



# Organising Liquidity at a Crypto Exchange

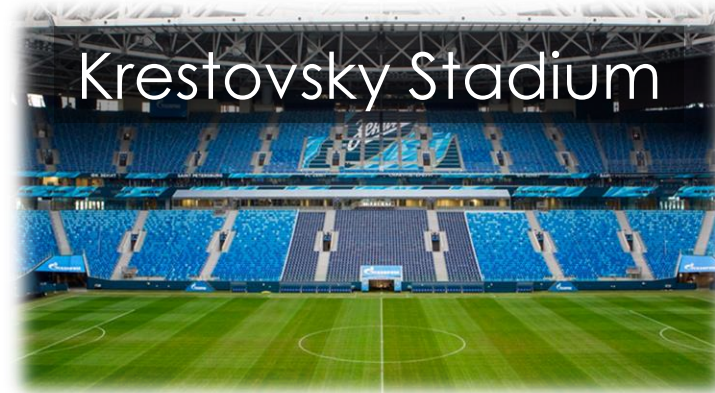
True Story



Vladimir Petrov

# Crypto Technology Today

- **Daily** trading volume: **\$20**bln =



**x 10**

- **Bitcoin** accounts:

**30** mln = Moscow +  
+ St. Petersburg +  
+ ... + Perm } **13 biggest cities**

- **Biggest** exchanges earn

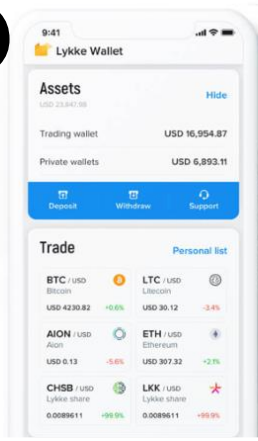
**up to 100'000 Rub per minute**

# Mobile App

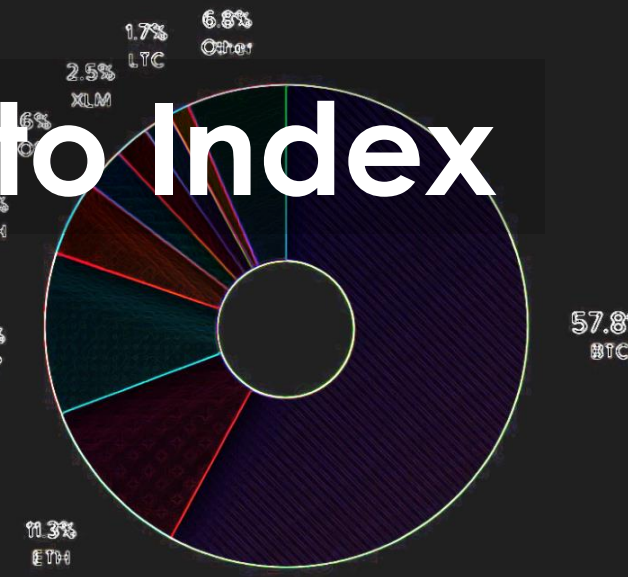
## Become a Bitcoin owner

Lykke is the easiest and secure way to buy, exchange and sell cryptos.  
No hidden costs. Swiss quality.

Get Started



# Crypto Index



Learn more about Lykke Index

Lykke BETA TRADE VLADIMIR P...

TLCttest/USD 117.26 -0.55% 119.46 116.55 2.67

Current asset pair Last price Change (24h) High (24h) Low (24h) Volume (24h)

Order Limit Market

Buy Sell

Price (USD)

Amount (TLCttest)  0.04 TLCttest available

25%  50%  75%  100%

Price chart Depth chart

Order book

Grouping:

# Web Terminal

<https://hft-api.lykke.com/swagger/v1/swagger.json> v1

## High Frequency trading API

airs Show/Hide List Operations Expand Operations

GET </api/AssetPairs> Get all enabled asset pairs.

GET </api/AssetPairs/{id}> Get specified asset pair.

