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## INFORMATION PACKAGES

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I/2005	01 January 2005
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# Budapest Stock Exchange Ltd.

## Information Packages

Effective *1 November 2007*

### I. REAL-TIME INDEX PACKAGE

This Information Package includes the following types of Information:

- Real -time values of the BUX (official stock index of BSE), BUMIX (BSE Mid- and SmallCap Index) as they are calculated each 5 seconds in the course of trading;
- At the end of the day, in a separate End-of-Day index file:
  - All intraday values of the Real-time indices (including the closing values);
  - The closing values of End of Day CETOP 20 Index
  - The values of RAX Index with the changes;
  - Daily turnover and capitalization data in the breakdown shown for the End-of-Day Package.

### II. END-OF-DAY PACKAGE

The End-of-day Package is contained in the vendset\_yyyymmdd.dat file, which is published no sooner than ninety (90) minutes after the close of trade on each trading day.

This Information Package includes the following types of Information:

#### II. 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 values of RAX Index and the value of the changes therein;
- 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
- 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.

## II. 2. The following information regarding the products to be traded on the next trading day<sup>1</sup>

- The following data regarding all BSE-traded products:
  - BSE ticker symbol
  - security board
  - currency
  - status (active or suspended)
  - ISIN code
  - first and last trading day

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<sup>1</sup> Certain data fields regarding certain products to be traded on the next trading day may be left empty (e.g. the last trading day for equities)

- 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)

### **III. REAL-TIME BEST PRICE LEVEL PACKAGE**

This Information Package provides two data files for each trading day: the vendrt\_yyyymmdd.dat Real-time stream and the vendset\_yyyymmdd.dat End-of-Day data file.

In addition to the Information included in the Real-time Index Package and the End-of-Day Package (for details please see sections I and II of this document) this Information Package includes the following types of Information:

- The price, yield and quantity of BSE listed securities, of the futures and options products, and of the spot, futures and options grain products listed in the commodities section, for the trades concluded during the trading day (trades resulting from negotiated deals are also included in the data-feed, but are marked for identification);
- The best price levels in each market, i.e. the price/ yield and (except for the free period of the open outcry session of commodities trading) quantity of the best bid and the best ask price level;
- The status of the securities prior to and during daily trading: the data-feed sends messages concerning security status at the start of the day and when suspension or trading halts occur (status changes from active to suspended or vice versa);
- A closing record to indicate “end of trading day, no more data” at the close of trading in the Real time data-feed and at the end of the End-of-Day data-feed file;
- The following data on the BETa Market:
  - The price of securities traded on the particular day;

- The best price levels, i.e. the prices and quantities on the best bid and best ask price level.

The fee payable for the Real-time Best Price Level Package covers also the right to disseminate the Information as included in the Delayed Best Price Level Package, and the End-of-Day Package as well as the Real-time Index Package.

### **Detailed list of Information:**

#### **III. 1. Cash market data:**

For each security listed on this market the following Information is published:

Transaction data (details of trades concluded on the cash market with negotiated deals marked):

- ticker code
- price of trade
- trade price change indicator (direction of change as compared to the price of the previous trade)
- traded quantity
- opening price
- date and time of trade
- board name

Best price level data:

- ticker symbol
- board name
- indicative price (in the opening- and closing order-collection sub-period)
- best bid/ask price/yield level
- best bid/ask change indicator (direction of change of the current best bid/ask level as compared to the previous best bid/ask 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 bid/ask level)
- timestamp (the time of the last change for any data item on the best bid/ask level)

Best bid/ask level data are sent in the Real-time feed whenever any data on the best bid/ask level (price/yield, quantity, number of orders, number of firms placing orders) change. The bid and ask side information is forwarded in the same record (the "O" record).

Closing data:

- ticker symbol
- board
- opening price
- closing price/yield
- maximum price
- minimum price
- average price

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

### **III. 2. Data on standardized futures contracts:**

For each maturity the following Information is published:

Transaction data (details of trades concluded on the futures market with negotiated deals marked):

- ticker code of the maturity
- price of trade
- trade price change indicator (direction of change as compared to the price of the previous trade)
- quantity of contracts traded
- opening price
- date and time of trade
- board name

Best price level data:

- ticker symbol
- board name
- indicative price (in the opening- and closing order-collection sub-period)
- best bid/ask price/yield level
- best bid/ask change indicator (direction of change of the current best bid/ask level as compared to the previous best bid/ask 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 bid/ask level)
- timestamp (the time of the last change for any data item on the best bid/ask level)

Best bid/ask level data are sent in the Real-time feed whenever any data on the best bid/ask level (price/yield, quantity, number of orders, number of firms placing orders) change. The bid and ask side information is forwarded in the same record (the “O” record).

