the stock is traded. If the price of a stock is quoted as a percentage of the nominal value, this field contains the currency in which the nominal value is traded (see appendix §4.1).

(6) Type of unit of expression for instrument price

- Definition / Purpose:

The unit in which the stock price is quoted. Indicates the type of units that are used to express the price of an instrument for orders and trades

- Possible values / Restrictions:

1 : in units

2 : as a % of nominal

5 : in % of nominal including accrued interest

8 : in kilograms

9 : in ounces.

(7) Short Instrument ID

- Definition / Purpose:

For SmartPool instruments, this data item is not provided and takes the constant value 000000.

(8) Code for broad instrument category

- Definition / Purpose:

This code is one characteristic of a given instrument and provides the broad instrument category: stock, bond or other.

- Possible values / Restrictions:

A Stock

O Bond

W Warrant and Certificate

T Tracker

D Other.

(9) Type of market management

Always ‘0’ (Not used).

(10) Number for section

Always ‘0’ (Not used).

(11) Marketplace ID . for instrument

- Definition / Purpose:

Place where the instrument's price or the valuation of the instrument's price in the broad sense is established

Geographic location of the market on which the instrument is traded.

- Possible values / Restrictions:

See Appendix (section 4.2.3)

(12) Instrument group ID

- Definition / Purpose:

Identifies the SmartPool group to which an instrument belongs.

All the instruments having a same instrument group Id. follow the same rules such as the trading timetable.

- Possible values / Restrictions:

Value of the SmartPool group of the instrument

(13) Amount of capital traded previous day on instrument

Never provided for SmartPool instruments

(15) ISIN code

- Definition / Purpose:

Identifies an instrument using an **I**nternational **S**ecurities **I**dentification **N**umber code, defined according to the ISO 6166 norm.

- Possible values / Restrictions:

The ISIN code is composed of:

  - A two-character prefix that consists of the alpha-2 country code. The country is that which is responsible for the domestic coding, which is, in general, the country where the issuing company is based.
  - A domestic code that comprises 9 alphanumeric characters.
  - A one-digit control key for which the algorithm is specified by the ISO norm.

(16) Type of derivative for a given instrument

- Definition / Role:

This item indicates the type of derivative product that may be related to an instrument

- Possible values / Restrictions:

1 support of a tracker (VLI)

2 complementary exchange

9 None

(17) Type of instrument

- Definition / Role:

Identifies the type of the instrument

- Possible values / Restrictions:

See Appendix (section 4.4).

(18) Code for special tax treatment for equity savings plan

- Definition / Role:

Tax deduction code (for stock market investments) to which the stock belongs

- Possible values / Restrictions:

0 the stock has never been a « Monory » stock

1 Monory or CEA

2 Monory or CEA

3 PEA

4 Monory or CEA

(19) Date of last price

This value is never provided for SmartPool instruments (default value = ‘00000000’)

(20) Long ID for the underlying instrument of lending/borrowing contracts

- Definition / Role:

Identifies by its long ID (12-character format) the listed security used as the underlying instrument (for lending/borrowing contracts) on a given instrument on the central securities lending market.

- Possible values / Restrictions

See Appendix (section 4.3)

Default value = ‘000000000000’

(21) Amount of par value for instrument for calculating trade amount

- Definition / Role:

Represents the amount of par value of an instrument that is paid up or that is still to be amortised, which is used for calculating an amount for a trade. This amount is also called the market par value of the instrument or the smallest denomination or also the facial value.

It is calculated from the amount of par value that is paid up or that has been amortised, from the type of par value, and from the indicator for the par value that is paid up or that has been amortised.

- Possible values / Restrictions:

Used for the purpose of portfolio valuations. Must be less than or equal to the total amount of the security's nominal value.

(23) Quantity of shares/bonds traded on previous day

- Definition / Role:

  Total number of shares or bonds exchanged on a given instrument, during the trading day identified by associated data item "Date of last price on instrument", also called "previous trading day". The total includes the following types of exchange:

  - Trades executed on the central market,
  - Trades executed outside the central market,

- Possible values / Restrictions:

  Always zero for the instrument traded on SmartPool

(24) Indicator for instrument in the SRD deferred settlement system

Always blank

(25) Expiration date for lending/borrowing contract

- Definition / Role:

  Represents the inclusive date until which a lending/borrowing contract can be traded.

- Possible values / Restrictions:

  YYYYMMDD format.

  Takes the value zero if not provided.

(26) Instrument lot size

- Definition / Role:

  Amount, expressed in number of shares or in an amount or a volume of the capital, of the lot size.

  The lot size is a minimum tradable quantity that is set for each instrument by Euronext. The quantity of an order entered by a trading member on the market must be a multiple of the lot size.

  This number is also called the "Quotité de Marché" (Minimum market tradable quantity).

- Possible values / Restrictions:

  Only positive values are possible. If not provided IFT = blank and QMT = 000000000000

  For SmartPool instruments, lot size is equal to ‘1’

(27) First possible settlement date for instrument

For all SmartPool instruments this item is not provided (spaces).

(28) FTSE ID for Economic sub-sector of the Issuing Company

- Definition / Role:

  For an instrument, identifies the economic sub-sector of its issuing company, in the system of classification of the Company International FTSE.

- Possible values / Restrictions:

Not provided for SmartPool instruments

(29) ICB ID for Economic sub-sector of the issuing company

- Definition /Role:

Identifies: for a listed instrument, the economic subsector of the issuing company, in the ICB (Industry Classification Benchmark) classification.

Every issuing company is classified in one and only one subsector, according to the company's primary revenue source. The nomenclature of subsectors is purely economic, and allows an analysis of issuers independently from geopolitical borders. Any subsector belongs to one and only one sector. Any sector belongs to one and only one supersector. Any supersector belongs to one and only one Industry.

- Possible values / Restrictions:

0000: non significant

(30) BIC Code of depository/settlement system for instrument

- Definition / Role:

Identifies the depository organisation for the shares of an instrument, or when the same organisation manages several systems, this item identifies the relevant settlement system for settling trades on a given listed security. The ID is allocated by SWIFT, according to the BIC standard (ISO 9362).

- Possible values / Restrictions:

Spaces if not provided.

****

*** WARNING: while waiting to receive the data item from the FININFO

*** PGD-Corporate Events data flow, SmartPool fills this data item with spaces.

****

(31) Market Identification code (MIC) of the listed security

- Definition / Role:

Identifies the market to which a listed security belongs by its MIC (Market Identification Code).

- Possible values / Restrictions:

Alphanumeric, defined by the ISO norm 10383.

(32) Long ID of the underlying instrument

- Definition / Role:

Gives the long instrument ID (12 character format) of the underlying listed security.

- Possible values / Restrictions:

Spaces if not provided.

See Appendix section 4.3

(33) ID for depository/settlement system for listed instrument

- Definition / Role:

Identifies the possible main depository organisations (max 5) for the shares or bonds for an instrument. The ID is allocated by FININFO.

- Possible values / Restrictions:

Space: non significant

(34 ID for main depository/settlement system for listed instrument

- Definition / Role:

Identifies the default (or main) depository organisation of the instrument (between the possible 5 depositaries registered) used by priority for the settlement (e.g.: multi-listed instruments which have several depositories).

This data has to be treated in consideration of the data “**ID for depository/settlement system for instrument”**.

- Possible values / Restrictions:

Same as data “**ID for depository/settlement system for instrument”**

(35) Type of corporate event causing order books purge

Always ‘00’ (No event)

(36) Time difference between CET and UTC

- Definition:

Effective difference time between CET and UTC.

- Role:

To be interpreted in conjunction with the time difference between MiFID regulators and UTC

- Permitted values:

SHHMN format (with S = + / - , HH = Hour, MN=Minutes)
Always provided (MiFID instrument)
"0000" means no difference time.

(37) Time difference between MiFID regulators and UTC

- Definition:

Effective time difference between MiFID regulators and UTC.

- Role:

To be interpreted in conjunction with the time difference between CET and UTC

- Permitted values:

SHHMN format (with S = + / - , HH = Hour, MN=Minutes)

Always provided (MiFID instrument)
"0000" means no difference time.

