

FTSE Cryptocurrencies Futures & Options

December 2024

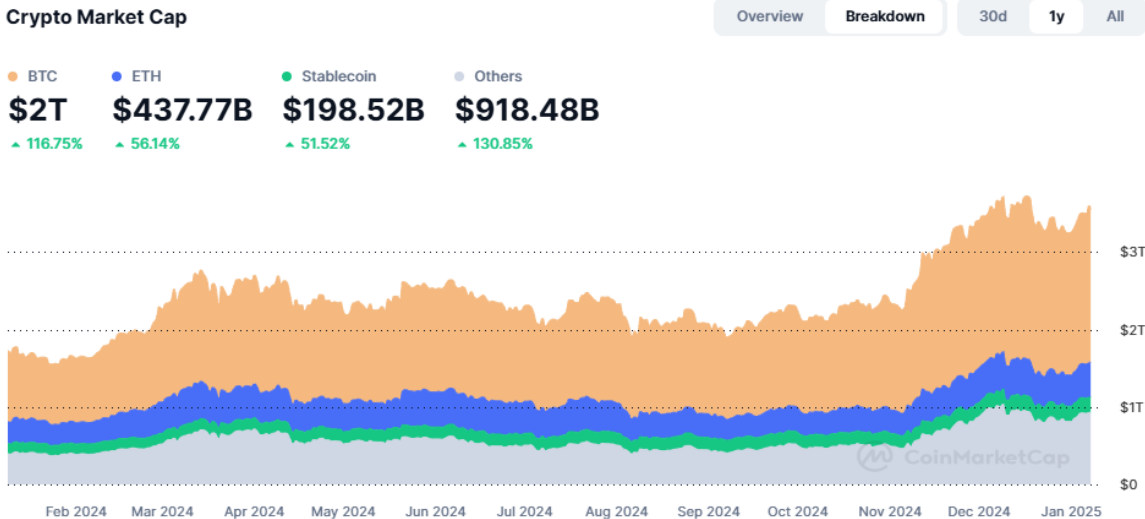
Why crypto at Eurex?

The trusted path to crypto

The cryptocurrency market has undergone a volatile period in 2022 as the industry faced an array of credit risk events. This has highlighted the importance of having trusted, regulated marketplace supporting the trading and risk management of digital assets.

2023 marked a turning point, with BTC and ETH recovering from the lows of previous year. The importance of this new asset class has been further strengthened, whereby in 2024 spot Bitcoin and subsequently spot Ethereum ETFs were launched in the US and other jurisdictions across the world.

It is now time to reconsider this asset class through the lens of a regulated marketplace.



Source: coinmarketcap.com

The trusted path to crypto

Introducing Eurex Crypto Derivatives Suite

The trusted path to crypto

Bitcoin Futures & Options

Launched at Eurex in 2023, with the support of Liquidity Providers and Clearing Members. Options additionally allow investors to hedge their Bitcoin exposure and express a more sophisticated market view with various trading strategies (e.g. straddles, put/call spreads etc.)