Closing data:

- ticker symbol
- board
- opening price
- closing price/yield
- maximum price
- minimum price
- average price

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

### **III. 3. Data on standardized options transactions:**

For each options strike the following Information is published:

Transaction data (details of trades concluded on the options market with negotiated deals marked):

- ticker symbol of the strike (put or call)
- price of trade
- trade price change indicator (direction of change as compared to the price of the previous trade)
- quantity of contracts traded
- opening price

date and time of trade  
board name

Best price level data:

ticker symbol  
board name  
indicative price (in the opening order-collection sub-period)  
best bid/ask price/yield level  
best bid/ask change indicator (direction of change of the current best bid/ask level as compared to the previous best bid/ask 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 bid/ask level)  
timestamp (the time of the last change for any data item on the best bid/ask level)

Best bid/ask level data are sent in the Real-time feed whenever any data on the best bid/ask level (price/yield, quantity, number of orders, number of firms placing orders) change. The bid and ask side information is forwarded in the same record (the "O" record).

Closing data:

ticker symbol  
board  
opening price  
closing price/yield  
maximum price  
minimum price  
average price

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

### **III. 4. Commodities data**

The same Information is disseminated regarding spot, futures and options grain products as described in sections III. 1., III. 2. and III. 3., respectively, with the exception of the following peculiarities:

- No negotiated trades can be executed on grain products.

### **III. 5. BETa Market**

The following Information is published regarding the BETa Market :

Transaction data (details of trades concluded on the BETa Market with negotiated deals marked):

ticker code  
price of trade  
trade price change indicator (direction of change as compared to the price of the previous trade)  
traded quantity  
opening price  
date and time of trade  
board name

Best price level data:

ticker symbol

board name  
indicative price (in the opening- and closing order-collection sub-period)  
best bid/ask price/yield level  
best bid/ask change indicator (direction of change of the current best bid/ask level as compared to the previous best bid/ask 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 bid/ask level)  
timestamp (the time of the last change for any data item on the best bid/ask level)

Best bid/ask level data are sent in the Real-time feed whenever any data on the best bid/ask level (price/yield, quantity, number of orders, number of firms placing orders) change. The bid and ask side information is forwarded in the same record (the “O” record).

Closing data:

ticker symbol  
board  
opening price  
closing price/yield  
maximum price  
minimum price  
average price

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

#### **IV. REAL-TIME BEST 5 PRICE LEVELS PACKAGE**

This Information Package provides two data files for each trading day: the vendrt\_yyyymmdd.dat Real-time stream and the vendset\_yyyymmdd.dat End-of-Day data file.

In addition to the Information included in the Real-time Best Price Level Package (for details please see section III of this document) this Information Package includes:

- The best 5 price levels in each market (including the BETa Market), i.e. the price/ yield and quantity of the best 5 bid and best 5 ask price levels.

The fee payable for the Real-time Best 5 Price Levels Package covers also the right to disseminate the Information as included in the Real-time Best Price Level Package, the Delayed Best 5 Price Levels Package, the Delayed Best Price Level Package, and the End-of-Day Package as well as the Real-time Index Package.

#### **Detailed list of Information:**

Same as the list in section III above, except that instead of the “Best price level data” blocks, the following Information is disseminated:

#### **IV. 1. Cash market data:**

Best 5 price levels data:

ticker symbol  
board name

indicative price (in the opening- and closing order-collection sub-period)  
best 5 bid/ask price/yield levels  
cumulated quantity on the best 5 bid/ask levels  
composition of the cumulated quantity (number of orders and number of firms placing orders  
on the best 5 bid/ask levels)  
timestamp (the time of the last change for any data item on the best 5 bid/ask levels)

Best 5 bid/ask levels data are sent in the Real-time feed whenever any data on any of the best 5 bid/ask levels (price/yield, quantity, number of orders, number of firms placing orders) change.

#### **IV. 2. Data of standardized futures contracts:**

##### Best 5 price levels data:

ticker symbol  
board name  
indicative price (in the opening- and closing order-collection sub-period)  
best 5 bid/ask price/yield levels  
cumulated quantity on the best 5 bid/ask levels  
composition of the cumulated quantity (number of orders and number of firms placing orders  
on the best 5 bid/ask levels)  
timestamp (the time of the last change for any data item on the best 5 bid/ask levels)

Best 5 bid/ask levels data are sent in the Real-time feed whenever any data on any of the best 5 bid/ask levels (price/yield, quantity, number of orders, number of firms placing orders) change.