(38) Category of Financial Instrument (CFI) of an instrument

- Definition:

Classification code of a financial instrument defined by the ISO-10962 standard.
Structure of the CFI code: The CFI reflects characteristics that are defined when a financial instrument is issued, and remain unchanged during its entire lifetime.
The CFI consists of six alphabetical characters:

-- The first character indicates the highest level of classification (categories).

Categories:

Equities (E)
Debt instruments (D)
Entitlements (Rights) (R)
Options (O)
Futures (F)
Others/Miscellaneous (M)

-- The second character indicates specific groups within each category:

Groups e.g. for equities:

Shares
Preferred shares
Convertible preferred shares
Units, i.e. unit trusts/mutual funds etc.
Others

-- The third to sixth character indicate the most important attributes to each group:

Attributes e.g. for equities:

Voting right
Ownership/transfer restrictions
Payment status
Form.

- Role:

Used to classify the instruments from different countries according to their main characteristics.
Provide a set of instrument codes to be used by all market participants
Help to organize the centralized reference data fed by different market providers

(39) Quantity notation

- Definition / Role:

Specify the nature of the amount expression used for negotiating the instrument on the market.

- Permitted Values:

UNT: in unit (i.e. number of shares)

FMT: in facial amount (i.e. bonds expressed in %)

Blank: not applicable

(40) Number of shares issued/ bonds outstanding after repayments

- Definition / Role:

For stocks, this is the total number of shares issued by the company.

- Possible values / Restrictions:

Greater than or equal to zero.

(41) Index of the set of variable price ticks for the instrument

The key for the variable price tick table consists of two data items [the index for a set of variable price ticks, the lowest value in a range of prices]. The index data item refers to a set of lines in that table which make it possible to determine the price tick for an instrument, based on the price range in which a given price for the instrument falls (i.e. a price to be rounded off or a limit to be checked).

When a listed security is created, or when the characteristics of an existing listed security are modified, this data item is (re)initialized to the "typical" index value for this listed security (if a value is not provided for the Fixed Price Tick data item). This "typical index" is derived from the following three characteristics:

- Trading currency (type of unit in which the listed security's price is expressed),
- Broad instrument category associated with the listed security,
- Trading group.

(42) Amount of the fixed price tick for an instrument

The degree of precision with which the price of an instrument or the limit of an order can be expressed, when the degree of precision is fixed; that is, when it is not associated with a given range for a price or limit. The degree of precision is expressed in the trading currency of the instrument.

If the price tick of an instrument is variable, a value is not provided for this data item. In applications that round off to the price tick or that check limits, the price tick is then determined from the Index of the Set of Variable Price Ticks for the Instrument.

(43) MICs of listing places

Not provided for SmartPool instruments

3.14 START OF INSTRUMENT REFERENCE DATA FLOW (EVENING) - ISIN GENERATION (CODE = 0450)

START OF INSTRUMENT REFERENCE DATA FLOW (EVENING) - ISIN GENERATION (CODE=0450)	Type	Length
HEADERS		172
End of text (ETX)	X	1
LENGTH (excluding headers)		1

When message is sent

This type of message is sent to indicate the beginning of session in the evening "Stock initialisation".

This session is a set of messages composed of:

- One message **0450**: "Start of Instrument Reference Data Flow (Evening) - ISIN Generation",
- N messages **0453** "Instrument Characteristics for the Next Business Date (Evening) - ISIN Generation",
- One message **0451** "End of Instrument Reference Data Flow (Evening) - ISIN Generation".

3.15 END OF INSTRUMENT REFERENCE DATA FLOW (EVENING) – ISIN GENERATION (CODE = 0451)

END OF INSTRUMENT REFERENCE DATA FLOW (EVENING) – ISIN GENERATION (CODE=0451)	**Type**	**Length**
HEADERS		172
Number of stocks initialised (1)	N	6
End of text (ETX)	X	1
LENGTH (excluding headers)		1

When message is sent

This type of message is sent to indicate the end of the evening session "Stock initialisation".

(1) Number of stocks initialised

- Definition / Purpose:

Indicates the number of stocks that were initialised by a message 0453.

3.16 INSTRUMENT CHARACTERISTICS FOR THE NEXT BUSINESS DATE (EVENING) - ISIN GENERATION (code = 0453)

INSTRUMENT CHARACTERISTICS FOR THE CURRENT BUSINESS DATE (MORNING) (CODE=0453)	**Type**	**Length**
HEADERS		172
Instrument name (1)	X	18
Filler	X	10
Type of market admission of an instrument (2)	X	1
Code for country issuer (3)	X	3
Trading currency code (4)	X	3
Type of unit of expression for instrument price (5)	N	1
Filler	X	5
Short instrument ID (6)	N	6
Code for broad instrument category (7)	X	1
Type of market management (8)	N	1
Number for section (9) Number for heading of Official List Number for heading in Official List	 N N	 1 3
Market place Id. For instrument (10)	N	3
Instrument group ID (11)	X	2
Filler	N	16
Type of relationship of instrument to an index (12)	X	4
Filler	X	1
ISIN code (13)	X	12
Type of derivative for a given instrument (14)	X	1
Type of instrument (15)	N	3
Filler	N	7
Filler	X	1
Code for special tax treatment for equity savings plan (16)	N	1
Filler	N	8
Long ID for the underlying instrument of lending/borrowing contracts (17)	N	12
Amount of par value for instrument for calculating trade amount (18) *Format price* *Price*	 *X* *N*	 *1* *12*
Filler	N	11
Filler	X	9

INSTRUMENT CHARACTERISTICS FOR THE CURRENT BUSINESS DATE (MORNING) (CODE=0453)	**Type**	**Length**
Indicator for instrument in the SRD deferred settlement system (20)	X	1
Expiration date for lending/borrowing contract (21)	N	8
Instrument lot size (22) Format indicator Quantity	 X N	 1 12
Filler	X	5
First possible settlement date for instrument (23)	X	8
FTSE ID for Economic sub-sector for issuing company (24)	X	3
ICB ID for Economic sub-sector of the issuing company (25)	X	4
BIC code of depository/settlement system for instrument (26)	X	11
Market identification code (MIC) of the listed security (27)	X	4
Long ID of the underlying instrument of a warrant (28)	X	12
ID for depository/settlement system for listed instrument (table) (5x) (29)	X	5 (5x)
ID for main depository/settlement system for listed instrument (30)	X	5
Type of corporate event causing order books purges (31)	X	2
Time difference between CET and UTC (32)	X	5
Time difference between MiFID regulators and UTC (33)	X	5
Category of Financial Instrument (CFI) of an instrument (34)	X	6
Quantity notation (35)	X	3
Number of shares issued/ bonds outstanding after repayments (36)	N	16
Index of the set of variable price ticks for the instrument (37)	X	2
Amount of the fixed price tick for an instrument (38)	X N	1 9
MICs of listing place (39)	X	4(6x)
Filler	X	270
End of text (ETX)	X	1
LENGTH (excluding headers)		600

Definition

This message indicates the main characteristics of a listed instrument:

- Characteristics of the instrument itself
- Trading characteristics of the instrument

These characteristics are valid for the next business date, that is the trading day D+1 following the Day D of its transmission. The message is intended for TOPCAC and FIM clients.

The message is part of a set of messages, called Instrument Reference Data Flow (Morning) - ISIN generation, made up as follows:

- One message 0450: ”Start of Instrument Reference Data Flow (Evening) - ISIN Generation",
- N messages 0453 "Instrument Characteristics for the Next Business Date (Evening) - ISIN Generation",
- One message 0451 "End of Instrument Reference Data Flow (Evening) - ISIN Generation".

(1) Instrument name

- Definition / Purpose:

Short text description of an instrument.

(2) Type of market admission of an instrument

Always blank for SmartPool instruments

(3) Code for country issuer

- Definition / Purpose:

Provides the ISO3A code for the country of location for the corporate headquarters of the company that issued the instrument.

The term country code is synonymous with the nationality of the issuer in certain screen displays.