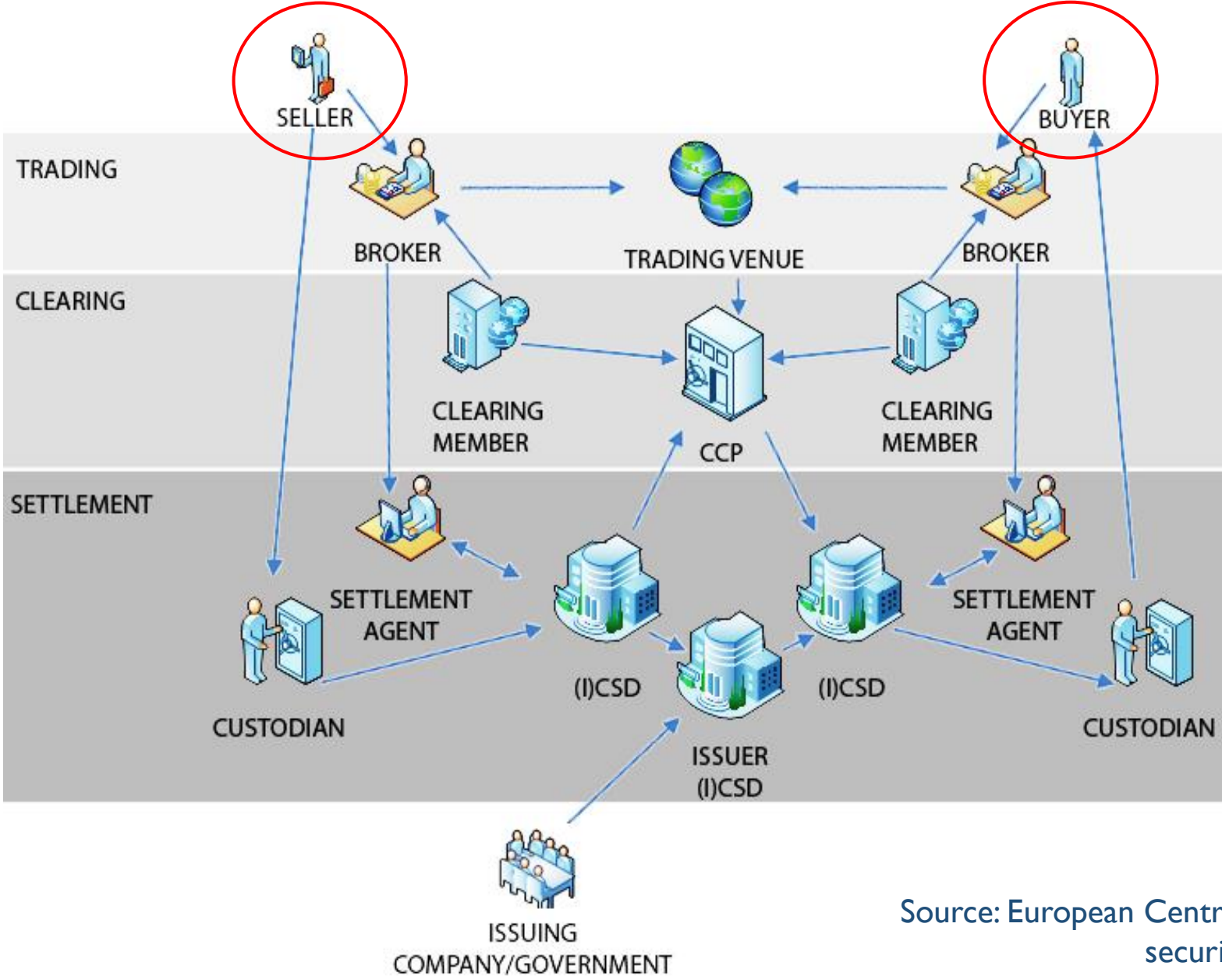
History Show/Hide List Operations Expand Operations

GET </api/History/trades> Query historic client trades.

