

The background features a dark blue gradient with abstract digital patterns. In the upper half, there are vertical lines of varying heights, some topped with binary digits (0s and 1s). In the lower half, there are glowing, wavy lines that resemble circuit traces or data flow patterns.

JSE Market Data Training – Session 2

Agenda

Welcome & introduction

1. General Data Use Policy
 2. Live Snapshot Policy
 3. Delayed Data Policy
-

Close

Data Agreements + Definitions



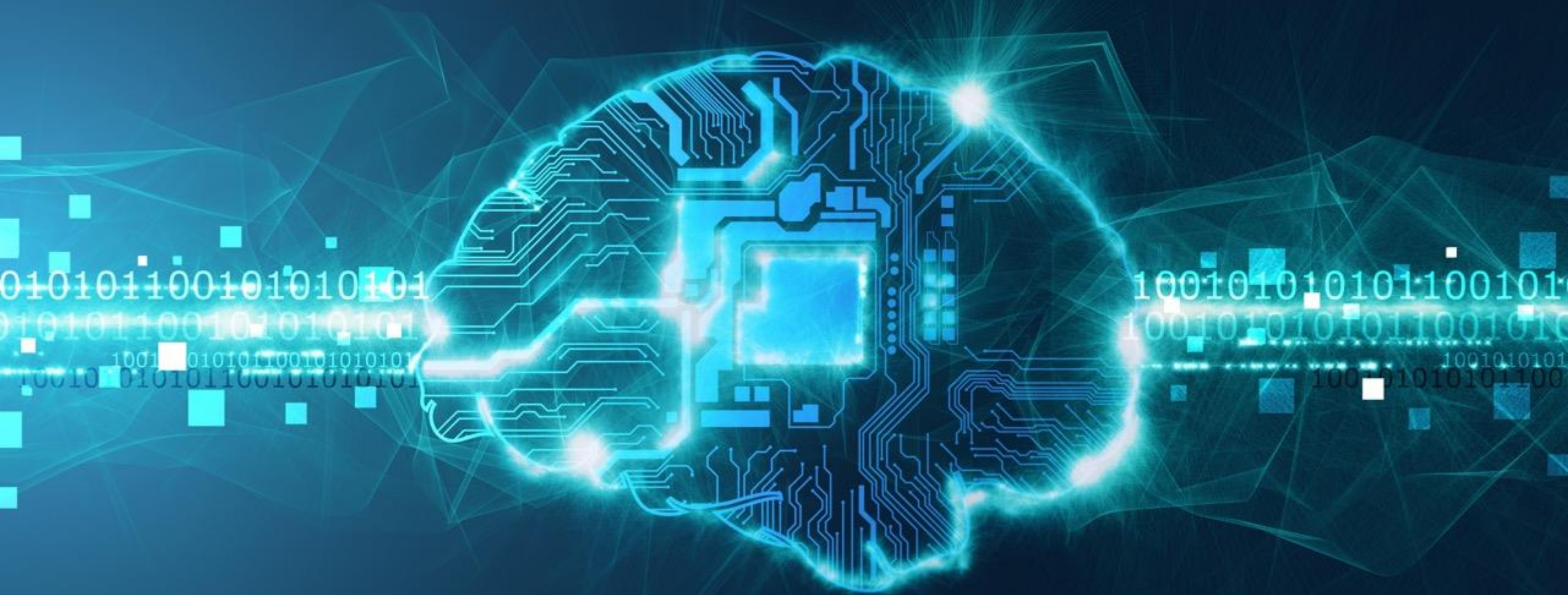
Data Agreement: 5 documents which make up your Agreement with the JSE

- JDA/IDA = JSE Data Agreement / Indices Data Agreement
- PSF = Products & Services Form
- MDP/IMDP = Market Data Policies / Indices Markets Data Policies
- Pricelists = JDA / IDA related
- Technical Documents = If applicable