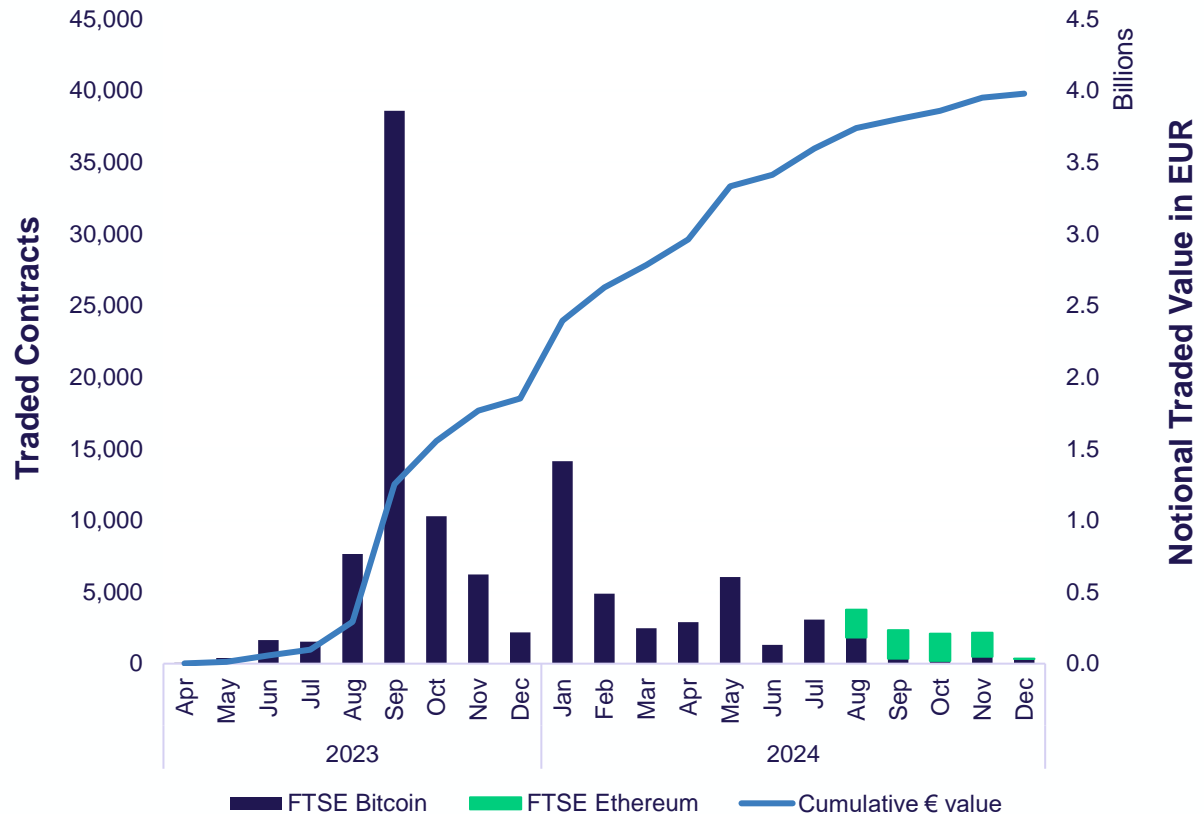
Ethereum Futures & Options

Eurex expanded the crypto offering to cover Ethereum, the second largest cryptocurrency with approximately \$400bn market cap. Futures and Options supported by Liquidity Providers available to trade since 12 August 2024

FTSE Russell, calculates and administers the underlying spot price index for Bitcoin & Ethereum, which is **compliant with the Benchmark Regulation (BMR)**



EUREX Crypto Derivatives Traded Volume



Our Value Proposition

Safe and trusted Trading & Clearing



Trusted Index Provider

FTSE Russell is a leading index provider with over \$3.75T of investment product assets tracking their indices. Their partner for crypto indices, Digital Asset Research (DAR), is a provider of unbiased crypto market data, research, and analysis to professional investors



Trading on a Regulated Exchange

Eurex is a renowned regulated exchange, with best-in-class trading platform and robust safeguards offering multi-asset class trading



On-screen & OTC Liquidity

Investors benefit from tight spreads provided by leading Liquidity Providers during Asian, European and US trading hours



Institutional and Professional Investors

Eurex cryptocurrency futures & options contracts are designed for both institutional as well as sophisticated retail investors, having balanced contract size and cash settlement on expiry



Regional Advantage

Investors can gain cryptocurrency exposure in EUR or USD whilst trading on a European-regulated exchange, with a global investor base



Central Counterparty Clearing

All trades at Eurex are risk managed and cleared in an AA-rated clearing house, with no auto liquidations or counterparty risk