IsAlive Show/Hide List Operations Expand Operations

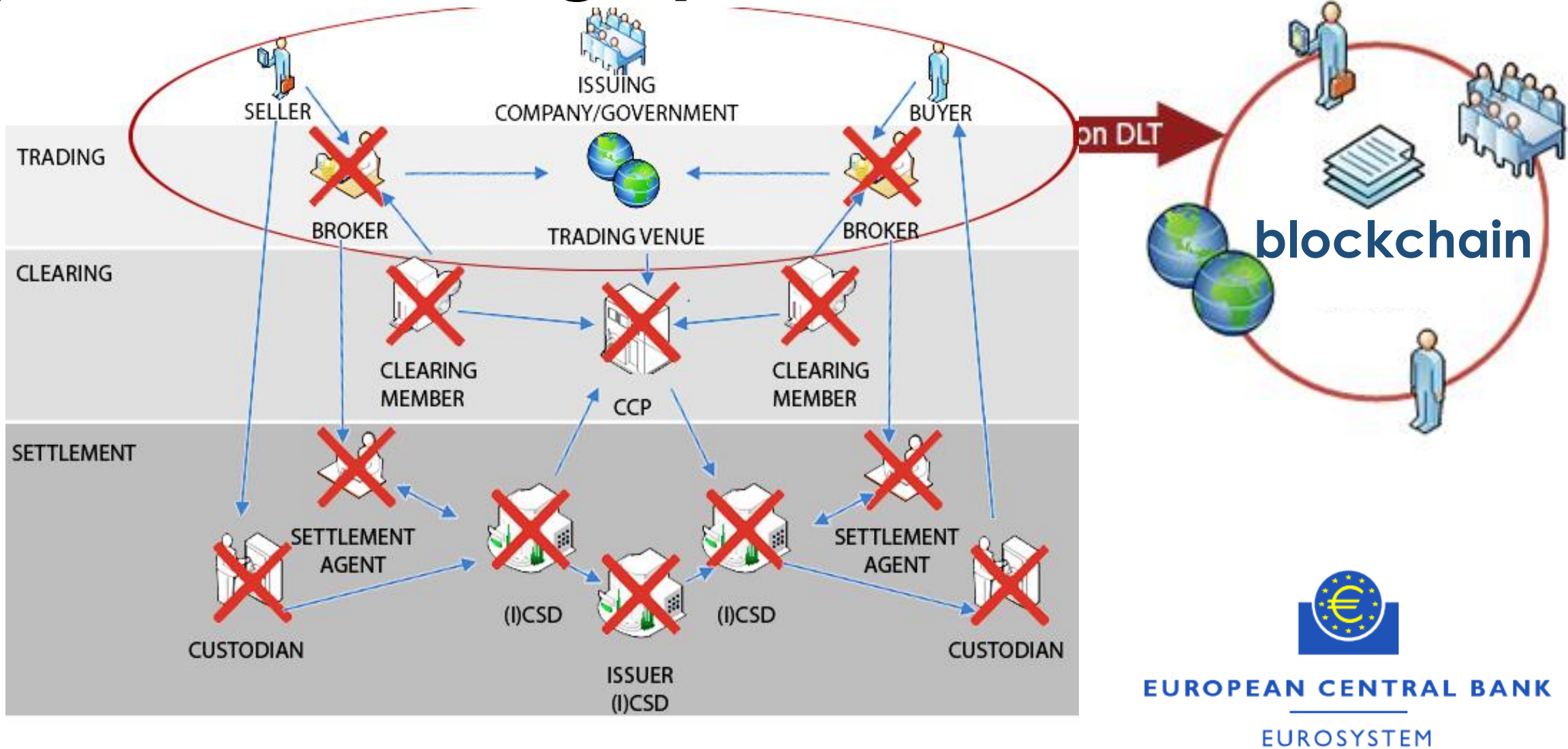
# Trading API

# Complex Banking System



Source: European Central Bank, "Distributed ledger technologies in securities post-trading, Revolution or evolution?"

