Budapest Stock Exchange

INFORMATION PACKAGES

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I/2005	01 January 2005
II/2005	02 November 2005
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Budapest Stock Exchange Ltd.
Information Packages

1. Real time data

Real time data content is described in 'ADH TIP Protocol Specification WBAG 3.2.1 Annex 2 –Data Products, Market Model, Data Content (Vienna SE, Ljubljana SE, Prague SE, Budapest SE, Zagrab SE and EXAA)' or its latest version. It provides additional information on subscription products, data content, trading hours, market model, used message types and data fields of ADH.

The document is available in the closed user group 'Vendors Only' for Distributors having an agreement with BSE, at the following website:
https://www.wienerborse.at/en/market-data/cug-vendors-only/datafeed/

User name and password to the 'Vendors Only' page can be requested from WBAG via telephone (+43-1-531-65-288) or via e-mail at datafeed@wienerborse.at.

All effective information concerning data content that published on the 'Vendors Only' page of WBAG's official website is part of the Information Packages of BSE's Information Distribution Agreement.

Available market depth of the cash market is maximum 10 (via ADH) or 20 (via rapidADH) while of the derivatives –and commodities market is maximum 10.

2. Data available on BSE SFTP

- **End of Day data**

  1. Closing Statistics

  - The official list of trades concluded in the equities, government securities, derivatives and commodities sections of the BSE;
  - The open interest in derivatives on the preceding trading day and the settlement prices;
  - The closing value of the Real-time BUX, BUMIX indices;
  - The closing value of the End of Day CETOP20 Index;
  - The following closing price statistics in respect of products available on the markets of the BSE:
    - opening price
    - closing price/yield
    - maximum price
    - minimum price
    - average price
    - total value
    - total volume

- The following turnover data:
    - Total number of trades on the particular trading day;
    - Total exchange day turnover broken down by:
        - Cash market:
            - equities
            - corporate bonds
            - bonds by international institutions
            - T-bills
            - investment funds
            - compensation coupons
            - government bonds
            - mortgage bonds
        - Futures market:
            - index futures
            - currency futures
            - equity futures
            - interest rate futures
        - Options market:
            - stock options
            - index options
            - currency options
        - Commodities market:
            - spot grain products
            - grain futures
            - grain options;
    - Total capitalisation data broken down by:
            - equities
            - corporate bonds
            - bonds by international institutions
            - T-bills
            - investment funds
            - compensation coupons
            - government bonds
            - mortgage bonds;
- The following Information regarding the transactions of the BSE's BETa Market:
    - The official list of trades concluded in the BSE's BETa Market;
    - The date of settlement of these trades.

2. Information regarding the products to be traded on the next trading day

- The following data regarding all BSE-traded products:
        - ticker symbol
        - market segment
        - currency
        - status (active or suspended)

- ISIN code
- first and last trading day

- The following further data regarding products traded on the cash market:
  - security name
  - security type
  - security subgroup
  - face value and its currency
  - issue price
  - listing date
  - listed quantity
  - free float
  - date of general assembly
  - payment information:
    - duration start and end
    - dividend/yield/interest rate
    - payment date
    - value paid and its currency
    - redemption information

- The following further data regarding products traded on the derivatives market:
  - strike price
  - minimum price step
  - maturity week/month and year
  - expiry date
  - instrument/product ID
  - option type (American or European)

- **End of day index data**

  Content of the files are the same as the Index baskets displayed on the BSE website on the below links:

BUX

www.bse.hu/pages/index-baskets#BUX

BUMIX

www.bse.hu/pages/index-baskets#BUMIX

CETOP20

www.bse.hu/pages/index-baskets#CETOP

3. Data available via WBAG FTP

- **Xetra Reference Data**

Accessible at: the file can be downloaded from WBAG FTP server (download.wienerborse.at.)

Content: Daily file with all instruments tradable at Budapest Stock Exchange. The file contains all instruments tradable on the next exchange trading day including their unique attributes (ISIN, symbol, full name and other) as well as further market model-specific data (e.g. trading hours, tradable units, price intervals)

- **Tick-by-Tick Data (historical order book)**

Accessible at: WBAG FTP server (download.wienerborse.at.)

Content: Market Data of the specific instruments traded at Budapest Stock Exchange; Aggregated order book and no netted trades.