Definitions = Capitalized terms are defined in JDA/IDA T&C's

Highlighted content = NB on the presentation (visual que)

General Data Use Policy



General Data Use Policy

- Pg. 16 of MDP / pg. 27 of IMDP
- Derived Data
- Stock Exchange News Service
- Controlled Access to the Service
- Interest Rate Market Reports (IRM Reports)
- Distribution of Live Data and/or Delayed Data as official End of Day Market Statistics
- Direct Market Access (DMA)
- Limited Extracts

General Data Use Policy

7.2. Derived Data

- JDA definition: **Derived Data** means any data (including products or Compilations) **derived** from or **based** on the Data, by the recipient of the Data.
- Fees (as per the Pricelist/s) are applicable to the creation and/or use of Derived Data.
 - E.g.: Non-Display fees.
 - If the **underling** value or price of any Data which is used in the Derived Data can be **accessed** or **identified** (by calculation or reverse-engineering), then the CU must pay the **usual pricing** for that use.

Sasol (SOL) EQM

Sasol (SOL) **CFD**

Bid: R222.06

Bid: R22**3**.06 (+1)

Offer: R222.51

Offer: R22**3**.51 (+1)

General Data Use Policy

Example of a Derived Data calculation:

- “Our derived price formation mechanism utilises **algorithms** which incorporate **proprietary XYZ information** as a **random** variable to adjust the output price/s we provide to XYZ clients. The proprietary information we would be using is XYZ **market exposure**. The direction and level of exposure **determines** the direction and amount of adjustment made.
- In addition, we will be **widening** both the bid and the offer by one tick to satisfy the requirement that **derived prices cannot show** a bid or offer which is equal to the JSE bid or offer at any time. We will also **widen either** the bid or the offer by an additional tick to make the adjustment **unpredictable** and **non-reverse-engineerable**.
- The non-predictability or non-reverse-engineerability of the derived price will be **guaranteed** by the fact that the direction and size of the adjustment will be based on XYZ Exposure which **cannot be predicted**, and where XYZ Exposure is zero, the adjustment will be based on the **output of a random number generator** which will output a **new random** number at **random periods** in time.”

General Data Use Policy

Example of a Derived Data calculation:

In simplest form with Boolean adjustment factor the derived price algorithm can be described as following:

$$(B_d, A_d) = \begin{cases} (B - k_{b1} * \delta, A + k_{a1} * \delta), & \text{if } B > \delta \text{ and } (E \neq 0 \text{ or } R > 0.5) \\ (B - k_{b2} * \delta, A + k_{a2} * \delta), & \text{if } B \leq \delta \text{ or } (E == 0 \text{ and } R \leq 0.5) \end{cases}$$

Where

(B_d, A_d) – derived Bid and Ask

(B, A) – Original Bid and Ask

E – Exposure value

δ – Tick increment value

$k_{b1}, k_{b2}, k_{a1}, k_{a2}$ – Adjustment factors (e.g., 1, 2, 2, 1)

R – Random

In case $E == 0$,
in the interval $[1...30](\% \text{ of } \text{scale})$
of random value.

Price is recalculated after random number of seconds uniformly distributed
(e.g., 1, 2, 2, 1) (scale), unless exposure changes before, forcing recalculation without use

General Data Use Policy



7.3. Stock Exchange News Service

- SENS: Important information related to JSE listed companies (including price sensitive information)
- **Intended** to be made available **as soon as possible** after it has been provided to the JSE.
- Must be **distributed** in a form **identical** to that provided by the JSE.
- The content **may not be** changed/edited or modified.
- **Only** set of Data that can be distributed on a **live basis** publically (websites / terminals) **without** any End User fees and/or controls in place.

General Data Use Policy



7.5. Controlled Access to the Service

7.5.1. General

1. Principle: **All Data** may only be used in a **Controlled User Environment**.

JDA definition: **Controlled User Environment** means an environment in which **every User** is capable of being easily **identified** (by way of User ID or otherwise).