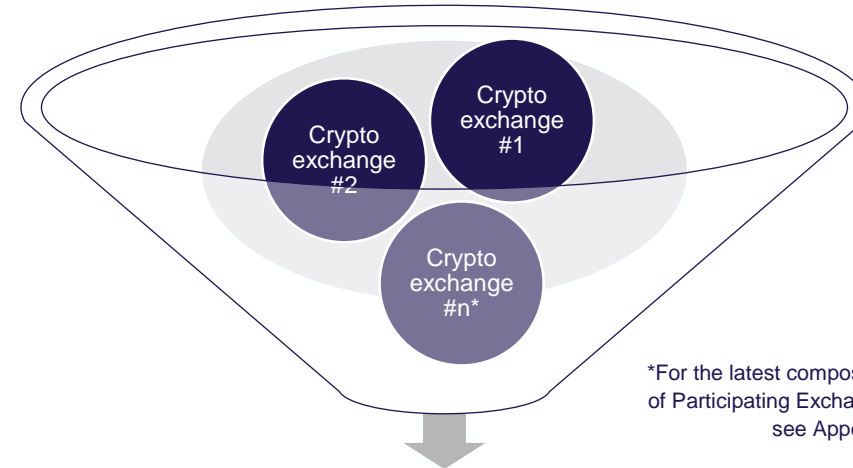
Trading and Clearing of Crypto Futures & Options

Crypto F&O trading supported by high-grade, time-tested infrastructure and set up

Layer	Framework	Functional Setup Overview
<p>Trading Layer</p>	<p>Crypto futures & options traded on Eurex</p>	<ul style="list-style-type: none"> ▪ Index Futures & Options with cash settlement on FTSE Indexes ▪ Quotation in EUR or USD ▪ Indexes provided by Benchmark Regulation(BMR) compliant Index Provider (FTSE Russel) ▪ Trading on T7 / Eurex Deutschland, incl. all trading safeguards (e.g., Volatility Interruptions) ▪ Technical set-up via cash settled index futures (FINX) and options on futures (OFIX)
<p>Clearing & Settlement Layer</p>	<p>Crypto futures & options cleared at Eurex Clearing</p>	<ul style="list-style-type: none"> ▪ Standard membership model (GCM, DCM) ▪ Futures – cash-settlement in EUR or USD; Options – physical delivery of the index futures ▪ Daily settlement prices calculated from order book data (if available, otherwise theoretical pricing) ▪ Final settlement price is the contract value corresponding to the end-of-day value of the FTSE indexes ▪ Standard clearing, netting, position management processes
<p>Risk Layer</p>	<p>Standard clearing with PCY01 liquidation group</p>	<ul style="list-style-type: none"> ▪ Margining in EUR/USD ▪ PCY01 Crypto Derivatives Liquidation Group, with cross margining between products to follow ▪ Indicative IM for futures Long 19% / Short 29%

FTSE DAR Index Design

- 1 Trade data is collected across all exchanges and converted into USD every 15 seconds
- 2 The index prices are then converted into other fiat currencies, like EUR, GBP, JPY
- 3 The Bitcoin futures underlying is the 17:00 CET index print



*For the latest composition of Participating Exchanges see Appendix

VWAP calculation of all (genuine) trades across all vetted exchanges every 15 seconds

- Every 15 seconds DAR delivers the Asset Price to FTSE
- Every 15 minutes FTSE calculates time-weighted average Reference Price
- Every hour FTSE DAR (EU BMR compliant) price is published

Crypto	Index Name	Currency	ISIN	Bloomberg Ticker	Refinitiv Real Time	Refinitiv Hourly
Bitcoin	FTSE Bitcoin Index 1700 CET	USD	GB00BMD2XR47	FBTCUS17	BTC=DARN	BTC=FTSE
	FTSE Bitcoin Index 1700 CET	EUR	GB00BR03T444	FBTCEU17	BTCEUR=DARN	BTCEUR=FTSE
Ethereum	FTSE Ethereum Index 1700 CET	USD	GB00BRRHT272	FETHUS17	ETH=DARN	ETH=FTSE
	FTSE Ethereum Index 1700 CET	EUR	GB00BRRHT389	FETHEU17	ETHEUR=DARN	ETHEUR=FTSE

