



ZAGREBAČKA BURZA
THE ZAGREB STOCK EXCHANGE

DATA VENDING POLICY
OF THE ZAGREB STOCK EXCHANGE, Inc.

Zagreb, January 2012

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1. Introduction

The purpose of this document is to provide the users of Zagreb Stock Exchange, Inc. (hereinafter: Exchange) services with a general policy with regard to the type of trading data on the Exchange, the terms under which data is available to users as well as the manner in which such data is used and distributed to users.

The information contained in this document does not replace any provisions of the same substance contained in the Rules of the Exchange, the Exchange Service price list or the agreements concluded between the Exchanges and users.

Mutual obligations of the user and the Exchange are regulated in detail by the agreement to ensure the equality of status among service users under reasonable commercial terms.

By concluding the agreement, the Exchange enables users to access trading data based on a licence to use, store, process, reproduce and/or redistribute trading data in accordance with the terms set out in the agreement, taking account of the completeness, accuracy, timeliness and quality of data.

The Exchange reserves the right to alter and/or amend this document without prior notice to the user in line with any business and technical changes occurring as a result of the development and upgrading of the trading data feed service.

This document shall be posted on the Exchange website: www.zse.hr.

2. Users

2.1. Data Vendor

Data Vendor is a natural or a legal person which, pursuant to an agreement with the Exchange, downloads trading data from the Exchange for the purpose of its further distribution within the scope of its services to clients or end users, for which it pays a fee to the Exchange.

2.2. Redistributor (Subvendor)

Redistributor is a natural or a legal person downloading trading data from Data Vendors or other Redistributors for the purpose of further (re)distribution of trading data to clients or end users, unless otherwise stipulated by the agreement.

Any Redistributor is required to conclude a special agreement with the Exchange.

2.3. End users

End user is a natural or a legal person which, pursuant to a subscription agreement with a Data Vendor, Redistributor or any companies affiliated with the Data Vendor or Redistributor, is authorised to use trading data in accordance with the agreement.

Data Vendor is required to ensure via the subscription agreement that the end user:

I) may redistribute limited portions of data, on an ad hoc basis only, provided that any such redistribution complies with any and all of the following requirements, namely that it:

- is not done on a continuous basis,
- does not represent real-time updating,
- is done exceptionally or on an irregular basis,
- is ancillary to the performance of principal business activities,
- can not be used as a substitute for any other services or major part thereof,
- has no independent commercial value,
- is not charged separately,
- is not done in connection with commercial data vending, credit rating releases or with a reproduction through the press or media, broadcast by private or public networks, cable or satellite systems; and

II) can not erase any copyright information or any other right contained in the data.

2.4. Member firms of the Exchange

Member firms of the Exchange are investment firms or credit institutions licensed to provide investment services and perform investment activities in accordance with the Capital Market Act (OG 88/08, 146/08 and 74/09) which, on the basis of their membership of the Exchange and special agreements entered into with the Exchange, have the right to use trading data under the terms other than those set out in this document.

2.5. Media¹

The Exchange grants the right to the use of end of day data free of charge to all media publishers in the Republic of Croatia and abroad, at their request.

The said data may be used for the purpose of public information, provided that the Zagreb Stock Exchange, Inc. is cited as the source of data.

¹ *Media are: newspapers and other print media, radio and television programmes, news agency and wire services, electronic publications, teletext and other forms of daily or periodic publication of specially edited programme content by transfer of files, voice, sound or images. Media are not books, textbooks, newsletters, catalogues or other means of information publication which are intended exclusively for the educational, scientific and cultural process, advertising, business communication, operation of companies, institutes and institutions, associations, political parties, religious and other organisations, school newsletters, "Official Gazette" of the Republic of Croatia, official newsletters of local and district (regional) self-governments and other official announcements, posters, flyers, brochures and banners or still video sites and other free-of-charge information. (Article 2, paragraph 1 of the Media Act, OG 59/94)*