4. Derivatives

market – Real Time and Delayed Data

Data of standardized option and futures market

For each maturity and options strike the following Information is published:

1. Pre-trade Information:
   - Instrument identification code type (ISIN or other identity code)
   - Instrument identification code (ISIN or other format)
   - Type (of the derivatives only)
   - Bid price
   - Bid quantity
   - Ask price
   - Ask quantity
   - Date and time of the quotes

2. Post-trade Information:
   - Trading date and time
   - Instrument identification code type (ISIN or other identity code)
   - Instrument identification code (ISIN or other format)
   - Price
   - Venue of execution
   - Price notation
   - Price Currency

- Notation of the quantity in measurement unit
- Quantity in measurement unit
- Quantity
- Notational amount
- Notational currency
- Type (of the derivatives only)
- Publication Date and Time
- Venue of publication
- Transaction identification code
- Transaction to be cleared
- Trading flags

<u>Price level data:</u>

ticker symbol
indicative price (in the opening- and closing order-collection sub-period)
best 10, best 5 price level or best 1 price level bid/ask price/yield level
best 10, best 5 price level or best 1 price level bid/ask change indicator (direction of change of the current best 10, best 5 price level or best 1 price level bid/ask level as compared to the previous best bid/ask level)

best 10, best 5 price level or best 1 price level cumulated quantity on the best bid/ask level
composition of the cumulated quantity (number of orders and number of firms placing orders on the best 10, best 5 price level or best 1 price level bid/ask level)
timestamp (the time of the last change for any data item on the best 10, best 5 price level or best 1 price level bid/ask level)

<u>Closing data:</u>

ticker symbol
opening price
closing price/yield
maximum price
minimum price
average price
date and time stamp

Closing statistical data are sent at the end of the trading day in the End-of-Day vendset file.

5. Derivatives market – End of Day Data

1. Closing statistics

- The open interest in derivatives on the preceding trading day and the settlement prices;
- The following closing price statistics in respect of products available on derivatives market of the BSE:
    - opening price
    - closing price/yield

    - maximum price
    - minimum price
    - average price
    - date and time stamp

- The following turnover data:
    - Total number of trades on the particular trading day;
    - Total exchange day turnover broken down by:
        - Futures market:
            - index futures
            - currency futures
            - equity futures
            - interest rate futures
        - Options market:
            - stock options
            - index options
            - currency options
        - Commodities market:
            - spot grain products
            - grain futures
            - grain options;

2. The following information regarding the products to be traded on the next trading day

- The following data regarding all BSE-traded products:

    - ticker symbol
    - currency
    - status (active or suspended)
    - ISIN code
    - first and last trading day

- The following further data regarding products traded on the derivatives market:
    - strike price
    - minimum price step
    - maturity week/month and year
    - expiry date
    - instrument/product ID
    - option type (American or European)

6. MiFID II Data

6.1 APA Market Data Package

This Information Package contains APA Market Data redistributed by BSE to Distributors in accordance with Section 2.5.8 of BSE Information Policies.

General characteristics of APA Market Data contained in this Package:

- Trading information to be captured by the designated APA:
    - OTC trades, i.e. transactions executed outside a trading venue related to all financial instruments.
- Scope of instruments: all financial instruments pursuant to Article 20 and 21 of MiFIR traded on trading venues and which is collected by APAs that have contractual relationship with BSE for APA Market Data distribution

Reported transaction data*:

Trading date and time
Instrument identifier
Instrument identifier type
Price
Price notation
Price currency
Quantity
Quantity notation in measurement unit
Quantity in measurement unit
Notational amount
Notational currency
Type
Execution venue (venue segment MIC, “SINT” or “XOFF”)
Publication date and time
Publication venue
Transaction identifier
Transaction to be cleared flag
Flags as stated by RTS 1 and RTS 2 (venue/investment firm)

* Information collected by the designated APA and published by investment firms.

6.2 MiFID II Disaggregated Data

1. Pre-trade Information regarding all BSE-traded products:
    - Instrument identification code type (ISIN or other identity code)
    - Instrument identification code (ISIN or other format)
    - Type (of the derivatives only)
    - Bid price
    - Bid quantity
    - Ask price
    - Ask quantity
    - Date and time of the quotes
2. Post-trade Information regarding all BSE-traded products:
    - Trading date and time
    - Instrument identification code type (ISIN or other identity code)

- Instrument identification code (ISIN or other format)
- Price
- Venue of execution
- Price notation
- Price Currency
- Notation of the quantity in measurement unit
- Quantity in measurement unit
- Quantity
- Notational amount
- Notational currency
- Type (of the derivatives only)
- Publication Date and Time
- Venue of publication
- Transaction identification code
- Transaction to be cleared
- Trading flags