Bitcoin & Ethereum Futures

Contract Specifications

	Bitcoin Index Futures	Ethereum Index Futures
Contract size	1 EUR / USD per index point (equivalent to 1 BTC)	10 EUR / USD per index point (equivalent to 10 ETH)
Underlying Crypto / Fiat Index	BTC / EUR - FTSE Bitcoin Index EUR (Bloomberg: FBTCEU17 Index <GO> BTC / USD - FTSE Bitcoin Index USD (Bloomberg: FBTCUS17 Index <GO>)	ETH / EUR - FTSE Ethereum Index EUR (Bloomberg: FETHEU17 Index <GO> ETH / USD - FTSE Ethereum Index USD (Bloomberg: FETHUS17 Index <GO>)
Tick size / value	5 per index point equivalent to 5 EUR / USD	0.5 per index point equivalent to 5 EUR / USD
Trading hours	Monday – Friday: 1:15 and 22:00 CET (2:15 – 22:00 CEST); TES trading until 22:30 CE(S)T The trading hours for an expiring crypto futures contract end at 17:00 CE(S)T on its final settlement day	
Contract months	The next three succeeding serial months and the two next quarterly expiration (March, June, September, December) up to a maximum term of 9 months	
Last trading day / Final settlement day	Last trading day and final settlement is 17:00 CE(S)T on the last Friday of the month in which the term of the respective contract expires	
Exercise / Settlement	Cash	
Daily settlement price	Daily settlement price is the volume-weighted average price (VWAP) of the futures transactions, calculated over a 1-minute interval ending at 17:00 CE(S)T. If less than five transactions occur, the VWAP of the last five transactions conducted in the last 15 minutes before 17:00 CE(S)T or the mid-point of bid/ask prices in the order book before 17:00 CE(S)T is used	
Final settlement price	The final settlement price is the hourly calculated FTSE Index at 17:00 CE(S)T (up to 2 decimals)	
Positions limits	Not applicable	
Minimum block size	10 lots	10 lots
Initial Margin	Long 19% / Short 29%	Long 22% / Short 29%
Bloomberg	PYAA Curncy <GO> / PYCA Curncy <GO>	TEEA Curncy <GO> / TEEA Curncy <GO>
Refinitiv	0#FBTU / 0#FBTE	0#FETU / 0#FETE

Bitcoin & Ethereum Options

Contract Specifications

	Options on Bitcoin Index Futures	Options on Ethereum Index Futures
Contract size	1 Bitcoin Index Futures (equivalent to 1 BTC)	1 Ethereum Index Futures (equivalent to 10 ETH)
Underlying Crypto / Fiat Index	BTC / EUR - FTSE Bitcoin Index EUR (Bloomberg: FBTCEU17 Index <GO>) BTC / USD - FTSE Bitcoin Index USD (Bloomberg: FBTCUS17 Index <GO>)	ETH / EUR - FTSE Ethereum Index EUR (Bloomberg: FETHEU17 Index <GO>) ETH / USD - FTSE Ethereum Index USD (Bloomberg: FETHUS17 Index <GO>)
Tick size / value	1 per index point equivalent to 1 EUR / USD	0.1 per index point equivalent to 1 EUR / USD
Trading hours	Monday – Friday: 8:00 and 20:00 CE(S)T The trading hours for an expiring crypto options contract end at 17:00 CE(S)T on its final settlement day	
Contract months	Five Friday weekly expirations, the next three succeeding serial months and the next two quarterly expiration (March, June, September, December) up to a maximum term of 9 months	
Exercise prices	40 strikes around the money with 500 steps ATM, and 1,000 further ITM/OTM	40 strikes around the money with 100 steps ATM, and 500 further ITM/OTM
Last trading day / Final settlement day	Last trading day and final settlement is 17:00 CE(S)T on the last Friday of the month in which the term of the respective contract expires	
Exercise / Settlement	European / Physical delivery of the index futures. The index futures matures on the same exchange day and will be settled in cash	
Daily settlement price	Established by Eurex via a theoretical options pricing model	
Final settlement price	The final settlement price is the hourly calculated FTSE Bitcoin Index at 17:00 CE(S)T (up to 2 decimals)	
Positions limits	Not applicable	
Minimum block size	10 lots	10 lots
Bloomberg	PYAA Curncy <OMON> / PYCA Curncy <OMON>	TEEA Curncy <OMON> / TEEA Curncy <OMON>
Refinitiv	0#OBTU / 0#OBTE	0#OETU / 0#OETE

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Appendix

Digital Asset Overview



DIGITAL
ASSET
RESEARCH

FTSE Digital Asset Index Series
in association with Digital Asset
Research (DAR)