Delayed Data may, however, be distributed in an **Uncontrolled User Environment**.

JDA definition: **Uncontrolled User Environment** means an environment in which **a User** has access to Data which is generally accessible to an **indefinite** number of **unidentifiable Users**, (such as the Internet).

2. Must have/install reasonable **controls**, **security** and **logistical** systems (pw's; identifiers) to prevent any unauthorised use of any Data.
 - **NB** for Auditing; Tracking; Reporting and Billing purposes.
 - No system/control = **liability**

General Data Use Policy



7.5. Controlled Access to the Service

7.5.2. Multiple User ID

1. User may require **access** to the **same** Data from **different** Devices
e.g. Mobile | Terminal | Desktop | Office | Home
2. **Multiple** User ID's for the **same** User are permissible, if User ID's are **limited** to the same User and Data on the **various** Devices & **cannot** be accessed **concurrently**.
3. Multiple User ID's offering **requires** JSE **approval**.
Technical controls must be in place to **prevent concurrent access** of the Data.
4. If requirements are not adhered to, **multiple** User **fees** for the **same** User will be **charged**.

General Data Use Policy



7.6. Interest Rate Market Reports (IRM Reports)

1. **IRM Reports** subscriptions/fees are charged per entity.

2. Unlike **other** licenses/product fees which are generally applicable to all GC listed in the JDA PSF.

3. If a CU is licensed for and receives the IRM Reports they are able to provide them to other GC's **if** the GC's are **listed** in the JDA PSF IRM section and **if** the GC is licensed/**billed** for the IRM Reports.
(**Internal** use only)

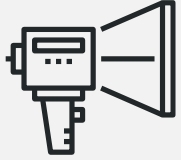
General Data Use Policy



7.8. Distribution of Live Data and/or Delayed Data as official End of Day Market Statistics

1. Live and Delayed Data license fees **cover** the distribution of Data **during** the JSE **trading day**.
2. If a **snapshot** of the Live or Delayed Data is taken during and/or at the end of the JSE trading day, and the 'snapshot' **data** is **provided** as official JSE **End of Day market statistics**, then considered a **Distributor** of End of Day market statistics.
 - i. Data **agreement**
 - ii. Data **fees** for distribution of End of Day data
 - iii. End User **fees** applicable.
3. **Live** Data = End User that receives the **unofficial** End of Day market statistics data, and is a **paying** live **terminal** End User **fee**, **no** additional end user **fee** is payable.
4. **Delayed** Data = if **Last Traded** values are left **unchanged** on the display until the **next** trading day (Last Trade, **not** Close), **no** End of Day data **fees**.
5. Intent/Objective.

General Data Use Policy



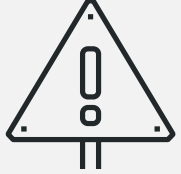
7.9. Direct Market Access (DMA)

1. DMA solution **with Data** vs. **without Data**.

2. **With Data** = Re/Distributor with all legal; compliance and reporting obligations applicable.

3. **Without Data** = **approval** from JSE = **no** implications.