¹ *Media publisher is any natural or legal person which publishes programme content and participates in public information, regardless of the technical means through which shaped its specially edited programme content is published, transmitted or made available to the public. (Article 2, paragraph 1 of the Media Act, OG 59/94)*

3. Trading Data

Trading data is data on trades on the regulated market or the MTF managed by the Exchange and it includes:

- Best bid/ask price and depth
- Previous Closing Price – closing price on the Previous Date
- Reference Price – previous closing price at the day's opening or price obtained through the volatility interruption mechanism
- Opening Price – price obtained through the volatility interruption mechanism in the pre-opening session or price of the first trade
- Last Price – price of the last trade
- High Price – highest price achieved
- Low Price – lowest price achieved
- Closing Price – volume weighted average price of all order book trades in the instrument in the course of a trading day. If untraded on a particular trading day, closing price in the previous trading session is taken as the closing price.
- Volume Weighted Average Price
- Change Percent – percentage of change of the last price compared to the last closing price
- Change LTP indicator – differential between the last price and that preceding it
- Theoretical Opening Price – price obtained through the volatility interruption mechanism
- Volume at TOP – trades closed at the price obtained through the volatility interruption mechanism
- Trade Count – number of transactions
- Traded Volume – quantity
- Traded Value – turnover
- Trading State – possibility of trading in a particular instrument
- Trading Session
- Market ID (regulated/MTF)
- Listing Type ID (Regular/Official/Prime Market)

3.1. Real-Time Data

3.1.1 Data definition

Real-Time Data refers to trading data delivered to users within 15 (fifteen) minutes from the time of its download by the Data Vendor from the Exchange.

3.1.2 Data availability

Real-Time Data Vendors can access data through the X-stream protocol using an appropriate application interface (X-Stream Application Programming Interface) upon conclusion of an

agreement with the Exchange or upon signing a non-disclosure agreement in the event that the respective client has not yet signed the said agreement.

Data Vendors may distribute real-time data to client within the scope of their services and content via communication infrastructure, regardless of technology (including but not limited to: private electronic networks, Internet, broadcast feed, wireless feed or any other medium or technology), which requires user name and/or password.

Displaying and/or distributing real-time trading data to the public is not permitted.

3.1.3 Scope of service

The Exchange provides Data Vendors with two real-time data levels, depending on the order book depth.

Level 1: 10 Best bid/ask prices

As part of the real-time data feed, Data Vendor receives the following data on all the instruments listed in the regulated market or admitted to trading on the Exchange's MTF:

- 10 Best bid/ask prices with depth
- Previous Closing Price
- Reference Price
- Opening Price
- Last Price
- High Price
- Low Price
- Closing Price
- Volume Weighted Average Price
- Change Percent
- Change LTP
- Theoretical Opening Price
- Volume at TOP
- Trade Count
- Volume
- Traded Value
- Trading State
- Trading Session
- Market ID (regulated/MTF)
- Listing Type ID (Regular/Official/Prime Market)

As part of the real-time data feed, Data Vendor receives data on all trades:

- Trade ID
- Trading state (Matched/Withdrawn)

- Price
- Volume
- Value
- Trade Time
- Price Change (compared to the price of the previous trade)
- Trade Source ID (Automatic/Manual) – manner of trade completion

As part of the real-time data feed, Data Vendor receives data on Exchange indices – CROBEX[®], CROBEX10[®], CROBIS[®] and CROBIStr[®]:

- Index Constituent
- Previous Price
- Last Price – current index value
- Closing Price – final index value
- Change Percent – index change compared to its previous value

As part of the real-time data feed, Data Vendor receives a summary of trading data by individual markets:

- Num Orders – number of new orders on that trading day
- Num Open Orders – total open orders
- Num Trades – number of trades
- Volume – total daily quantity
- Value – total daily traded value

As part of the real-time data feed, Data Vendor receives data on news disclosed:

- Financial Reports
- Trading Suspensions
- Issuer News

Within the scope of the real-time data feed service, Data Vendor receives data on Market Maker obligations as well as data on current Market Maker orders.