FTSE
Russell

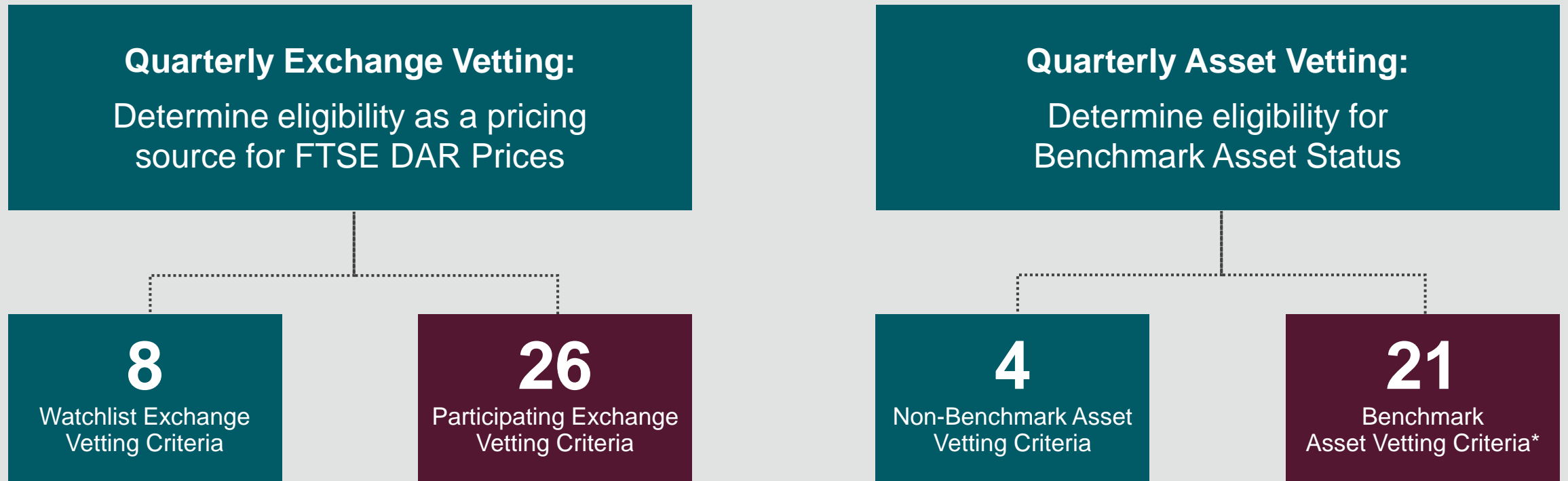
ftserussell.com

An LSEG Business

The importance of exchange vetting

Eligibility is determined by key criteria

Total of 34 quality-of-market and 25 quality-of-asset tests



Source: FTSE DAR Guide to the Vetting of Digital Assets and Digital Asset Exchanges. Benchmark Asset Vetting includes the criteria for Tier 1 pricing.

Market Status Exchanges: Proprietary 2-Tiered Classification

Offers investors risk management insight into the regulatory and trading practices of the exchanges

FTSE DAR digital asset market status classification

PARTICIPATING EXCHANGES

- Bitfinex
- Bitflyer
- Bitstamp
- Gemini
- itBit
- Kraken
- LMAX
- Luno

WATCHLIST EXCHANGES

- Bibox
- Biconomy
- Binance
- Binance.US
- Bitbank
- Bitkub
- BitMart
- Bitrue
- Bitso
- BitTrade
- Bitvavo
- BTCBOX
- BtcTurk
- Bybit
- Changelly PRO
- Coincheck
- CoinEx
- Crypto.com
- Cryptology
- Dex-Trade
- DIFX
- Digifinex
- GMO Coin Co.
- HTX
- Independent Reserve
- KuCoin
- Latoken
- Okex
- P2PB2B
- Phemex
- Pionex
- PointPay
- Toobit
- TruBit
- Woo Network

Exchanges can be declassified from this list with immediate effect according to rules outlined in the Guide to the Vetting of Digital Assets and Digital Asset Exchanges.