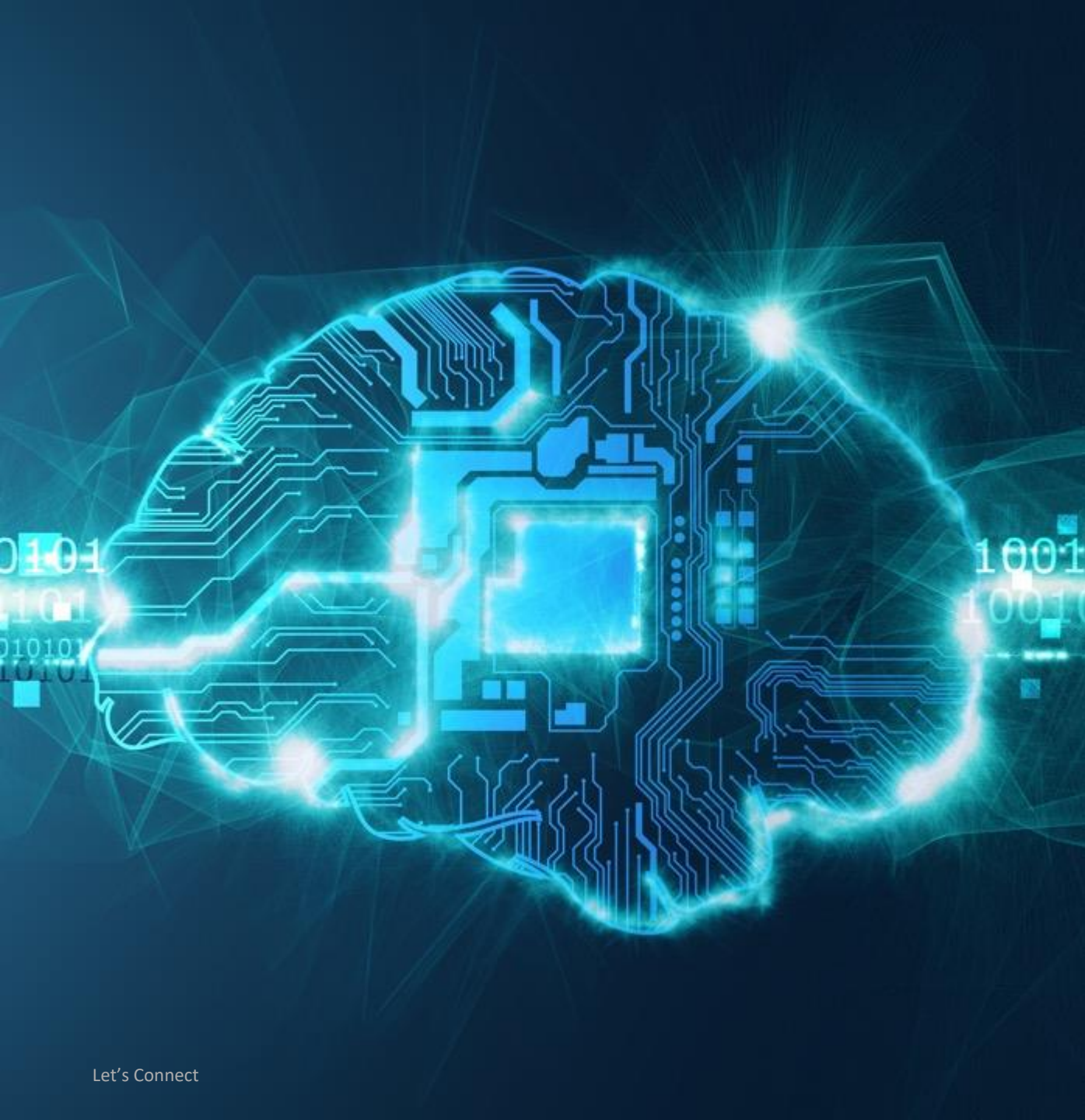
General Data Use Policy



7.10. Limited Extracts

1. **Limited Extracts** = **limited extract** of Data, which must:
 - a) not be **continuous**; not be **Live** Data;
 - b) be provided **infrequently**;
 - c) be **incidental** to the End Users main business;
 - d) not be capable of being used as a **substitute** for the use of any Data;
 - e) have **no** independent commercial **value**; and
 - f) **not** be used for any **commercial** information brokering, information **vending**, **publishing** or credit rating, for reproduction through the **press** or media.
2. Any CU who receives Data in **accordance** with the Agreement (licence/fees/PSF/usage) **can provide** limited extracts thereof to End Users, **without** End Users incurring **fees** and/or agreement.

Questions from the audience?