- Possible values:

See Appendix (section 4.2.4)

(4) Trading Currency Code

- Definition / Purpose:

Code of the currency in which the stock is traded. If the price of a stock is quoted as a percentage of the nominal value, this field contains the currency in which the nominal value is traded (see appendix §4.1).

(5) Type of unit of expression for instrument price

- Definition / Purpose:

The unit in which the stock price is quoted. Indicates the type of units that are used to express the price of an instrument for orders and trades

- Possible values / Restrictions:

1 : in units

2 : as a % of nominal

5 : in % of nominal including accrued interest

8 : in kilograms

9 : in ounces.

(6) Short Instrument ID

- Definition / Purpose:

For SmartPool instruments, this data item is not provided and takes the constant value 000000.

(7) Code for broad instrument category

- Definition / Purpose:

This code is one characteristic of a given instrument and provides the broad instrument category: stock, bond or other.

- Possible values / Restrictions:

A Stock

O Bond

W Warrant and Certificate

T Tracker

D Other.

(8) Type of market management

Always ‘0’ (Not used).

(9) Number for section

Always ‘0’ (Not used).

(10) Marketplace ID for instrument

- Definition / Purpose:

Place where the instrument's price or the valuation of the instrument's price in the broad sense is established

Geographic location of the market on which the instrument is traded.

- Possible values / Restrictions:

See Appendix (section 4.2.3)

(11) Instrument group ID

- Definition / Purpose:

Identifies the SmartPool group to which an instrument belongs.

All the instruments having a same instrument group Id. follow the same rules such as the trading timetable.

- Possible values / Restrictions:

Value of the SmartPool group of the instrument

(13) ISIN code

- Definition / Purpose:

Identifies an instrument using an **I**nternational **S**ecurities **I**dentification **N**umber code, defined according to the ISO 6166 norm.

- Possible values / Restrictions:

The ISIN code is composed of:

  - A two-character prefix that consists of the alpha-2 country code. The country is that which is responsible for the domestic coding, which is, in general, the country where the issuing company is based.
  - A domestic code that comprises 9 alphanumeric characters.
  - A one-digit control key for which the algorithm is specified by the ISO norm.

(14) Type of derivative for a given instrument

- Definition / Role:

This item indicates the type of derivative product that may be related to an instrument

- Possible values / Restrictions:

1 support of a tracker (VLI)

2 complementary exchange

9 None

(15) Type of instrument

- Definition / Role:

Identifies the type of the instrument

- Possible values / Restrictions:

See Appendix (section 4.4).

(15Bis) CFI Code

Blank if not provided.

(16) Code for special tax treatment for equity savings plan

- Definition / Role:

Tax deduction code (for stock market investments) to which the stock belongs

- Possible values / Restrictions:

0 the stock has never been a « Monory » stock

1 Monory or CEA

2 Monory or CEA

3 PEA

4 Monory or CEA

(17) Long ID for the underlying instrument of lending/borrowing contracts

- Definition / Role:

Identifies by its long ID (12-character format) the listed security used as the underlying instrument (for lending/borrowing contracts) on a given instrument on the central securities lending market.

- Possible values / Restrictions

See Appendix (section 4.3)

Default value = ‘000000000000’

(18) Amount of par value for instrument for calculating trade amount

- Definition / Role:

Represents the amount of par value of an instrument that is paid up or that is still to be amortised, which is used for calculating an amount for a trade. This amount is also called the market par value of the instrument or the smallest denomination or also the facial value.

It is calculated from the amount of par value that is paid up or that has been amortised, from the type of par value, and from the indicator for the par value that is paid up or that has been amortised.

- Possible values / Restrictions:

Used for the purpose of portfolio valuations. Must be less than or equal to the total amount of the security's nominal value.

(20) Indicator for instrument in the SRD deferred settlement system

Always blank

(21) Expiration date for lending/borrowing contract

- Definition / Role:

Represents the inclusive date until which a lending/borrowing contract can be traded.

- Possible values / Restrictions:

YYYYMMDD format.

Takes the value zero if not provided.

(22) Instrument lot size

- Definition / Role:

Amount, expressed in number of shares or in an amount or a volume of the capital, of the lot size.

The lot size is a minimum tradable quantity that is set for each instrument by Euronext. The quantity of an order entered by a trading member on the market must be a multiple of the lot size.

This number is also called the "Quotité de Marché" (Minimum market tradable quantity).

- Possible values / Restrictions:

Only positive values are possible. If not provided IFT = blank and QMT = 000000000000

For SmartPool instruments, lot size is equal to ‘1’

(23) First possible settlement date for instrument

For all SmartPool instruments this item is not provided (spaces).

(24) FTSE ID for Economic sub-sector of the Issuing Company

- Definition / Role:

For an instrument, identifies the economic sub-sector of its issuing company, in the system of classification of the Company International FTSE.

- Possible values / Restrictions:

Not provided for SmartPool instruments

(25) ICB ID for Economic sub-sector of the issuing company

- Definition /Role:

Identifies: for a listed instrument, the economic subsector of the issuing company, in the ICB (Industry Classification Benchmark) classification.

Every issuing company is classified in one and only one subsector, according to the company's primary revenue source. The nomenclature of subsectors is purely economic, and allows an analysis of issuers independently from geopolitical borders. Any subsector belongs to one and only one sector. Any sector belongs to one and only one supersector. Any supersector belongs to one and only one Industry.

- Possible values / Restrictions:

0000: non significant

(26) BIC Code of depository/settlement system for instrument

- Definition / Role:

Identifies the depository organisation for the shares of an instrument, or when the same organisation manages several systems, this item identifies the relevant settlement system for settling trades on a given listed security. The ID is allocated by SWIFT, according to the BIC standard (ISO 9362).

- Possible values / Restrictions:

Spaces if not provided.

****

*** WARNING: while waiting to receive the data item from the FININFO

*** PGD-Corporate Events data flow, SmartPool fills this data item with spaces.

****

(27) Market Identification code (MIC) of the listed security

- Definition / Role:

Identifies the market to which a listed security belongs by its MIC (Market Identification Code).

- Possible values / Restrictions:

Alphanumeric, defined by the ISO norm 10383.

(28) Long ID of the underlying instrument

- Definition / Role:

Gives the long instrument ID (12 character format) of the underlying listed security.

- Possible values / Restrictions:

Spaces if not provided.

See Appendix section 4.3

(29) ID for depository/settlement system for listed instrument

- Definition / Role:

Identifies the possible main depository organisations (max 5) for the shares or bonds for an instrument. The ID is allocated by FININFO.

- Possible values / Restrictions:

Space: non significant

(30) ID for main depository/settlement system for listed instrument

- Definition / Role:

Identifies the default (or main) depository organisation of the instrument (between the possible 5 depositaries registered) used by priority for the settlement (e.g.: multi-listed instruments which have several depositories).

This data has to be treated in consideration of the data "**ID for depository/settlement system for instrument"**.

- Possible values / Restrictions:

Same as data "**ID for depository/settlement system for instrument"**

(31) Type of corporate event causing order books purge

Always '00' (No event)

(32) Time difference between CET and UTC

- Definition:

Effective difference time between CET and UTC.

- Role:

To be interpreted in conjunction with the time difference between MiFID regulators and UTC

- Permitted values:

SHHMN format (with S = + / - , HH = Hour, MN=Minutes)
Always provided (MiFID instrument)
"0000" means no difference time.

(33) Time difference between MiFID regulators and UTC

- Definition:

Effective time difference between MiFID regulators and UTC.

- Role:

To be interpreted in conjunction with the time difference between CET and UTC

- Permitted values:

SHHMN format (with S = + / - , HH = Hour, MN=Minutes)
Always provided (MiFID instrument)
"0000" means no difference time.

(34) Category of Financial Instrument (CFI) of an instrument

- Definition:

Classification code of a financial instrument defined by the ISO-10962 standard.
Structure of the CFI code: The CFI reflects characteristics that are defined when a financial instrument is issued, and remain unchanged during its entire lifetime.
The CFI consists of six alphabetical characters:

-- The first character indicates the highest level of classification (categories).

