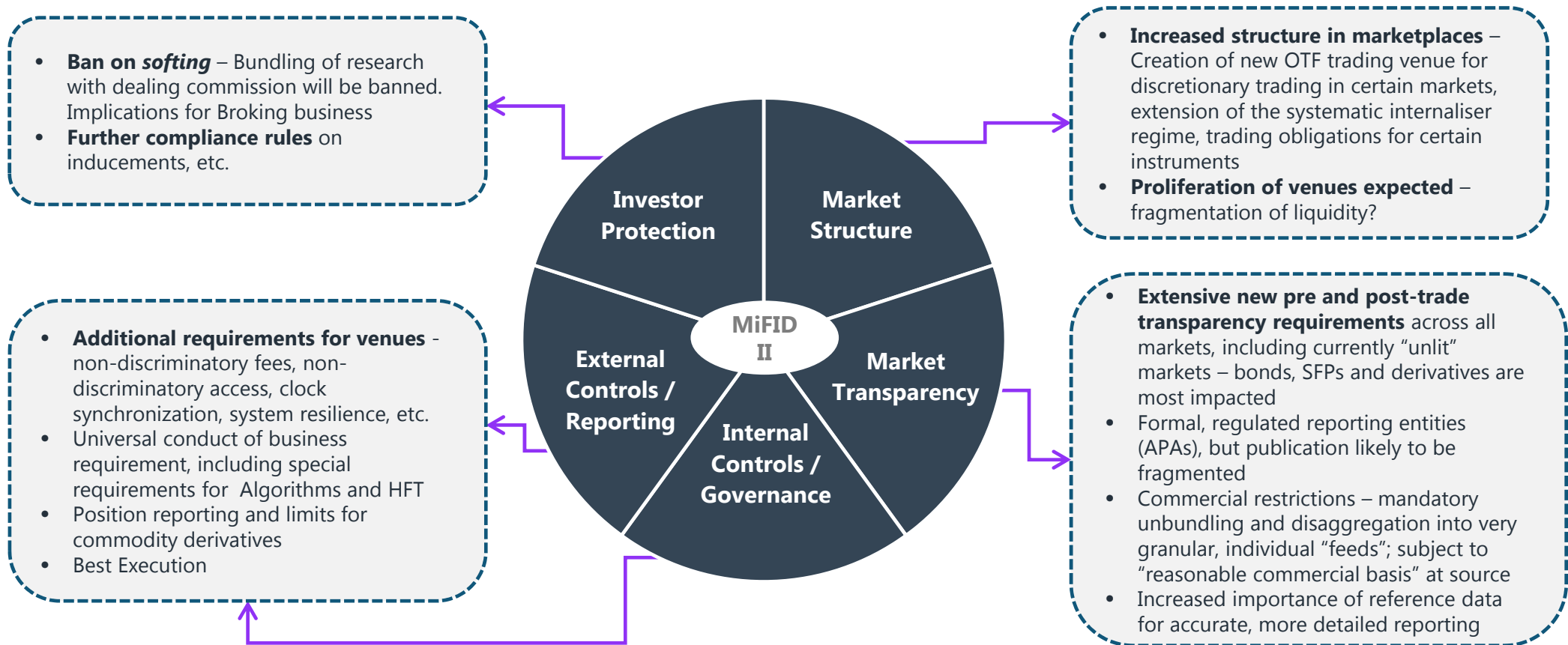




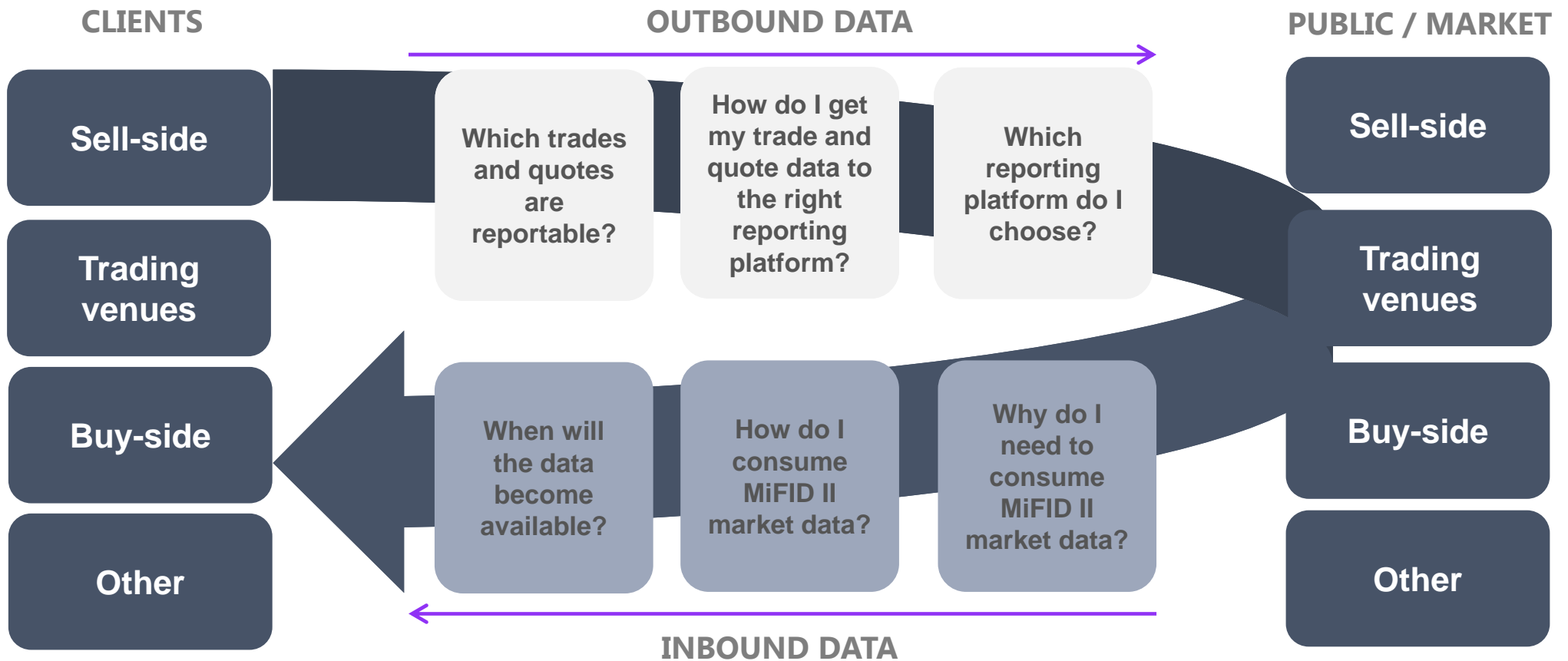
Market Data & MiFID II breakfast briefing – Our Solution