#### **IV. 3. Data of standardized options transactions:**

##### Best 5 price levels data:

ticker symbol  
board name  
indicative price (in the opening order-collection sub-period)  
best 5 bid/ask price/yield levels  
cumulated quantity on the best 5 bid/ask levels  
composition of the cumulated quantity (number of orders and number of firms placing orders  
on the best 5 bid/ask levels)  
timestamp (the time of the last change for any data item on the best 5 bid/ask levels)

Best 5 bid/ask levels data are sent in the Real-time feed whenever any data on any of the best 5 bid/ask levels (price/yield, quantity, number of orders, number of firms placing orders) change.

#### **IV. 4. Commodities data**

The same Information is disseminated regarding spot, futures and options grain products as described in sections IV. 1., IV. 2. and IV. 3., respectively, with the exception of the peculiarities described in section III. 4.

#### **IV. 5. BETa Market**

**Best 5 price levels data:**

ticker symbol  
board name  
indicative price (in the opening- and closing order-collection sub-period)  
best 5 bid/ask price/yield levels  
cumulated quantity on the best 5 bid/ask levels  
composition of the cumulated quantity (number of orders and number of firms placing orders on the best 5 bid/ask levels)  
timestamp (the time of the last change for any data item on the best 5 bid/ask levels)

Best 5 bid/ask levels data are sent in the Real-time feed whenever any data on any of the best 5 bid/ask levels (price/yield, quantity, number of orders, number of firms placing orders) change.

**V. DELAYED BEST PRICE LEVEL PACKAGE**

This Information Package is identical in content with the Real-time Best Price Level Package, however, the Information Provider may transfer Information only with a delay of T+15 minutes or more. The Information is fed by the BSE in Real-time mode and the Distributor shall ensure that the technical infrastructure capable of delaying the datafeed exists.

The fee payable for the Delayed Best Price Level Package covers also the right to disseminate the Information as included in the End-of-Day Package.

**Detailed list of Information:**

The Information is identical to the Information listed under Real-time Best Price Level Package.

**VI. DELAYED BEST 5 PRICE LEVELS PACKAGE**

This Information Package is identical in content with the Real-time Best 5 Price Levels Package, however, the Distributor may transfer Information only with a delay of T+15 minutes or more. The Information is fed by the BSE in Real-time mode and the Information Provider shall ensure that the technical infrastructure capable of delaying the datafeed exists.

The fee payable for the Delayed Best 5 Price Levels Package covers also the right to disseminate the Information as included in the Delayed Best Price Level Package and the End-of-Day Package.

**Detailed list of Information:**

The Information is identical to the Information listed under Real-time Best 5 Price Levels Package.

**VII. MIFID OTC DATA PACKAGE**

The MiFID OTC Data Package is embedded in the vendotc\_yyyymmdd.dat file, which is available technically 24 hours on each trading day. A few seconds before midnight a 'Z' record is added and the

intraday file is closed. Having received the 'Z' record Distributor clients (after a due 1 minute delay) may start a new connection for accessing the new file applying to the next trading day.

This Information Package contains MiFID OTC Data received by BSE from Section Members and transmitted to Distributors in accordance with Section 2.5.7 of BSE Information Policies. MiFID OTC Data solely contain information on trades but not on offers, on the status of the instruments etc. Section Members forward trade information to BSE within the time interval specified in MiFID post-trade publication obligations following the trade's execution; the Information is then further published on BSE's vendor servers in real-time.

Any existing Information Package can be extended by the subscription for the vendotc real-time file, but it can also be purchased separately without subscribing for other Information Packages.

Detailed list of Information:

General characteristics of MiFID OTC Data contained in this Package:

- The Information provided is the information subject to the post-trade publication obligations of Hungarian Investment Firms under the MiFID Directive: data of OTC trades executed by BSE Section Members as described below.
- BSE's system for the publication of MiFID OTC Data may be used only by BSE Section Members on an optional basis. Unless otherwise agreed, the seller party in the trade has the publication obligation.
- Scope of reportable instruments: shares admitted to trading on any of the Regulated Markets within the EU.
- Trades to be reported:
  - OTC trades, i.e. trades executed by non-SIs, outside RMs and MTFs;
  - Trades executed by Systematic Internalizers (SIs).

On the range of securities and transactions defined above, the Package contains the following Information:

Transaction data:

OTC trade ID

ISIN code\*

ticker code (optional; for the securities listed on BSE the ticker symbol is inserted automatically by BSE)\*

OTC record publishing code (new trade, amendment or cancellation)\*

unit price of trade\*

trade currency\*

traded quantity\*

venue identification (BIC code, SI or OTC)\*

OTC trade type (trade determined by factors other than the actual evaluation of the market, negotiated deal, or no specification)\*

reference information (optional text field)\*

date and time of trade\*

date and time of publication

\* Information entered by the Section Member