Categories:

Equities (E)
Debt instruments (D)
Entitlements (Rights) (R)
Options (O)
Futures (F)
Others/Miscellaneous (M)

-- The second character indicates specific groups within each category:

Groups e.g. for equities:

Shares
Preferred shares
Convertible preferred shares
Units, i.e. unit trusts/mutual funds etc.
Others

-- The third to sixth character indicate the most important attributes to each group:

Attributes e.g. for equities:

Voting right
Ownership/transfer restrictions
Payment status
Form.

- Role:

Used to classify the instruments from different countries according to their main characteristics.
Provide a set of instrument codes to be used by all market participants
Help to organize the centralized reference data fed by different market providers

(35) Quantity notation

- Definition / Role:

Specify the nature of the amount expression used for negotiating the instrument on the market.

- Permitted Values:

UNT: in unit (i.e. number of shares)

FMT: in facial amount (i.e. bonds expressed in %)

Blank: not applicable

(36) Number of shares issued/ bonds outstanding after repayments

- Definition / Role:

For stocks, this is the total number of shares issued by the company.

- Possible values / Restrictions:

Greater than or equal to zero.

(37) Index of the set of variable price ticks for the instrument

The key for the variable price tick table consists of two data items [the index for a set of variable price ticks, the lowest value in a range of prices]. The index data item refers to a set of lines in that table which make it possible to determine the price tick for an instrument, based on the price range in which a given price for the instrument falls (i.e. a price to be rounded off or a limit to be checked).

When a listed security is created, or when the characteristics of an existing listed security are modified, this data item is (re)initialized to the "typical" index value for this listed security (if a value is not provided for the Fixed Price Tick data item). This "typical index" is derived from the following three characteristics:

- Trading currency (type of unit in which the listed security's price is expressed),
- Broad instrument category associated with the listed security,
- Trading group.

(38) Amount of the fixed price tick for an instrument

The degree of precision with which the price of an instrument or the limit of an order can be expressed, when the degree of precision is fixed; that is, when it is not associated with a given range for a price or limit. The degree of precision is expressed in the trading currency of the instrument.

If the price tick of an instrument is variable, a value is not provided for this data item. In applications that round off to the price tick or that check limits, the price tick is then determined from the Index of the Set of Variable Price Ticks for the Instrument.

(39) MICs of listing places

Not provided for SmartPool instruments

Chapter 4

APPENDICES

4. APPENDICES

4.1 FOREIGN CURRENCY ISO 3A NORM

Code ISO3A	Name of currency	Country	Code ISO3A	Name of currency	Country
ADP	PESETA D'ANDORRE	054	AED	DIRHAM DES E.A.U.	610
AFA	AFGHANI	620	ALL	LEK	070
AMD	DRAM ARMENIEN	077	ANG	FLORIN DES ANTILLES	474
AON	NOUVEAU KWANZA	330	AOR	KWANZA REAJUSTE	331
ARS	PESO ARGENTIN	528	ATS	SCHILLING	038
AUD	DOLLAR AUSTRALIEN	800	AWG	FLORIN D'ARUBA	477
AZM	MANAT D'AZERBAIDJAN	078	BAD	DINAR	093
BBD	DOLLAR DE BARBADE	469	BDT	TAKA	664
BEF	FRANC BELGE	019	BGL	LEV	068
BHD	DINAR DE BAHREIN	640	BIF	FRANC DU BURUNDI	328
BMD	DOLLAR DES BERMUDES	466	BND	DOLLAR DE BRUNEI	703
BOB	BOLIVIANO	516	BRL	REAL BRESILIEN	508
BSD	DOLLAR DES BAHAMAS	453	BTN	NGULTRUM	675
BWP	PULA	392	BYB	ROUBLE DE BELARUS	073
BZD	DOLLAR DE BELIZE	421	CAD	DOLLAR CANADIEN	404
CHF	FRANC SUISSE	036	CLP	PESO CHILIEN	512
CNY	YUAN REN-MIN-BI	720	COP	PESO COLOMBIEN	480
CRC	COLON DE COSTA RICA	436	CUP	PESO CUBAIN	448
CVE	ESCUDO DU CAP-VERT	247	CYP	LIVRE CYPRIOTE	600
CZK	COURONNE TCHEQUE	061	DEM	DEUTSCHE MARK	004
DJF	FRANC DE DJIBOUTI	338	DKK	COURONNE DANOISE	034
DOP	PESO DOMINICAIN	456	DZD	DINAR ALGERIEN	208
ECS	SUCRE	500	EEK	COURONNE ESTONIENNE	053
EGP	LIVRE EGYPTIENNE	220	ESP	PESETA ESPAGNOLE	042
ETB	BIRR ETHIOPIEN	334	EUR	EURO	000
FJD	DOLLAR DE FIDJI	815	FIM	MARK FINLANDAIS	032
FRF	FRANC FRANCAIS	001	FKP	LIVRE DE FALKLAND	529
GEL	LARI	076	GBP	LIVRE STERLING	022
GIP	LIVRE DE GIBRALTAR	044	GHC	CEDI	276
GNF	FRANC GUINEEN	260	GMD	DALASIE	252
GTQ	QUETZAL	416	GRD	DRACHME	050
GYD	DOLLAR DE GUYANA	488	GWP	PESO DE GUINEE-BISSAU	257
HNL	LEMPIRA	424	HKD	DOLLAR DE HONG-KONG	740
HTG	GOURDE	452	HRK	KUNA	092
IDR	RUPIAH	700	HUF	FORINT	064
ILS	SHEKEL	624	IEP	LIVRE IRLANDAISE	026
IQD	DINAR IRAKIEN	612	INR	ROUPIE INDIENNE	666
ISK	COURONNE ISLANDAISE	024	IRR	RIAL IRANIEN	616
JMD	DOLLAR JAMAICAIN	464	ITL	LIRE ITALIENNE	005
JPY	YEN	732	JOD	DINAR JORDANIEN	628
KGS	SOM	083	KES	SCHILLING DU KENYA	346
KMF	FRANC DES COMORES	376	KHR	RIEL	696
KRW	WON COREEN	728	KPW	WON DE LA COREE DU NORD	724
KYD	DOLLAR DES CAIMANES	463	KWD	DINAR KOWEITIEN	636

.../...

Code ISO3A	Name of currency	Country
KZT	TENGE	079
LAK	KIP	684
LKR	ROUPIE DE SRI LANKA	667
LSL	LOTI	000
LUF	FRANC LUXEMBOURGEOIS	020
LYD	DINAR LIBYEN	216
MDL	LEU DE MOLDAVIE	074
MKD	DENAR DE MACEDOINE	096
MNT	TUGRIK	716
MRO	OUGUIJA	228
MUR	ROUPIE DE MAURICE	362
MWK	KWACHA DE MALAWI	386
MYR	RINGGIT DE MALAISIE	701
NAD	DOLLAR NAMIBIEN	391
NIO	CORDOBA OR	432
NOK	COURONNE NORVEGIENNE	028
NZD	DOLLAR NEO-ZELANDAIS	804
PAB	BALBOA	440
PGK	KINA	801
PKR	ROUPIE PAKISTANAISE	662
PLZ	ZLOTY	060
PYG	GUARANI	520
ROL	LEU (PLURIEL LEI)	066
RWF	FRANC DU RWANDA	324
SBD	DOLLAR DE SALOMON	846
SDD	DINAR SOUDANAIS	224
SEK	COURONNE SUEDOISE	030
SHP	LIVRE DE SAINTE-HELENE	329
SKK	COURONNE SLOVAQUE	063
SOS	SHILLING DE SOMALIE	342
STD	DOBRA	311
SYP	LIVRE SYRIENNE	608
THB	BAHT	680
TMM	MANAT	080
TOP	PA'ANGA	817
TRL	LIVRE TURQUE	052
TWD	NOUVEAU DOLLAR DE TAIWAN	736
UAK	KARBOVANET	072
UC2	U.C.APRES 2/63 17MO (XBD)	902
UE2	U.C.E. 78 (XBC)	919
UGX	SHILLING OUGANDAIS	350
UM2	U.M.E.1972 A 1974 (XBB)	941
USD	DOLLAR DES ETATS UNIS	400
UZS	SUM D'OUZBEKISTAN	081