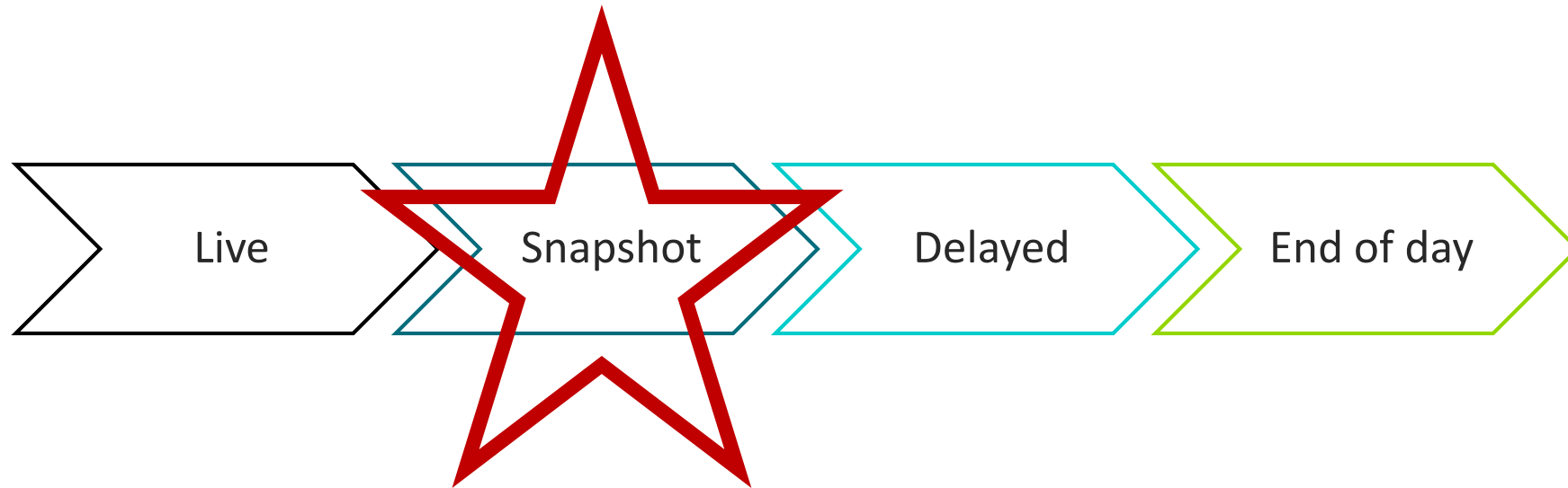


Live Snapshot Policy

let's connect

JSE

Introduction



Conditions of use

What is a snapshot:

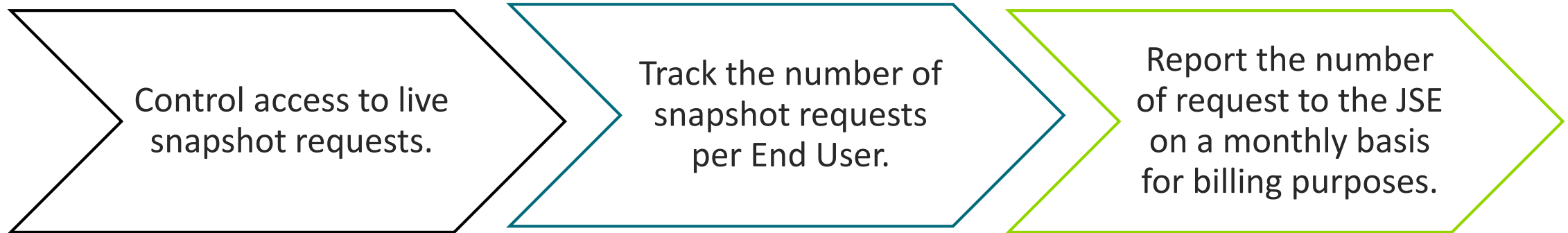
- A live Snapshot is the display of live Data at a specific point in time to an End User rather than the provision of live streaming (dynamic) data.