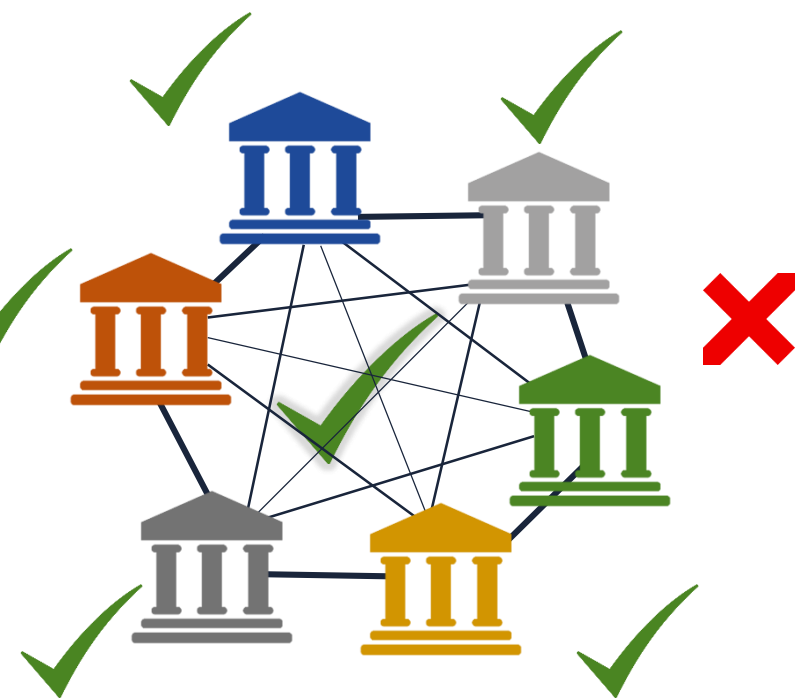
# Improved Banking System



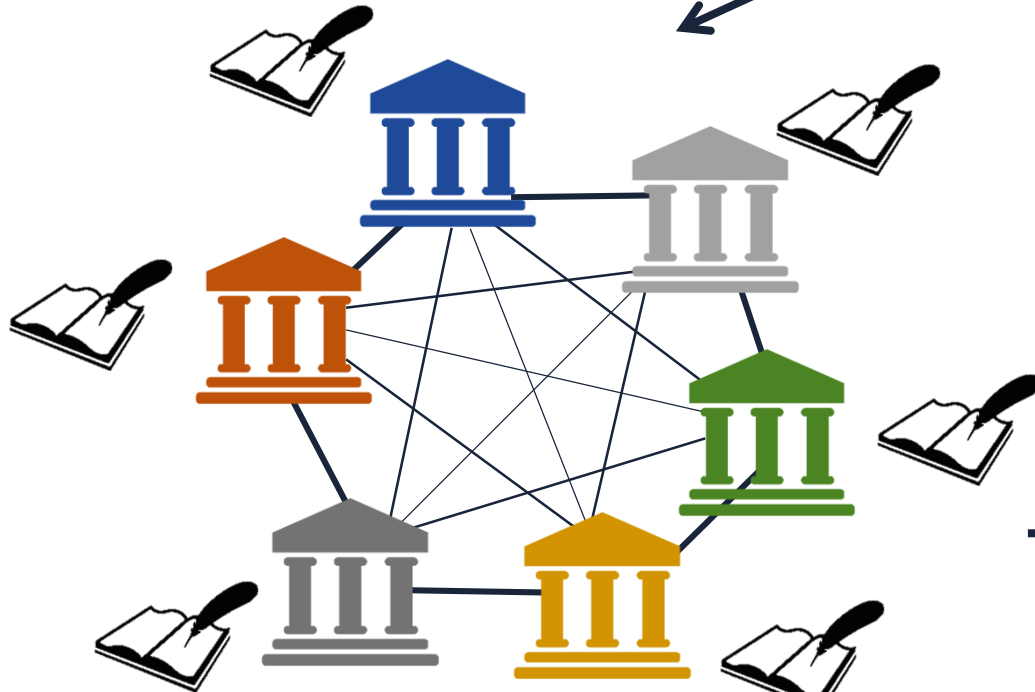
Source: European Central Bank, "Distributed ledger technologies in securities post-trading, Revolution or evolution?"