Code ISO3A	Name of currency	Country
VND	DONG	690
LBP	LIVRE LIBANAISE	604
LRD	DOLLAR LIBERIEN	268
LTL	LITAS LITUANIEN	055
LVL	LATS LETTON	054
MAD	DIRHAM MAROCAIN	204
MGF	FRANC MALGACHE	370
MMK	KYAT	676
MOP	PATACA	712
MTL	LIRE MALTAISE	046
MVR	RUFIYAA	669
MXN	PESO MEXICAIN	412
MZM	METICAL	366
NGN	NAIRA	288
NLG	FLORIN NEERLANDAIS	003
NPR	ROUPIE DU NEPAL	672
OMR	RIAL OMANI	649
PEN	NOUVEAU SOL	504
PHP	PESO PHILIPPIN	708
PLN	ZLOTY NOUVEAU	059
PTE	ESCUDO PORTUGAIS	040
QAR	RIYAL DU QATAR	644
RUR	ROUBLE RUSSE	075
SAR	RIYAL SAOUDIEN	632
SCR	ROUPIE DES SEYCHELLES	355
SDP	LIVRE SOUDANAISE	224
SGD	DOLLAR DE SINGAPOUR	706
SIT	TOLAR	091
SLL	LEONE	264
SRG	FLORIN DE SURINAME	492
SVC	COLON D'EL SALVADOR	428
SZL	LILANGENI	393
TJR	ROUBLE DU TADJIKISTAN	082
TND	DINAR TUNISIEN	212
TPE	ESCUDO DE TIMOR	848
TTD	DOLLAR DE TRINITE/TOBAGO	472
TZS	SHILLING DE TANZANIE	352
UC1	U.C.AVANT 2/63 17MO (XBD)	901
UE1	U.C.E.1/2/63 A 77 (XBC)	918
UE3	U.C.E. 79 A(XBC)	920
UM1	U.M.E.1970 A 1971 (XBB)	940
UM3	U.M.E.1975 A 1980 (XBB)	942
UYU	PESO URUGUAYEN	524
VEB	BOLIVAR	484

.../...

Code ISO3A	Name of currency	Country (SBF)	Code ISO3A	Name of currency	Country (SBF)
VUV	VATU	816	ZWD	DOLLAR DU ZIMBABWE	382
WST	TALA	819	XAF	FRANC CFA (BEAC)	954
XAG	ARGENT	000	XAU	OR	000
XBA	EURCOUNITE EUROP.COMPO.	981	XCD	$ DES CARAIBES ORIENTALES	951
XDR	DROIT TIRAGE SPECIAL(DTS)	980	XEU	ECU	943
XFO	FRANC-OR	000	XFU	FRANC-UIC	000
XOF	FRANC CFA (BCEAO)	952	XPF	FRANC CFP	953
XXX	TRANSACTION SANS MONNAIE	000	X01	LIV.AVANT DEV.18/11/67	870
X02	LIV.APRES DEV.18/11/67	871	X03	LIVRE APRES 1970	872
X04	LIVRE APRES AOUT 72.	873	X08	REICHMARK,RENTENMARK	881
X09	MARK-OR	882	X10	LIVRE-OR	885
X11	FLORIN-OR AUSTRO-	886	YER	RIYAL DU YEMEN	652
YUM	NOUVEAU DINAR	090	ZAR	RAND COMMERCIAL	390
ZMK	KWACHA DE ZAMBIE	378	ZRN	NOUVEAU ZAIRE	322

4.2 MARKET FEED CODES / FINANCIAL MARKET CODES / QUOTE PLACE CODES / CODE FOR COUNTRY ISSUER

4.2.1 MARKET FEED CODES

SmartPool

79 Stock admitted to trading on SmartPool

Note: This code is only included in a message if the message relates to a security (including foreign exchange and indices), a series, or several series.

This code is not included in: technical messages, messages related to a stock group, etc.

4.2.2 FINANCIAL MARKET CODES

301: SmartPool

4.2.3 QUOTE PLACE CODE

675 SMARTPOOL

000
001 ZURICH
002 BALE
003 GENEVE
004 BOURSE ELECTRONIQUE SUISS
005 BERNE
006 BRUXELLES NEW TRADING SYS
007 N.Y.COTTON NIGHT SESSION
008 N.Y.MERC.NIGHT SESSION
009 COIRE
010 FONDS DE PLACEMENT SUISSE
011 BRUXELLES COMPTANT
012 COPENHAGUE
013 FRANCFORT
014 DUSSELDORF
015 MUNICH
016 STUTTGART
017 HAMBOURG
018 BERLIN
019 HANOVRE
020 BREME
021 DEUTSCHE TERMINBORSE
022 IBIS
023 ANVERS
024 BRUXELLES TERME
025 PARIS
027 LYON
028 MARSEILLE
029 NANCY
030 BORDEAUX
031 NANTES
032 LILLE

033 MATIF

034 ATHENES

035 LONDON COTATION EN USD

036 UNIT.KINGDOM/IRELAND

037 EUROPEAN OPTION EXCHANGE

038 AMSTERDAM

039 BELFOX

040 HELSINKI

041 MILAN

042 MERCATO DEI DERIVATI

046 MARCHE CONTINU ITALIEN

047 LUXEMBOURG

048 OSLO

049 OETOB

050 VIENNE

051 LISBONNE

052 MERCATO SEC.TITOLI STATO

053 STOCKHOLM

054 MARCHE CONTINU ESPAGNOL

055 MADRID

056 BARCELONE

057 BILBAO

059 NASDAQ INTERNATIONAL

061 TORONTO

062 MONTREAL STOCK

063 VANCOUVER

064 ALBERTA

065 NYSE

066 ASE

067 NASDAQ

068 NYSE BONDS

069 PACIFIC COAST

070 MIDWEST

071 ASE BONDS

072 CHICAGO BOARD OPT.EXCHAN.

073 RIO DE JANEIRO

075 NASDAQ S.CAP

076 MUTUAL FUNDS

077 PBW(PHI BAL WA)

078 PBO

079 PACIFIC BONDS

080 MEXICO
081 SAN JOSE
082 BUENOS AIRES
083 SAO PAULO
084 SANTIAGO
085 BOGOTA
087 MONTEVIDEO
088 CARACAS
089 LIMA
090 VALPARAISO
093 INSTINET
094 CINCINATTI
098 BOSTON
100 JOHANNESBURG
101 NAIROBI
102 CASABLANCA
103 TAIPEI
104 HONG KONG
105 TEL AVIV
106 TOKYO
107 OSAKA
108 MANILLE
109 ISTAMBUL
110 BEYROUTH
111 AUSTRALIAN STOCK EXCH.
112 JAPAN SEC. DEALERS ASSOC.
113 HONG-KONG FUTURES EXCHANG
114 BOMBAY STOCK EXCHANGE
115 TOKYO INTERN.FIN.FUTURES
116 WELLINGTON
117 SECURITIES EXCH.THAILAND
118 FUKUOKA
119 NIIGATA
120 SINGAPOUR
121 SAPPORO
122 BOURSE DE NAGOYA
123 KOREA STOCK EXCHANGE
125 BAHREIN STOCK EXCHANGE
126 MEFF RENTE VARIABL MADRID
127 MEFF RENTE FIXE BARCELONE
129 SINGAPOUR CASH