Conditions:

- Snapshot redistribution is classified as live Data redistribution.
- A Snapshot license allows the license holder to redistribute Delayed data (refer to Delayed Data Policy) with the ability to retrieve live pricing snapshots upon request. (End User initiated)
- Holders of a snapshot redistribution license will typically be provided with live streaming data, but this is only for the purpose of supporting their snapshot data redistribution.
- The Licensed Snapshot User may distribute Live Snapshots to both Professional End Users and Non-Professional End Users (declared), and is required to report the number of snapshots per End User to the JSE for billing purposes (subject to certain 'caps')

Conditions of use

A live snapshot license holder must:



Snapshot data may not be automatically provided/sent to an End User without the End User requesting the data.

The End User must 'proactively' request a snapshot of the live data. (The request can be interactive/manually requested/ refresh/ click).

Live snapshot functionality is licensed separately per market/data type (EQM/ EDM/ CDM/ FXM/ indices).

Snapshot licencing

Separate Snapshot licences are available for the redistribution of the following Data:



Snapshot End User 'capping' + reporting

- Different Snapshot reporting limits (cap's) apply to Professional and Non-Professional End Users per data type (as indicated on the Price List).
- **Example:**
 - **Data Type:** Live Equities Level 2 Snapshots
 - **Cost:** 17c per snapshot/request
 - **Limit:** Number of reportable + chargeable monthly requests per individual User ID is 'capped' at:
 - 668 requests per Non-Professional End User
 - 2566 requests per Professional End User
- The monthly limits/caps above are in relation to billing, and are not restrictions on the # of snapshots an End User who has reached the limit/cap can request.
- Snapshot fees per End User (who has reached the monthly limit/cap) are comparative to the corresponding live data terminal fee (per data type).
- **i.e.:**
 - 17c x 668 snapshot requests of Live Equities Level 2 data by a Non-Professional End User = R113,56 p/m
 - Live Equities Level 2 Terminal - Non-Professional End User = R113,50 p/m



Questions from the audience?

Delayed Data Policy

Real time data vs Delayed Data

let's connect

JSE

Delayed Data Policy

Live Data

- Data Disseminated within 15 minutes of the **tick** taking place in the matching engine.



Delayed Data

- Data Disseminated at least 15 minutes after JSE live feed is produced.



FIRSTRAND	TIGBRANDS	REMGRO	DISCOVERY	NEDBANK	BIDCORP	BATS	BIDVEST
6,745.00	23,482.00	18,266.00	13,122.00	23,660.00	34,070.00	53,804.00	21,609.00
↓ 0.07%	↓ 0.24%	↑ 1.45%	↑ 0.94%	↑ 0.47%	↓ 0.19%	↓ 2.77%	↑ 0.51%

Delayed Data Policy

Live Data

- Valuable to market participants who are sensitive to rapid market fluctuations.
- Level 1 & Level 2
- Traders
- Algos



Delayed Data

- Market Participants who are indifferent to very short term market moves.
- Level 1 only
- DIY investors
- Websites
- Public displays



Delayed Data Policy

- Exchanges invest a large amount of capital in matching engines that ensure quick low latency execution of trades.
- There are market participants who rely on a live feed to ensure they are able to react to movements in stock prices.
- Exchanges charge a premium fee to users of the live feed who essentially make use of the technology.
- The value of the data in terms of trading and display diminishes over time which makes delayed data carry a much lower associated cost.