1. **Alice** sends money to Boris



2. Network checks the ledger



3. Network updates the ledger



4. **Boris** received money from Alice

The background features a collage of Swiss Franc banknotes in various denominations (10, 20, 50, 100) and a close-up of a printing press mechanism. The text is overlaid on this background.

# Colored Coins and ERC20

representing and managing any asset  
on top of blockchain

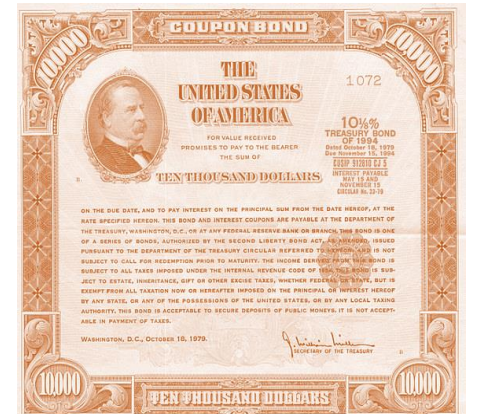
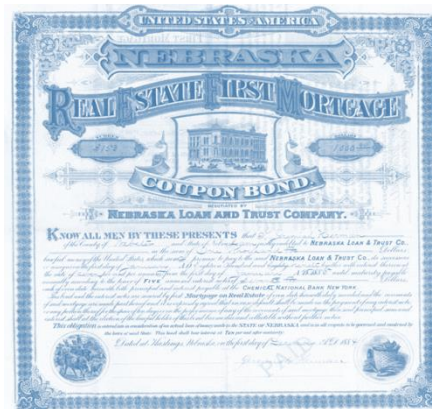
- **Tokenization**

is metadata (record) that specifies terms and conditions of the asset

- **ISIN**

(International Securities Identification Number) is guaranty of the original asset

Direct  
Asset-to-Asset  
transactions







**Margin Trading  
Lykke Vanuatu**



**Utility Tokens  
Lykke Netherlands**



**Forex and Crypto  
Lykke Corp UK**



**Lykke Coins  
Lykke Corp AG**

# Science-backed Market Making Algorithms

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## The Alpha Engine: Designing an Automated Trading Algorithm