130 OTC BULLETIN BOARD

131 SYDNEY FUTURES EXCH.

134 L'ECHO DE BRUXELLE

135 NY COFF.SUG.CACAO NIGHT

136 FINANCIAL TIMES

137 FINANC RESEARCH TORONTO

138 AMES

139 CANADA DAILY QS

140 INTERACTIVE DATA SERV.

141 KYOTO

142 HIROSHIMA

143 KUALA LUMPUR

145 IRISH STOCK EXCHANGE

146 DJAKARTA

151 CHICAGO BOARD OF TRADE

152 CHICAGO MERC. EXCHANGE

153 NEW.YORK COMEX

155 KANSAS CITY B. OF TRADE

156 MINNEAPOLIS GRAIN EXCHAN.

158 N.Y.COFFEE, SUGAR, CACAO EX

159 N.Y.COTTON EXCHANGE

160 N.Y.MERCANTILE EXCHANGE

161 AMMAN FINANCIAL MARKET

162 AMERICAN COMEX

166 WINNIPEG GRAIN

170 PRAGUE

181 LONDON COMEX

182 SEAQ INTERNATIONAL

183 GIRO CREDIT VIENNE

185 DHAKA STOCK EXCHANGE

186 ISMA (EX AIDB)

187 BOURSE DE BRATISLAVA

188 GOLDMANN SACHS ZURICH

189 MORGAN STANLEY FRANCFORT

190 SOCIETE DE BANQUE SUISSE

191 UBS ZURICH BALE LONDON

192 CREDIT SUISSE

193 CS FIRST BOSTON ZURICH

194 MERILL LYNCH

195 NY COMMODITY NIGHT SESS.

196 BOND PARTNER

197	HARLOW BUTLER
198	BANQUE POPULAIRE SUISSE
199	NOMURA ZURICH
201	NON COTES COURS ALEATOIRE
202	BANQUE LEU
203	BANQUE CANTONALE, ZURICH
204	GARVIN INFORMATION SYSTEM
205	JULIUS BAR
206	LUZERN REGIOBANK
207	NON COTE COURS ALEATOIRE
210	LONDON TRADE OPTION
213	BUDAPEST
214	SHENZEN
215	SHANGAI
216	KARACHI
217	COLOMBO
218	NATIONAL QUOTATION BUREAU
219	ROBERT FLEMING, ZURICH
220	LONG TERME CDT BANK, ZURICH
221	MORGAN GUARANTY, ZURICH
222	FINANCIAL TIMES INDICES
224	SUMITOMA TRUST FIN, ZURICH
225	JAMES CAPEL GENEVE
226	DAI-ICHI KANGYO BANK
227	MITSUBISHI BANK
228	CONTRIBUTEURS DIVERS
229	BANK SARASIN
234	CHICAGO MERC.EXCH.GLOBEX
235	SWISS-HANDEL SECURITIES
237	CONTRIB.DIVERS LUXEMBOURG
240	COTATION ASSISTEE
241	SOFFEX
243	VARSOVIE
244	NON COTE COURS REGULIER
245	NON COTE COURS REGULIER
246	NON COTE COURS IRREGULIER
247	NON COTE COURS IRREGULIER
249	CONTRIBUTEURS DIVERS
251	NON COTE COURS ALEATOIRE
253	CONTRIBUTEURS DIVERS
254	DIVERS

260 COURS DIFFUSES

261 COURS NON DIFFUSES

266 BANCO DE ESPANA

272 SEATS LONDON

277 SERVICE VALUATION COMPANY

282 FONDI INVESTIM.

283 EASDAQ, LONDON

286 THAILAND FOREIGN

287 KUALA LUMPUR FOREIGN

288 JAKARTA FOREIGN

289 SINGAPOUR FOREIGN

405 AUSTRALIAN GILT SERVICE

414 SBC WARBURG LONDON

991 EUROPE

4.2.4 CODE FOR COUNTRY ISSUER

ABW	ARUBA
AFG	AFGHANISTAN
AGO	ANGOLA
AIA	ANGUILLA
ALB	ALBANIE / ALBANIA
AND	ANDORRE / ANDORRA
ANT	ANTILLES NEERLANDAISES / DUTCH ANTILLES
ARE	EMIRATS ARABES UNIS / UNITED ARAB EMIRATES
ARG	ARGENTINE / ARGENTINA
ARM	ARMENIE / ARMENIA
ASM	SAMOA AMERICAINES / AMERICAN SAMOA
ATA	ANTARCTIQUE / ANTARCTIC
ATF	TERRES AUSTRAL.FRANC / FRENCH AUSTRAL & ANTARCTIC TERRITORIES
ATG	ANTIGUA ET BARBUDA / ANTIGUA AND BARBUDA
AUS	AUSTRALIE / AUSTRALIA
AUT	AUTRICHE / AUSTRIA
AZE	AZERBAIDJAN / AZERBAIJAN
BDI	BURUNDI
BEL	BELGIQUE / BELGIUM
BEN	BENIN
BFA	BURKINA FASO
BGD	BANGLADESH
BGR	BULGARIE / BULGARIA
BHR	BAHREIN / BAHRAIN
BHS	BAHAMAS
BIH	BOSNIE HERZEGOVINE / BOSNIA HERZEGOVINA
BLR	BIELORUSSIE / BELARUS
BLZ	BELIZE
BMU	BERMUDES / BERMUDA
BOL	BOLIVIE / BOLIVIA
BRA	BRESIL / BRAZIL
BRB	BARBADE / BARBADOS
BRN	BRUNEI DARUSSALAM
BTN	BHOUTAN / BHUTAN
BVT	BOUVET, ILES / BOUVET ISLAND
BWA	BOTSWANA
CAF	CENTRAFRICAINE, REP. / CENTRAL AFRICAN REPUBLIC
CAN	CANADA

CCK	COCOS (KEELING),ILES / COCOS (KEELING) ISLAND
CHE	SUISSE / SWITZERLAND
CHL	CHILI / CHILE
CHN	CHINE / CHINA
CIV	COTE D'IVOIRE / IVORY COAST
CMR	CAMEROUN / CAMEROON
COD	CONGO (REPUBLI.DEMOCRATIQUE) / CONGO (DEM. REP.
COG	CONGO (REPUBLIC)
COK	COOK, ILES / COOK ISLANDS
COL	COLOMBIE / COLUMBIA
COM	COMORES / COMOROS
CPV	CAP VERT / CAPE VERDE
CRI	COSTA RICA
CUB	CUBA
CXR	CHRISTMAS, ILE / CHRISTMAS ISLAND
CYM	CAIMANES, ILES / CAYMAN ISLANDS
CYP	CHYPRE / CYPRUS
CZE	REPUBLIQUE TCHEQUE / CZECH REPUBLIC
DEU	ALLEMAGNE / GERMANY
DJI	DJIBOUTI
DMA	DOMINIQUE / DOMINICA
DNK	DANEMARK / DENMARK
DOM	DOMINICAINE REPUBLI. / DOMINICAN REPUBLIC
DZA	ALGERIE / ALGERIA
ECU	EQUATEUR ILES GALAPA / ECUADOR & GALAPAGOS ISLANDS
EGY	EGYPTE / EGYPT
ERI	ERYTHREE / ERITREA
ESH	SAHARA OCCIDENTAL / WESTERN SAHARA
ESP	ESPAGNE / SPAIN
EST	ESTONIE / ESTONIA
ETH	ETHIOPIE / ETHIOPIA
FIN	FINLANDE / FINLAND
FJI	FIDJI / FIJI
FLK	FALKLAND, ILES(MALVIN) / FALKLAND ISLANDS
FRA	FRANCE
FRO	FEROE ILES / FAROE ISLANDS
FSM	MICRONESIE FEDER ETA / MICRONESIA (FED. STATES OF)
GAB	GABON / GABON
GBR	ROYAUME UNI / GREAT BRITAIN
GEO	GEORGIE / GEORGIA
GHA	GHANA

GIB	GIBRALTAR
GIN	GUINEE / GUINEA
GLP	GUADELOUPE
GMB	GAMBIE / GAMBIA
GNB	GUINEE BISSAU / GUINEA BISSAU
GNQ	GUINEE EQUATORIALE / EQUATORIAL GUINEA
GRC	GRECE / GREECE
GRD	GRENADE / GRENADA
GRL	GROENLAND / GREENLAND
GTM	GUATEMALA
GUF	GUYANE FRANCAISE / FRENCH GUYANA
GUM	GUAM
GUY	GUYANA
HKG	HONG KONG
HMD	HEARD MAC DONALD ILE / HEARD & MCDONALD ISLANDS
HND	HONDURAS
HRV	CROATIE / CROATIA
HTI	HAITI
HUN	HONGRIE / HUNGARY
IDN	INDONESIE (EX-TIMOR) / INDONESIA
IND	INDE + (LE SIKKIN) / INDIA (& SIKKIN)
IOT	TER.BR.AC.IND.CHAGOS / CHAGOS ISLANDS
IRL	IRLANDE / IRELAND
IRN	IRAN
IRQ	IRAK / IRAQ
ISL	ISLANDE / ICELAND
ISR	ISRAEL
ITA	ITALIE / ITALY
JAM	JAMAIQUE / JAMAICA
JOR	JORDANIE / JORDAN
JPN	JAPON / JAPAN
KAZ	KAZAKHSTAN
KEN	KENYA
KGZ	KIRGHIZSTAN / KYRGYZSTAN
KHM	CAMBODGE / CAMBODIA
KIR	KIRIBATI
KNA	SAINT-KITTS-ET-NEVIS / ST KITTS AND NEVIS
KOR	COREE DU SUD / SOUTH KOREA
KWT	KOWEIT / KUWAIT
LAO	LAOS
LBN	LIBAN / LEBANON