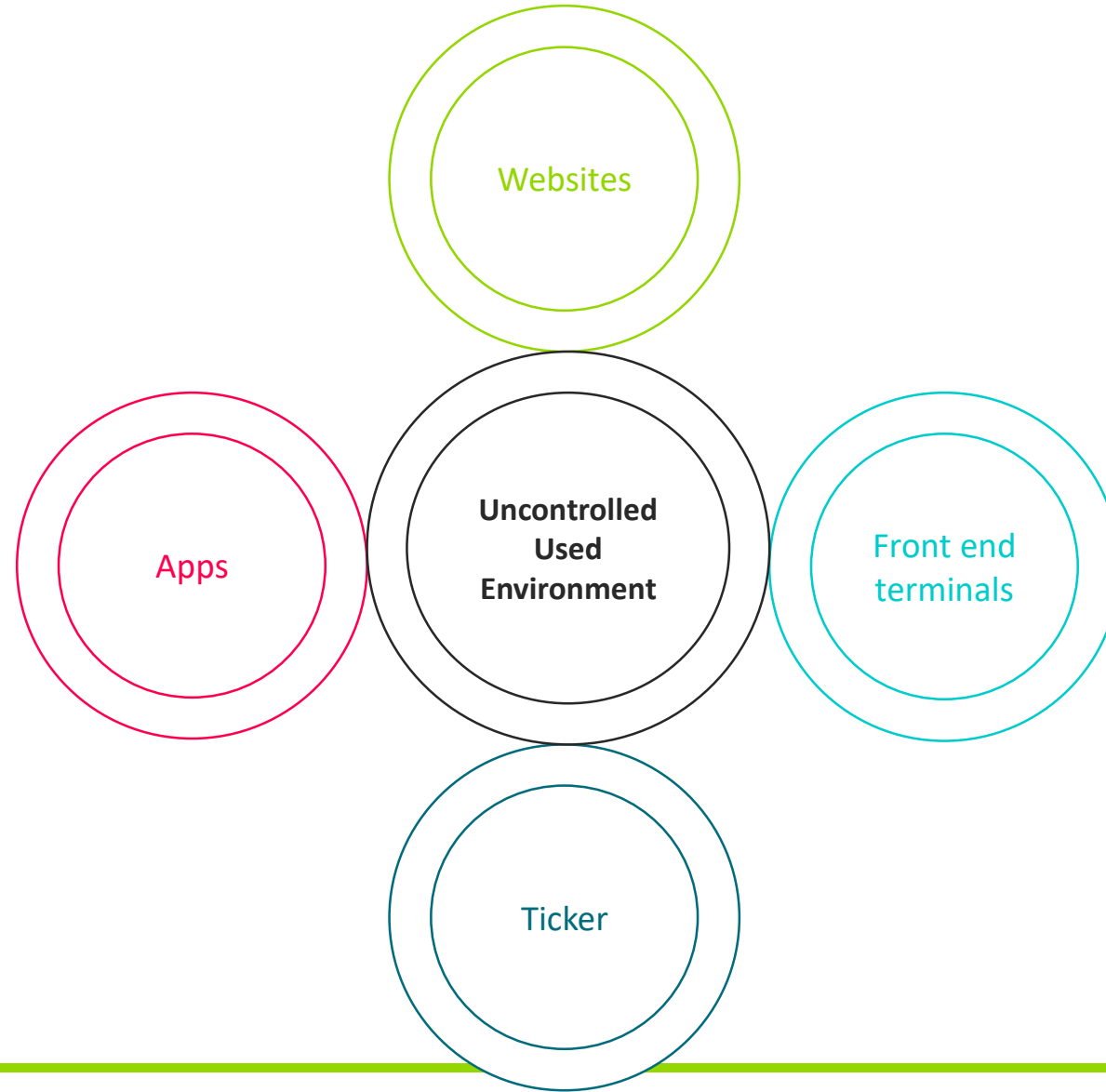
Policy – What you need to know

Misrepresentation

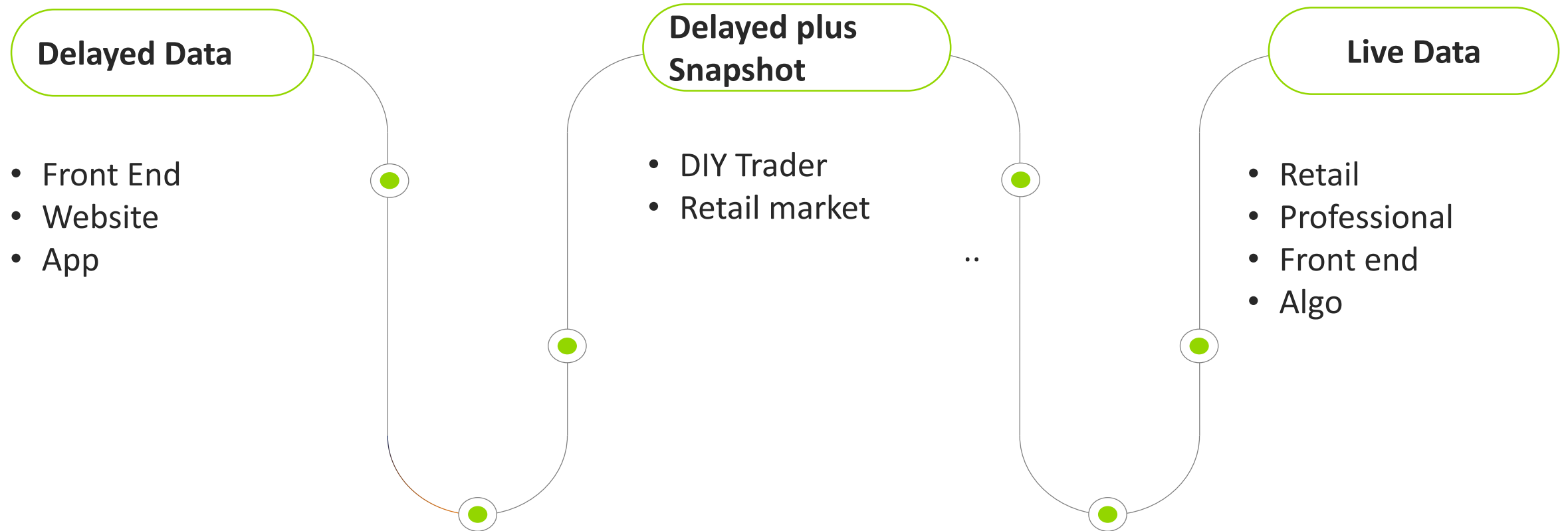
- Contracted user must not (and must make sure that no Data Recipient) **misrepresents the Delayed Data as Live Data**
- Must expressly and clearly show that the Delayed Data has been **delayed by the applicable number of minutes.**



Benefits of delayed data



Evolution of data distribution





Considerations

- JSE does not supply delayed data
- Delayed Data feeds are provided by Market Data vendors

Delayed Dual Branded Policy

- Allows for a contracting user to collaborate with third parties to distribute delayed data by means of a website
- Provided both parties branding is equally prominent
- Third party is not required to sign data agreements with the JSE
- Authorized Client subscribes to **Delayed Equities Dual Branded licence**
- **Excludes** Listed Companies Investor relations websites

Authorised Client Branding				47
ANGGOLD	290.95	+7.95	+2.81%	
ANG				
KUMBA	373.42	+8.28	+2.27%	
KIO				
AMPLATS	1149.48	+24.41	+2.17%	
399006				
Naspers	2115.74	-34.26	-1.59%	
NED				
Nedbank	238.82	-3.83	-1.58%	
KIO				
WOOLIES	58.66	-0.94	-1.58%	
WHL				
View More				JSE Distributor / Vendor Branding

Delayed Data Feeds

LIVE EQUITIES

- Live Equities Level 1 licence
R18 820 pm
- Plus End user terminals
- Tracking
- Auditing

DELAYED EQUITIES

- Delayed Equities licence
R12 770 pm
- No additional End User fees
- Delayed Equities Dual Branded
License R6 381 pm



Questions from the audience?



Thank you

let's connect

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