London, 22nd November 2017
Presented by David Lawlor

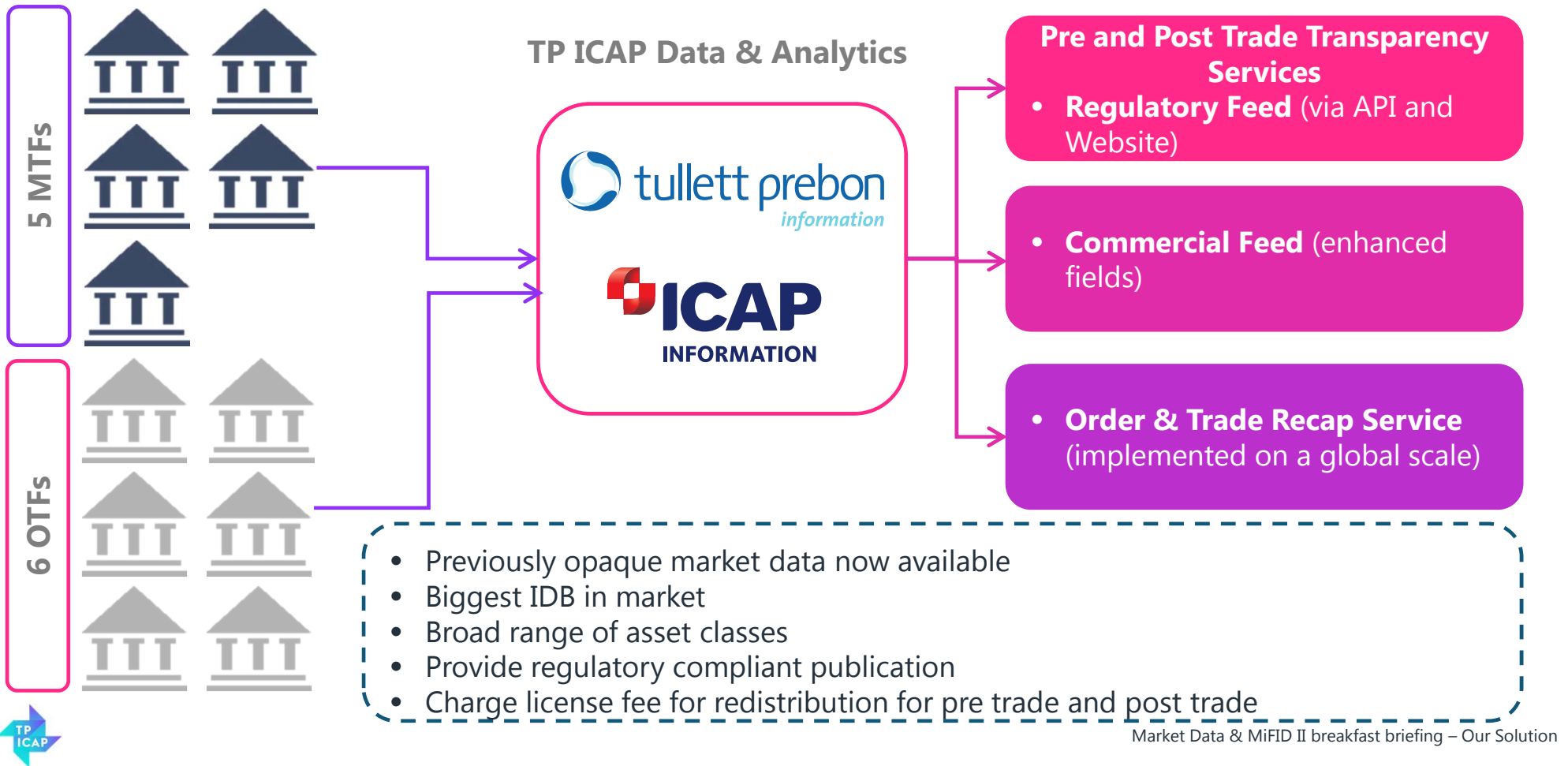
MiFID II introduces a range of changes into capital markets