LBR	LIBERIA
LBY	LIBYE / LIBYA
LCA	SAINTE-LUCIE / ST LUCIA
LIE	LIECHTENSTEIN / LICHTENSTEIN LICHTENSTEIN
LKA	SRI LANKA (EX.CEYLAN) / SRI LANKA (EX. CEYLON)
LSO	LESOTHO
LTU	LITUANIE / LITHUANIA
LUX	LUXEMBOURG
LVA	LETTONIE / LATVIA
MAC	MACAO / MACAU
MAR	MAROC / MOROCCO
MCO	MONACO
MDA	MOLDAVIE / MOLDAVIA
MDG	MADAGASCAR
MDV	MALDIVES
MEX	MEXIQUE / MEXICO
MHL	MARSHALL, ILES / MARSHALL ISLANDS
MKD	MACEDOINE / MACEDONIA
MLI	MALI
MLT	MALTE / MALTA
MMR	MYANMAR (EX. BURMA)
MNG	MONGOLIE / MONGOLIA
MNP	MARIANNES NORD, ILES / NORTH MARIANA ISLANDS
MOZ	MOZAMBIQUE
MRT	MAURITANIE / MAURITANIA
MSR	MONTSERRAT
MTQ	MARTINIQUE
MUS	MAURICE / MAURITIUS
MWI	MALAWI
MYS	MALAISIE-SARAWAK-SAB / MALAYSIA-SARAWAK-SABAH
MYT	MAYOTTE
NAM	NAMIBIE / NAMIBIA
NCL	NOUVELLE CALEDONIE / NEW CALEDONIA
NER	NIGER
NFK	NORFOLK, ILES / NORFOLK ISLAND
NGA	NIGERIA
NIC	NICARAGUA
NLD	PAYS-BAS / THE NETHERLANDS
NOR	NORVEGE / NORWAY
NPL	NEPAL
NRU	NAURU

NZL	NOUVELLE ZELANDE / NEW ZEALAND
OMN	OMAN
PAK	PAKISTAN (ILES)
PAN	PANAMA
PCN	PITCAIRN
PER	PEROU / PERU
PHL	PHILIPPINES
PLW	PALAU
PNG	PAPOUASIE NVL.GUINEE / PAPUA NEW GUINEA
POL	POLOGNE / POLAND
PRI	PORTO RICO
PRK	COREE DU NORD / NORTH KOREA
PRT	PORTUGAL
PRY	PARAGUAY
PSE	PALESTINE OCCUPE TER / PALESTINIAN TERRITORIES
PYF	POLYNESIE FRANCAISE / FRENCH POLYNESIA
QAT	QATAR
REU	REUNION
ROU	ROUMANIE / RUMANIA
RUS	RUSSIE / RUSSIA
RWA	RWANDA
SAU	ARABIE SAOUDITE / SAUDI ARABIA
SDN	SOUDAN / SUDAN
SEN	SENEGAL
SGP	SINGAPOUR / SINGAPORE
SGS	GEORGIE SUD ILES SAN / SOUTH GEORGIA & THE SOUTH SANDWICH ISLANDS
SHN	SAINTE HELENE / ST HELENA
SJM	SVALBARD, JAN MAYEN / SVALBARD & JAN MAYEN ISLANDS
SLB	SALOMON, ILES / SOLOMON ISLANDS
SLE	SIERRA LEONE
SLV	SALVADOR EL / EL SALVADOR
SMR	SAINT MARIN / SAN MARINO
SOM	SOMALIE / SOMALIA
SPM	ST PIERRE & MIQUELON
STP	SAO TOME ET PRINCIPE / SAO TOME AND PRINCIPE
SUR	SURINAM
SVK	SLOVAQUIE / SLOVAKIA
SVN	SLOVENIE / SLOVENIA
SWE	SUEDE / SWEDEN
SWZ	SWAZILAND

SYC	SEYCHELLES
SYR	SYRIE/ SYRIA
TCA	TURKS & CAIQUES, ILES / TURKS & CAICOS ISLANDS
TCD	TCHAD / CHAD
TGO	TOGO
THA	THAILANDE / THAILAND
TJK	TADJIKISTAN / TAJIKISTAN
TKL	TOKELAU (ILES) / TOKELAU ISLANDS
TKM	TURKMENISTAN
TON	TONGA (ILE)
TTO	TRINIDAD & TOBAGO
TUN	TUNISIE / TUNISIA
TUR	TURQUIE / TURKEY
TUV	TUVALU, ILES / TUVALU ISLANDS
TWN	TAIWAN
TZA	TANZANIE / TANZANIA
UGA	OUGANDA / UGANDA
UKR	UKRAINE
UMI	ILES MINEURES E-U / US PACIFIC DEPENDENCIES
URY	URUGUAY
USA	ETATS UNIS D’AMERIQUE / UNITED STATES OF AMERICA
UZB	OUZBEKISTAN / UZBEKISTAN
VAT	VATICAN (SAINT-SIEGE)(VATICAN) / VATICAN CITY
VCT	ST VINCENT ET GRENAD / ST VINCENT AND THE GRENADINES
VEN	VENEZUELA
VGB	ILES VIERGES BRITANNIQUES / BRITISH VIRGIN ISLANDS
VIR	ILES VIERGES AMERICAINES / US VIRGIN ISLANDS
VNM	VIET NAM / VIETNAM
VUT	VANUATU (NV HEBRIDES) / VANUATU
WLF	WALLIS & FUTUNA
WSM	SAMOA OCCIDENTALES / WESTERN SAMOA
YEM	YEMEN
YUG	SERBIE-MONTENEGRO / SERBIA MONTENEGRO
YUN	EX-YOUGOSLAVIE / FORMER YUGOSLAVIA
ZAF	AFRIQUE DU SUD / SOUTH AFRICA
ZMB	ZAMBIE / ZAMBIA
ZWE	ZIMBABWE
ZZZ	NON COMMUNIQUE / NOT COMMUNICATED
NIU	NIUE
TLS	TIMOR ORIENTAL / WEST TIMOR

4.3 DESCRIPTION OF LONG INSTRUMENT ID

Permitted Values

Spaces are not authorized.

Description of ISIN Code

- The ISIN code consists of a total of 12 characters, as follows: *

- the first two characters are taken up by the alpha-2 country code in accordance with the international standard ISO 3166 of the country where the issuer of securities is legally registered.

- The next nine characters are alpha-numerical characters

- The final character represents the key of the ISIN code.

Description of Long Instrument ID

SmartPool instruments:

- for single listings (i.e. instruments listed only in one Euronext marketplace): true ISIN code.

- for multiple listings (Several securities are currently listed on one, two, or three stock exchanges (Brussels, Amsterdam and Paris) and the target is to reduce to one single place. But meanwhile, all eligible securities including multiple listed securities will be cleared and settled through the local applications. That is why multiple listed stocks need to have another codification: the Euronext code is attributed to each quotation line of each multiple listed security, and is used by trading, order routine and dissemination systems):

Amsterdam-listed instrument: 'NSCNL' + from 1 to 5 zero characters + the 1 to 5 characters of the Amsterdam mnemonic code + one-digit control key, or the ISIN code of the instrument if the issuer is Dutch.

