# **BMLL** Millisecond CBBO



Historical Data Feed Containing the Top 10 Price Levels
Across Fragmented Markets

bmlltech.com

The Millisecond Consolidated Best-Bid-Offer (CBBO) data feed is a complete view of historical pre-trade data across fragmented equity markets. It combines Level 2 quotes data across all venues and shows the top 10 price levels of a consolidated lit order book, aggregated by size.

#### CHOOSING MILLISECOND CBBO FROM THE HISTORICAL LEVEL 3 DATA SPECIALIST

BMLL Millisecond CBBO is derived from BMLL Level 3 Data. As the T+1 Level 3 Data provider, BMLL has industry-leading normalisation and harmonisation data engineering processes. Traders, quants and researchers gain the cleanest order book data available anywhere in the capital markets.

## BMLL MILLISECOND CBBO SUPPORTS A BROAD RANGE OF USE CASES

# **Execution analysis and TCA**

Benchmark trades and executions against the best available liquidity in fragmented markets.

# Strategy and algo backtesting

Understand the liquidity available across markets to backtest trading strategies.

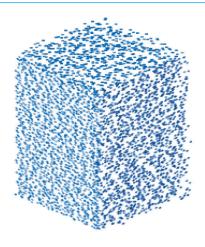
# **Market surveillance**

Contextualise order and trade behaviour with a complete view of the market.

## BMLL MILLISECOND CBBO PROVIDES A COMPLETE VIEW OF THE MARKET

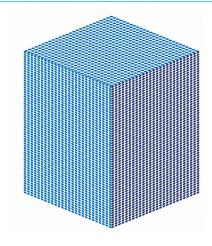
- · Historical Level 2 (Market by Price) feed, showing the top 10 price levels across all equity markets, including primary venues and all secondary lit markets, aggregated by price
- · Bid and Ask prices, sizes and number of orders included at each level
- · Millisecond timestamps, derived directly from matching engine timestamps
- · Available for all major equity markets across Europe, Japan, and South Africa
- Market data available from 2015 (venue dependent)

# WE'VE DONE THE DATA ENGINEERING SO YOU DON'T HAVE TO



#### **STANDARD INDUSTRY DATA**

- Standard normalisation layer strips out vital information from rich data sets
- Standard data parsers are unable to handle every edge-case and rate event across each venue
- Lack of single harmonised data schema across all venues and asset classes results in information loss



#### **BMLL HARMONISED DATA**

- High-precision timestamps directly from the exchange
- Production quality data parsers handle every edge-case and rare event across each venue
- Every unique field from each venue without information loss (e.g., unique venue flags)
- BMLL continuously improves the quality of its data. New features are constantly added
- Cancel/amend data processed for an accurate picture of venue order interaction

#### THE BMLL FULLY MANAGED DATA COLLECTION AND CURATION PROCESS

#### **Data Collection**

#### **Venues and licenses**

- 3 separate licenses per venue
- Dedicated headcount to data sourcing and legal & commercial discussions

#### **Data Curation**

#### Daily data processing

- Reference data & complex venue/security mapping framework
- Each venue's unique fields mapped to the data schema

## **Data maintenance**

- Consistent and robust data testing approach

## **Data Harmonisation**

# Data harmonisation logic layer

- Unique harmonised data schema across all venues

# **Analytics Generation**

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- Harmonised data and reference mapping allow for easy analytics computation across all venues at the millisecond level
- 30bn data points in BMLL API suite derived from Level 3 Data
- 4 market-leading APIs delivering analytics Data Quality Checks

**Data Quality Checks** 

**Documentation** 

Features & Issues Feedback Loop

# BMLL MILLISECOND CBBO IS AVAILABLE VIA API, SFTP AND SNOWFLAKE