Market Transparency - Implementation Questions

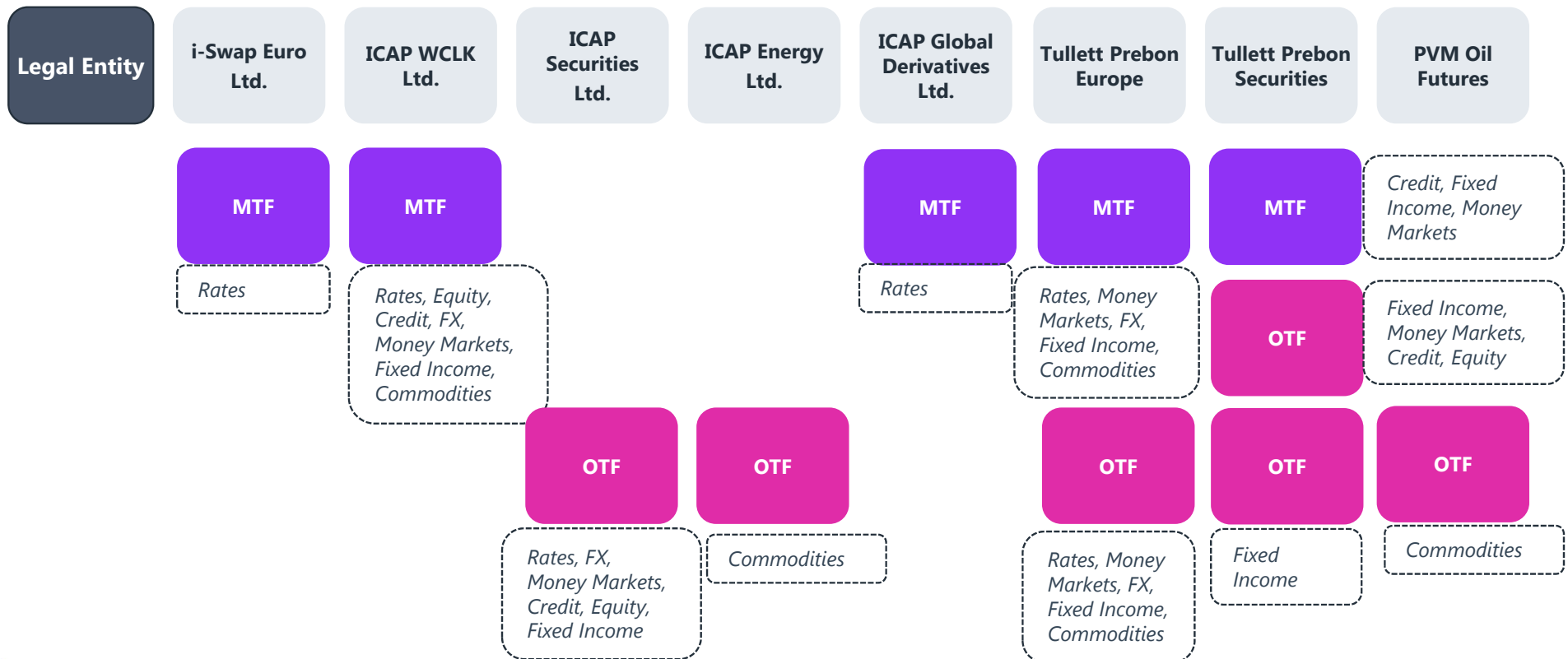


MiFID II – Service Description



Trading Venue Structure

TP ICAP will operate 11 venues, using CLOB, RFQ, Auction and Voice Systems



Asset Classes - Wide in Scope (1/2)

RATES

- Fixed Floating Swap
- Forward Rate Agreement (FRA)
- Overnight Index Swap (OIS)
- Floating Floating/Basis Swap
- Constant Maturity Swap
- Constant Maturity Swaption
- Constant Maturity Swap FRA
- Inflation Swap
- Inflation Option
- Interest Rate Option (IRO)
- Interest Rate Swaption
- IRO Midcurves
- Interest Rate Guarantees
- Spread Option
- Bond Option
- Single Payment Swap
- Zero Coupon Swap
- Basis Swap
- Clearing House Basis
- Base Rate Swap
- Forward Swaption
- Swaption
- Bermudan Option
- Quanto Option

MONEY MARKETS

- UK Treasury Bill
- Primary Certificates of Deposit
- Secondary Certificates of Deposit
- Traded Paper
- Commercial Paper
- Repos
- Money Market Funds

EQUITY

- Cash Equity
- Stock Loans
- GDRs
- ADRs
- Exchange Traded Funds
- Equity Swap
- Equity Option
- Equity Forward

FIXED INCOME

- Government Bonds
- Inflation Bonds
- Corporate Bonds
- Covered Bonds
- Floating Rate Note
- European Government Bonds
- Loans
- Asset-Backed Securities
- Floating-Rate Notes
- Bearer Bonds
- Real Estate Bonds
- Spreads (vs Government Bonds)
- Bond Basis (vs Futures)
- Switches
- Sovereign, Supranational and Agency Bonds

FX DERIVATIVES

- FX Forward
- FX Swap
- FX Non-Deliverable Forward
- FX Option
- FX Deliverable Forward



Asset Classes - Wide in Scope (2/2)