Brussels-listed instrument: 'NSCBE' + from 1 to 5 zero characters + the 1 to 5 characters of the Brussels mnemonic code + one-digit control key, or the ISIN code of the instrument if the issuer is Belgian.

Paris-listed instrument: 'NSCFR' + from 1 to 5 zero characters + the 1 to 5 characters of the Paris mnemonic code + one-digit control key, or the ISIN code of the instrument if the issuer is French.

Note 1: Amsterdam-listed instruments and Brussels-listed instruments that existed before the abandonment of the AFC-code (June 2003) retain the Long ID that they had at that time. This ID is built on the basis of the former-AFC code (for example 'NSCBE' + 6-digit AFC code + one-digit control key for the Belgian listing of a multi-listed instrument).

Note 2: The one-digit control key is calculated according to the algorithm specified by the ISO 6166 norm (ISIN).

Example:

Let a security be listed in Paris, Brussels and Amsterdam: its real ISIN code is NL0000301109. This instrument will have two Euronext codes (for Belgian and Dutch marketplaces), and the NSC codes for Paris used for trading that are:

1. FR0000128175 for Paris becomes NSCFR00AABP1 after change to ISIN Code
2. NSCBE0128179 for Brussels
3. NL0000301109 for Amsterdam.

<u>How the Control Key Is Calculated*</u>

The key is calculated based on the first 11 characters of the Euronext code, as in the following example:

N S C F R 0 0 A A B
P

(2 3) (2 8) (1 2) (1 5) (2 7) 0 0 (1 0) (1 0) (1 1)
(2 5) 0 0 (1)

x 1 2 1 2 1 2 1 2 1 2 1 1 1 2 1 2 1 2
1 2 1 1 (2)

2 6 2 16 1 4 1 10 2 14 0 0 1 0 1 0 1 2 2 10
0 0 (3)

Sum = 2+6+2+1+6+1+4+4+1+0+2+1+4+0+0+1+0+1+0+1+2+2+1+0+1+0+0+0 = 39 (4)

Key = 40 - 39 = 1

(5)

Notes:

(1) Each character in the country code is assigned a numerical value. The letter A has the value 10, B has the value 11, and so on, up to Z, which has the value 35.

(2) Every second digit in the code is multiplied by 2, starting with:

(3) The furthest right digit

All digits resulting from the multiplication are added together. (The number 16 comprises 2 digits that are added separately: 1 + 6).

The Control key is obtained by taking the result of the addition and finding the complement to 40 of that number. Because 30<Sum<40. (If the sum is 15 for example, then 10<Sum<20 and the control key is obtained by taking the result of the addition and finding the complement to 20 of that number)

* It is the same algorithm as that used to calculate the ISIN key.

4.4 TYPE OF INSTRUMENT

Instrument type	Name
8	PARTICIPAT. BOND - CUM-WARRANT
9	PARTICIPAT. BOND - EX-WARRANT
10	PARTICIPATING SHARE
11	SUBORDINATED BOND
13	INTEREST STRIP
14	PRINCIPAL STRIP
15	PERPETUAL
17	BUNNY BOND
18	ORT (FRANCE)
19	OAT (FRANCE)
21	CONVERTIBLE BOND
22	EXCHANGEABLE BOND
23	PARTICIPATING BOND
24	INDEXED BOND
25	ORDINARY BOND
26	LOTTERY BOND
27	SAVINGS BOND
28	INDEMNITY BOND
30	BOND WARRANT
32	BOND - CUM-WARRANT
33	BOND - EX-WARRANT
35	RIGHT TO INDEMNITY SECURITY
38	BOND OPTION
39	EMPRUNT NOTIONNEL (FRANCE)
40	FOUNDER'S SHARE
41	ORDINARY SHARE
42	BONUS SHARE
43	PREFERRED SHARE
44	SAVING SHARE
45	CERTIFICATE
46	AFV SHARE (BELGIUM)
47	ACCUMULATING RIGHT
48	ALLOTMENT RIGHT
49	SUBSCRIPTION RIGHT
50	PREFERENCE STOCK

51	VVPR SHARE (BELGIUM)
52	CASH NOTE
53	PROF. PREMISES PROP. CO. SHARE
54	ALLOCATION RIGHT
55	OPTION RIGHT
56	SHARE - CUM-WARRANT
57	SHARE - EX-WARRANT
58	PREFERENCE SHARE
59	PREFERENCE
60	GOLD
61	UNIT OF INTL INVESTMENT TRUST
62	UNIT OF UNIT TRUST
63	MORTGAGE WARRANT
64	BANK NOTE
65	DEVISE COMMERCIALE (FRANCE)
66	DEVISE TITRE (FRANCE)
67	COMMODITIES
68	INDEX
69	UNIT
70	INVESTMENT FUND SHARE
71	MISC. PRODUCTS - WARRANT
72	SHARE WARRANT
75	MISCELLANEOUS
76	LISTED CALL OPTION
77	LISTED PUT OPTION
78	CALL MONEY , AVERAGE BD RATE…
80	FOUNDER'S SHARE
81	COMPANY SHARE
82	PART DE RESERVE (BELGIUM)
84	DEFERRED SHARE
85	REGIONAL DEVELOP. COMP. SHARE
86	VENTURE CAPITAL COMPANY SHARE
87	REAL ESTATE COMPANY SHARE
90	MORTGAGE BOND
100	PARTICIPATION CERTIFICATE
105	INDEX WARRANT
106	CURRENCY WARRANT
108	WARRANT OF A WARRANT
110	PARTICIPATING SHARE - WARRANT

111	SUBORDINATED CONVERTIBLE BOND
121	CONV. BOND - CUM-WARRANT
123	CONV.PARTICIPATING BOND
139	MATIF 90 DAYS TREAS.BDS (FRA)
140	PART DE RESERVE AFV (BELGIUM)
141	CONVERTIBLE ORDINARY SHARE
142	DIVIDEND-RIGHT CERTIFICATE
144	CONVERTIBLE SAVING SHARE
145	INVESTMENT CERTIFIC. - WARRANT
150	CONVERTIBLE PREFERENCE STOCK
162	MBO SHARE
200	PARTICIP. CERTIFIC. - WARRANT
221	CONVERTIBLE BOND - EX-WARRANT
240	AFV COMPANY'S SHARES (BELGIUM)
241	VVPR COMPANY'S SHARES (BEL)
242	ACCUMULATION FUND SHARE
243	DISTRIBUTION FUND SHARE
244	UNIT - FUT&OPT.MARK. INV.FUND.
245	ACCUMULATION FUND SHARE
246	DISTRIBUTION FUND SHARE
247	CERTIF OF GUAR VALUE (CVG)
248	SHARE WARRANT
249	BTAN (FRANCE)
250	OAT (FRA) - INTEREST CERTIF.
251	OAT (FRA) - PRINCIPAL CERTIF.
252	INDEXED OAT (FRA)
253	IND.OAT(FRA)-PRINCIPAL CERTIF.
254	IND.OAT (FRA)-INTEREST CERTIF.
255	EMTN
256	BTF (FRANCE)
257	INDEXED CERTIFICATE
258	BMTN (FRANCE)
259	REAL ESTATE BOND
260	CONVERTIBLE EMTN
261	INDEXED EMTN
262	INDEXED CERTIFICATE-EMTN
263	ETF
264	VENTURE CAP.MUTUAL FUND SHARE
265	MUTUAL FUND FOR INNOV.SHARE

266	MEDIUM TERM NOTE
267	MEDIUM TERM NOTE-FLOATING RATE
268	ACCUMULATION SHARE
269	DISTRIBUTION SHARE
270	ORDINARY BOND-INTEREST CERTIF.
271	ORDINARY BOND-PRINCIPAL CERTIF
272	" BENEFICIAL INTEREST" SHARE
273	REDEEMABLE CUMUL. PREF. STOCK
274	CONV.REDEEM.CUMUL.PREF.STOCK
275	CONVER. CUMULATIVE PREF. STOCK
276	CUMULATIVE PREFERRED STOCK
277	REDEEMABLE PREFERRED STOCK
278	FOREIGN TREASURY NOTE
280	STRIP VVPR