High Performance Computing in Finance, Chapman & Hall/CRC Series

29 Pages • Posted: 12 Apr 2017 • Last revised: 3 May 2017

Anton Golub  
Flov technologies

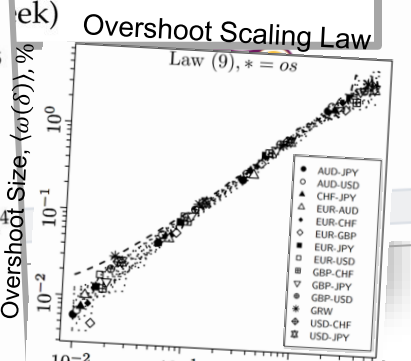
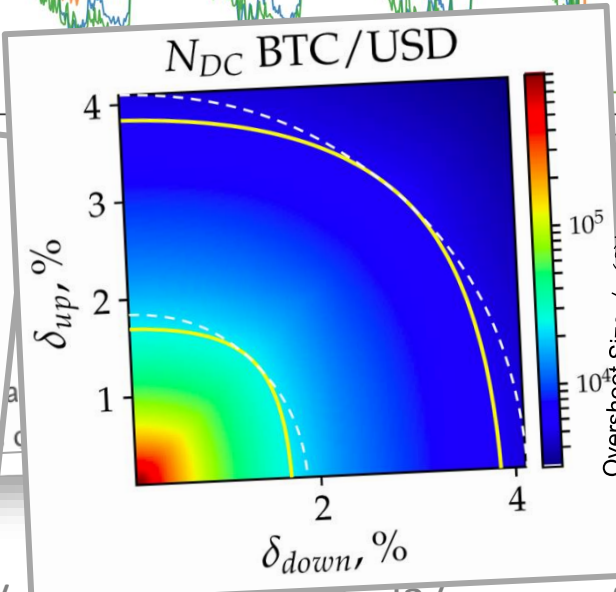
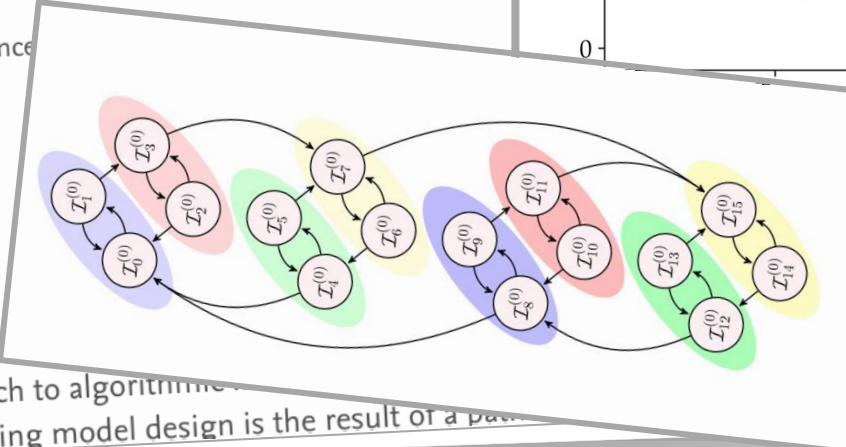
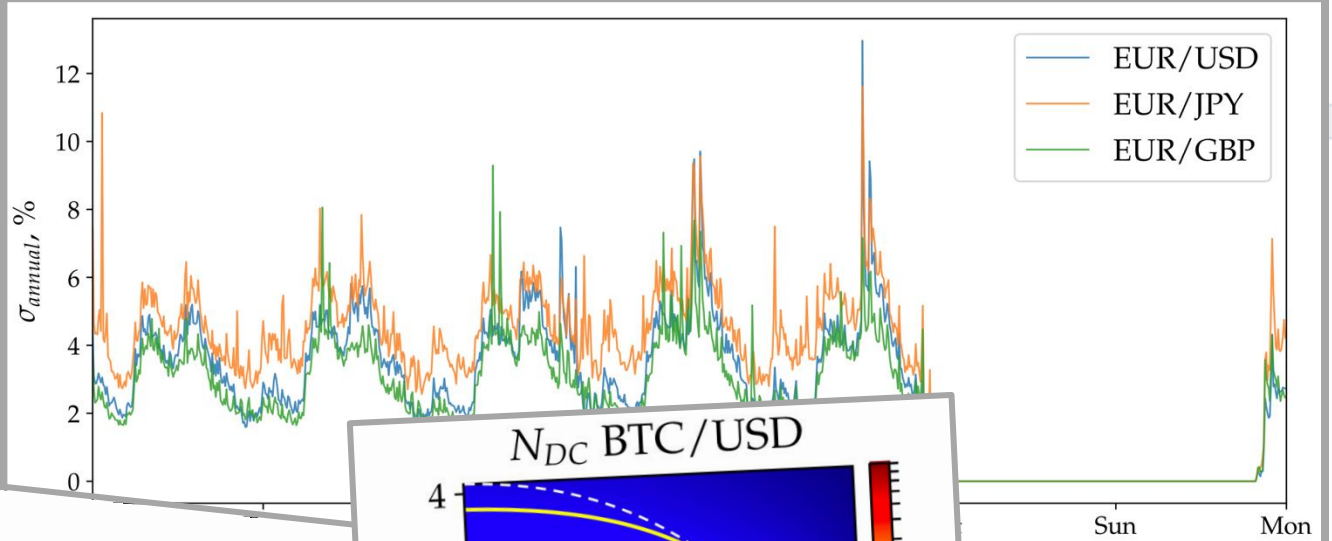
James Glattfelder  
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Lykke Corp

Date Written: April 5, 2017

### Abstract

We introduce a new approach to algorithmic trading strategies. This trading model design is the result of a pa...