COMMODITIES & ENERGY DERIVATIVES

- Forwards
- Precious Metals Option
- Precious Metals Forward
- Coal Swap
- Coal Option
- UK Gas Forward
- UK Gas Option
- Euro Gas Forward
- Euro Gas Option
- UK Power Forward
- Euro Power Forward
- Euro Power Option
- Euro Power Swap
- Electricity Certificates Forward
- Soft Commodities
- Emissions
- Dispersions
- Oil
- LNG

CREDIT

- Credit default Swaps Index
- Credit Default Swaps Single Name Corporate
- Credit Default Swaps Single Name Sovereign



New User Cases

Front Office

- **Enhance trading strategies** - Executed price and volume data supports improved decision making in relation to execution of trades
- **Order routing** - Attributed quote data and trade data aids identification of liquidity pools and supports order routing decision

Risk

- **Identification of FRTB (Fundamental Review of the Trading Book) MRFs (Modellable Risk Factors)** - Support banks using internal models to conduct their risk factor analysis and identify which of their risk factors can be classified as modellable
- **Increased accuracy of broader market risk modelling**

Compliance

- **Best Execution**
- **Systematic Internaliser determination** - Aggregation of executed trade data to estimate total market size aids management decision making and planning in relation to which instruments will be in-scope of systematic internaliser obligations
- **Trade surveillance**

Back Office

- **Valuations** - Real time executed trade data can be used for end-of-day / intra-day valuations; delayed data can support evaluated pricing



MiFID II market data can be made available through existing products (1/2)

Real Time Feed



Bloomberg

SIX TELEKURS

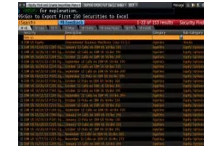
Product Description

- All Mifid II data available over existing low-latency aggregated global data feeds delivering tick level market data
- New Non equity asset classes

MiFID II Enhancements

- On board new non-equity content sets
- Support new fields such as granular time stamps and trade flags
- Enhanced fields
- Buy sell indicators ,Type of counterparty, Indicative curves incorporated into trading info, VWAP,TWAP O/H/L/C
- YTD-high, low price in terms of volume figures

Tick History



- Historical time series
- Supports GUI and API access

- Tick History will record all MiFID II data tick-by-tick as it is published over the network
- Support new fields such as granular time stamps and trade flags
- Enhanced fields also included



MiFID II market data can be made available through existing products (2/2)

Intraday Data



Product Description

- Non-streaming data platform that includes information on end-of-day and intraday pricing
- FTP file access

MiFID II Enhancements

- MiFID II market data intra-day and end-of day
- Enhanced fields

Desktop Access



- TP ICAP Website/Eikon/Bloomberg a powerful combination of information, analytics and exclusive news

- Ability to manipulate MiFID II data in time series graphs
- Aggregated trade data view our data amongst other sources
- Enhanced fields

Benefits

- Minimise implementation effort by using existing products
- Creation of derived data creates additional value-add
- Consistency across existing and easy access products



Potential Product Fields - Example

Vanilla Field List	MiFID II Field List		Proposed Analytics Field List
Plain fields to include in all product offerings	New field combinations which are a result of MiFID II Transparency regime		Analytics derived from Trade and Quote data
<ul style="list-style-type: none"> • Indicative Bid • Indicative Ask • Indicative Mid • Net Change in Indicative • Percentage Change in Indicative • H/L/O/C: running (day, week, month, year) & to date (day, week, month) 	<p>Post Trade</p> <ul style="list-style-type: none"> • MiFID Last Trade Price • MiFID Last Trade Volume • MiFID Last Trade Time • MiFID Last Trade Date 	<p>Pre Trade</p> <ul style="list-style-type: none"> • MiFID Bid/Ask Quote • MiFID Bid/Ask Quote with Volume • MiFID Time • MiFID Date 	<ul style="list-style-type: none"> • Total Trade Volumes • Total Notional Volume by Tenor • VWAP • TWAP • Moving Average/Median Prices • Historical Volatilities • Total Trade Count • Bid/Ask/Trade Liquidity Metric • B/O Average Spreads • Tick Sizes • Minimum/Average Trade Size • Time stamps (all quotes/prints) • Hit/lift passive aggressive ratios • Pattern of activities analysis • % breakdown between V and E • Market times for open and close



Thank you