Level 2: Full order book data

As part of the real-time data feed, Data Vendor receives all data contained in Level 1, plus:

Order Book All by Price – price aggregated full depth order book

3.1.4 Fee

Data Vendor pays a fixed annual fee in accordance with the Exchange Service price list. Generally, the fee is payable in two semi-annual instalments. Data Vendor pays no additional fee in respect of the number of end users receiving trading data.

Data Vendors which conclude a real-time trading data agreement with the Exchange have the right to distribute delayed data and closing data to their clients free of additional charges.

3.1.5 Redistribution

The Exchange permits real-time data redistribution but any potential Redistributor must conclude an agreement with the Exchange.

3.1.6 Implementation

Redistributors which distribute real-time data can access data via:

1. the ZSE X-Stream trading data feed protocol. In order to initialize data feed and display, the user should have its own application (connector) using X-Stream Open API interface (C++ programming language) provided by the Exchange. Through the said interface, users are to connect their personal IT systems to the ZSE trading system, consequently redistributing data to their own clients.
2. In order to enable the easiest and the fastest service implementation to the client, the Exchange also provides the application (connector) prototype in its source code, which translates trading data from the X-stream protocol into the XML format suitable for simple processing and understanding of both the market and available data structure.

3.2. Delayed Data

3.2.1 Data definition

Delayed Data is trading data delivered or distributed to end users more than 15 (fifteen) minutes from the time of its download by the Data Vendor from the Exchange.

3.2.2 Data availability

Data Vendors which distribute delayed data may access data in the form of XML files downloaded from the Exchange using the HTTPS protocol.

Data Vendors which conclude a delayed data feed agreement with the Exchange have the right to distribute end of day data to their clients free of additional charges.

3.2.3 Scope of service

As part of the delayed data feed, the user receives the following data on all the instruments listed in the regulated market or admitted to trading on the Exchange's MTF:

- Best bid/ask price and depth
- Opening Price
- Last Price
- High Price
- Low Price
- Volume Weighted Average Price
- Change Percent
- Trade Count
- Traded Volume
- Traded Value
- Trading State and Market ID (regulated/MTF)

As part of the Delayed Data Feed, the client receives data on Exchange indices – CROBEX®, CROBEX10®, CROBIS® and CROBIStr®:

- Last Price
- Change Percent

As part of the Delayed Data Feed, the user receives a summary of trading data:

- Num Trades
- Volume
- Value

3.2.4 Fee

Data Vendor pays a fixed annual fee of the size defined by the Exchange Service price list.

Data Vendor pays no additional fee in respect of the number of end users receiving trading data.

3.2.5 Redistribution

The Exchange permits delayed data redistribution solely on the basis of an agreement with the Exchange. Any potential Redistributor must conclude a data feed agreement with the Exchange.

3.2.6 Implementation

Data may be accessed via the Internet in the form of an XML file using the HTTPS protocol. The following is an example of the file format:

```
<ZSETradingSystemData>
```

```
<CROBEX>1863.39</CROBEX>
<CROBEXChange>-0.51</CROBEXChange>
<CROBEX10>985.28</CROBEX10>
<CROBEX10Change>-0.53</CROBEX10Change>
<CROBIS>96.3345</CROBIS>
<CROBISChange>0</CROBISChange>
<CROBISTR>98.2534</CROBISTR>
<CROBISTRChange>0.2</CROBISTRChange>
<VolumeTotal>46368</VolumeTotal>
<TradesCountTotal>652</TradesCountTotal>
<TurnoverTotal>8201696.1</TurnoverTotal>
<OrderBook>
  <Ticker>ADPL-R-A</Ticker>
  <MarketName>EQTY</MarketName>
  <ISIN>HRADPLRA0006</ISIN>
  <AskDepth>553</AskDepth>
  <BidDepth>12</BidDepth>
  <TradesCount>51</TradesCount>
  <Volume>4173</Volume>
  <BestAsk>106.40</BestAsk>
  <BestBid>104.01</BestBid>
  <High>107.90</High>
  <Open>104.00</Open>
  <Low>104.00</Low>
  <Last>104.01</Last>
  <LastTradeTime>13:30:31 2010-10-25</LastTradeTime>
  <WeightedAveragePrice>105.43</WeightedAveragePrice>
  <PriceChange>1.66</PriceChange>
  <Turnover>439960.54</Turnover>
  <OrderBookState>opened</OrderBookState>
</OrderBook>
</ZSETradingSystemData>
```