Source: [FTSE Russell and DAR](#). As of October 18, 2024. For more information please visit: <http://www.ftserussell.com/digitalasset>

FTSE DAR digital exchange vetting

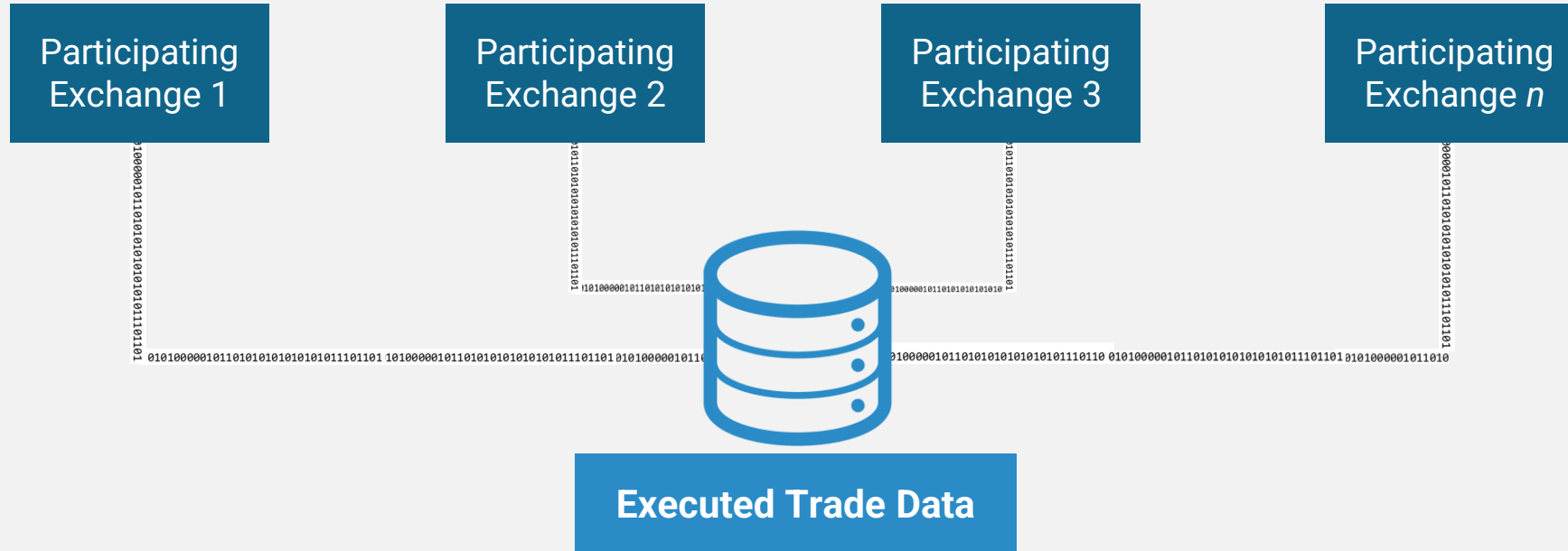
Market Status Classification Criteria

CRITERIA	WATCHLIST	PARTICIPATING
Regulatory Criteria		
Capital Controls: Domicile of Exchange does not restrict capital trading to foreign or international investors	●	●
Exchanges must be managed by companies with easily available and verified biographical information on its leadership team	●	●
Regulatory Compliance: the Exchange operates within the laws of its domiciled country and does not knowingly violate any local or international regulations applicable to it based on its location, or the location of its permitted users and has obtained the relevant licensing and registrations		●
Differentiation of Users Based on Geolocation: restricts trading to users in specific jurisdictions		●
Obtained the relevant licensing and registrations for the jurisdiction(s) in which the Exchange maintains an office, is headquartered, or is otherwise registered to do business		●
Exchange has complied with regulatory authorities for requests for information		●
Governance and Institutional Criteria		
Must maintain a minimum daily reported volume of \$5M USD each day over the previous six months	●	●
"Know Your Customer" (KYC) and Anti-Money Laundering (AML) controls require, at a minimum, that a user verify their name, phone number and bank account prior to using the platform including FTSE and DAR's ability to audit the policies		●
Information Sharing: Provide upon request by FTSE and DAR information around unusual or suspicious market activity		●
Sanctions Lists: an Exchange is reviewed against third-party sanctions lists		●
Fees: An Exchange must have a publicly listed fee schedule which is uniformly practiced and demonstrates that the Exchange operation as a centralized, for-profit business		●