3.3. End of Day Data

End of Day Data is data on trades on the Exchange delivered to users at least 15 (fifteen) minutes from the close of trading on each trading day.

3.3.1 Data availability

End of day data is available to Data Vendors which distribute data:

- free of charge, if they download such data from the website www.zse.hr without intermediation of the Exchange, subject to a written approval of the Exchange,
- at a fee, in the form of an Excel file received from the Exchange via e-mail.

3.3.2 Scope of service

1. Summary of trading data for each instrument (instrument ticker, best bid price, best ask price, opening price, high price, low price, closing price, last price, change percent, traded volume, traded value)
2. CROBEX®, CROBEX10®, CROBIS® and CROBIStr® index value and their % change
3. For the entire market: turnover by type of transaction (regular trading, block trades, OTC)

3.3.3 Fee

Data vendor pays a fixed annual fee in accordance with the Exchange Service price list.

Data Vendor pays no additional fee in respect of the number of end users receiving trading data.

3.3.4 Redistribution

The Exchange permits end of day data redistribution but any potential Redistributor must conclude an agreement with the Exchange.

By way of exception, the user downloading end of day data from the Exchange website without Exchange intermediation need pay no fee. Such a download by the user is subject to the Exchange approval, in accordance with the Terms of Use posted on the website www.zse.hr.

3.3.5 Implementation

Data Vendor receives end of day data in an Excel file via e-mail.

3.4. Historical Trading Data

Historical Trading Data is the end of day data available after 00:00 of the same trading day on which it occurs.

Historical data is available for personal, non-commercial use via the Exchange website free of charge.

Historical data is also available upon request at a fee, in accordance with the Exchange Service price list.

3.5. Ticker

Ticker provides the possibility of releasing the last price and price change in percentage terms for each traded instrument as well as the Exchange index value with a time delay of 15 (fifteen) minutes.

Ticker is available to Data Vendor users in the form of an XML file to be downloaded from the Exchange using the HTTPS protocol.

The user pays a fixed annual fee for the release of the ticker, in accordance with the Exchange Service price list. Member firms of the Exchange and the companies associated with them are exempt from payment of the ticker fee.

3.6. Real-time Index movements

Exchange indices CROBEX and CROBEX10 are available to users in real time in the form of XML files downloaded from the Exchange using the HTTPS protocol.

Users pay a fixed annual fee, in accordance with the Exchange Service price list.

3.7. Licence for index use

The Exchange calculates two stock indices in real time:

- CROBEX[®], consisting of 25 most liquid shares
- CROBEX10[®], which includes 10 most liquid shares.

In addition, the Exchange also developed a CROBIS[®] bond index, which is calculated once a day at the close of trading.

Investment funds may replicate the structure of Exchange indices and use their names for commercial purposes, subject to a licence agreement concluded with the Exchange. The fee payable for using Exchange indices for the purpose of replicating their structure and their name use for commercial purposes by investment funds is set in a fixed amount, plus a certain percentage of the fund asset value as at 31 December of each year, subsequent to the agreement conclusion.

Exchange indices may be used as a basis for the creation of structured financial instruments. The fee payable for using Exchange indices for the purpose of replicating their structure and their name use for commercial purposes in respect of financial instruments is set in a fixed amount.

4. Contacts

For any other information and agreement conclusion please contact:

E-mail: vendor@zse.hr

Telephone: +385 1 4686 803

For any technical issues please contact tech support:

E-mail: tech-support@zse.hr

Telephone: +385 1 4686 800