CRITERIA	WATCHLIST	PARTICIPATING
Governance and Institutional Criteria Continued		
Accessible Support Team: Provide open support communication channels to its users		●
Criminal or Regulatory Misconduct: No founded accusations of misconduct or criminal charges against the Exchange and the Exchange has complied with regulatory authorities for requests of information		●
Technical Criteria		
Centralized Spot Exchange, centralized organization that facilitates spot delivery transactions of underlying assets	●	●
Required Data: Trade data is available and allows for continuous delivery of trade prices and trading volume data, including data fields which detail the asset pair, price, volume and accurate timestamp for each trade	●	●
No Meaningful Security Lapses: No meaningful security lapse or breach in the last 12 months which resulted in the loss of client or Exchange funds exceeding 1% of its total holdings		●
No Known Deficiencies in Operational Security: focusing on mitigating potential attack vectors and operational risks.		●
Have no significant downtime, defined as more than 24 cumulative hours in a quarter		●
Data Science Criteria		
Trading needs to follow natural buy and sell patterns	●	●
Trading occurs at natural and expected lot levels	●	●
Price follows natural patterns that track with the market	●	●
Volume follows natural patterns that track with the market	Pass any two of three criteria over previous two quarters	Pass any two of three criteria over previous two quarters
Order book shows active and competitive behavior		

Aggregate prices from vetted sources

DAR aggregates raw trade data for each constituent asset from the Participating Exchanges* in order to derive a consolidated price.

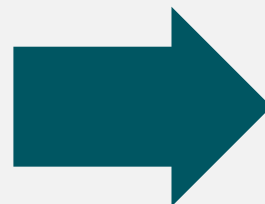


*Please note the same process is in place for the Watchlist Exchange which are pricing sources for the Non-Benchmark Assets.

Trade filtration methodology

First, we filter on the exchange level:

1. For each asset we take the last 15 seconds of trades and create an VWAP at each exchange
2. We then calculate the standard deviation and mean of this dataset
3. Any exchange whose VWAP asset price is more than 1.5 standard deviations away from the mean has all their trades for that asset removed from contribution of the final FTSE DAR 15 second price



Then, we filter on Asset Level:

1. For each asset we gather the most recent 10 minutes worth of trade data and convert all trade prices to USD
2. We then calculate the standard deviation and mean of this dataset
3. Any trades that are 2.5 standard deviations away from the mean are removed from the dataset

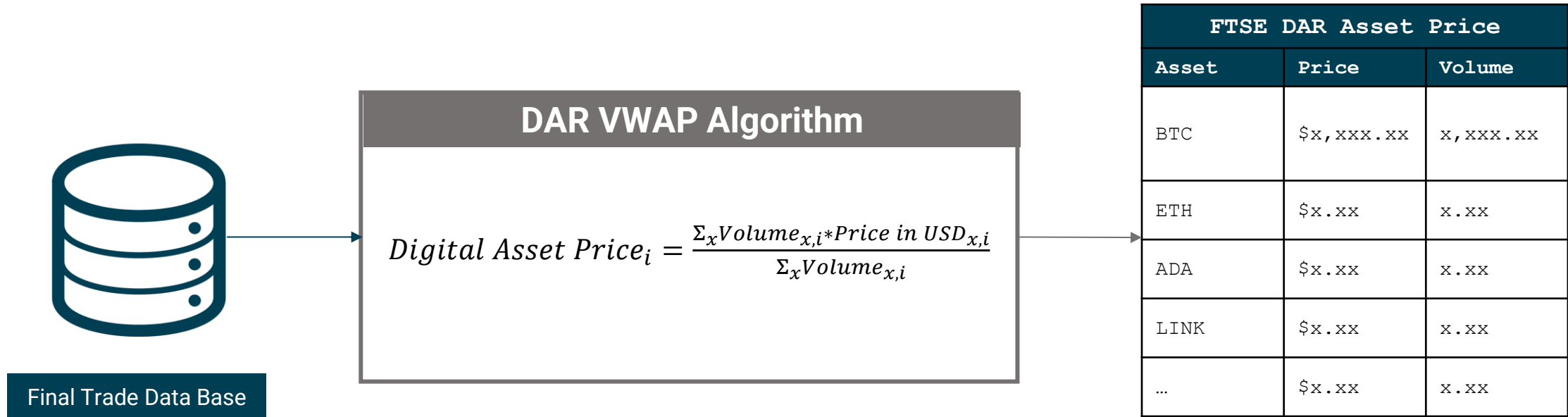
March 2022 Results:

Exchange Status	No. of Filtered Trades	Total Trades	Percent
Participating	18,570,483	323,861,754	5.73%
Watchlist	34,786,593	612,340,375	5.68%

Benchmark Status	No. of Filtered Trades	Total Trades	Percent
Benchmark Assets	16,619,216	259,516,254	6.40%
Non-Benchmark Assets	36,280,006	676,685,875	5.36%

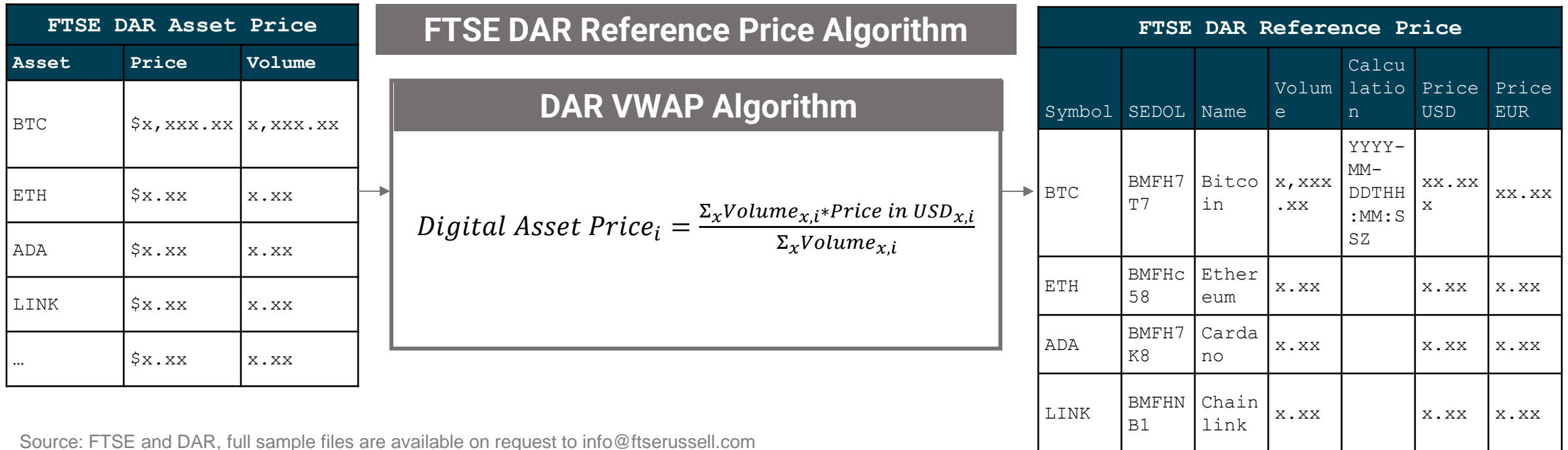
FTSE DAR asset price calculation process

Once the data is cleansed, DAR calculates a Volume Weighted Average Price (VWAP) in USD for all constituent assets every 15 seconds. If no trades have been made in the most recent 15 seconds, the previous price is pulled forward.



FTSE DAR reference price calculation process

DAR delivers to FTSE the FTSE DAR Asset price every 15 seconds. FTSE calculates the volume time weighted average of the FTSE DAR Digital Asset Price over the 15-minute period before the fixing time. The Reference Prices are calculated every hour, 24 times per day. The FTSE DAR Reference Prices are utilized in the indices for official closes.



Source: FTSE and DAR, full sample files are available on request to info@ftserussell.com

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