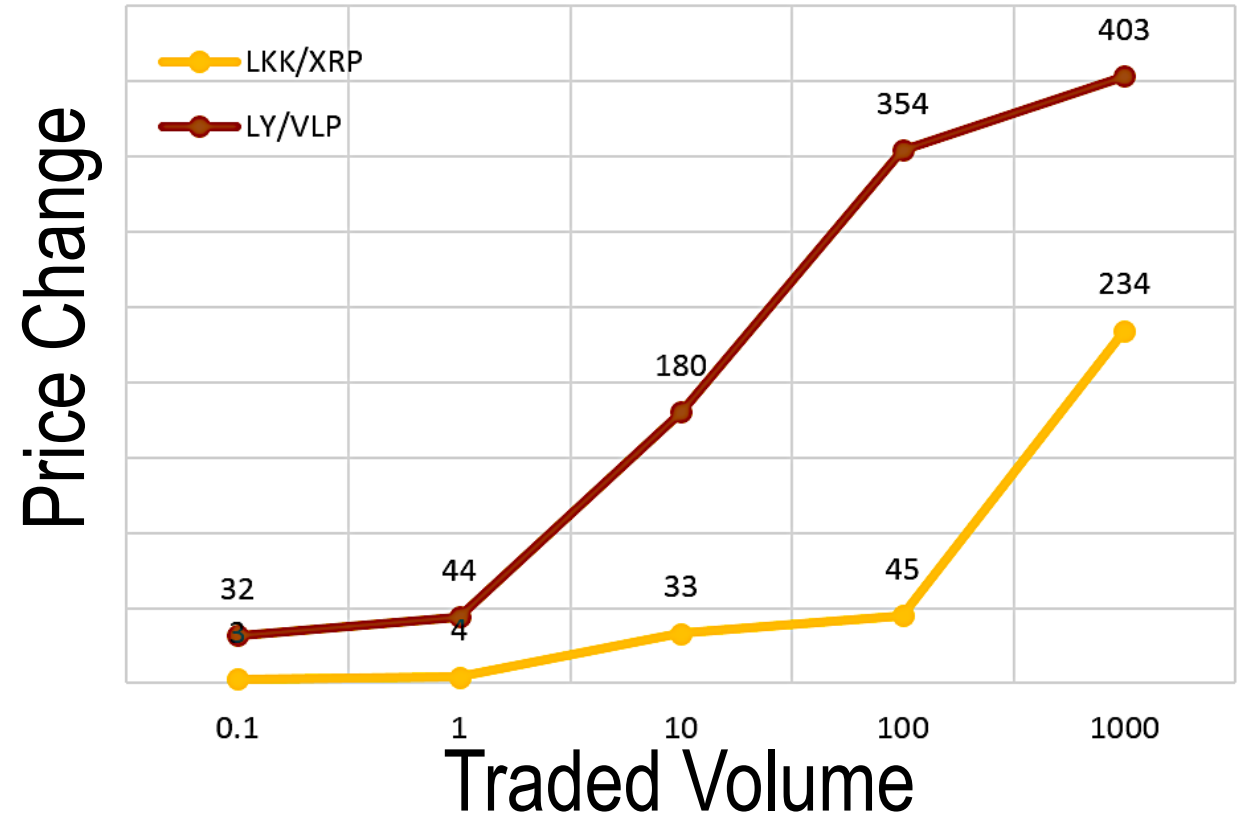
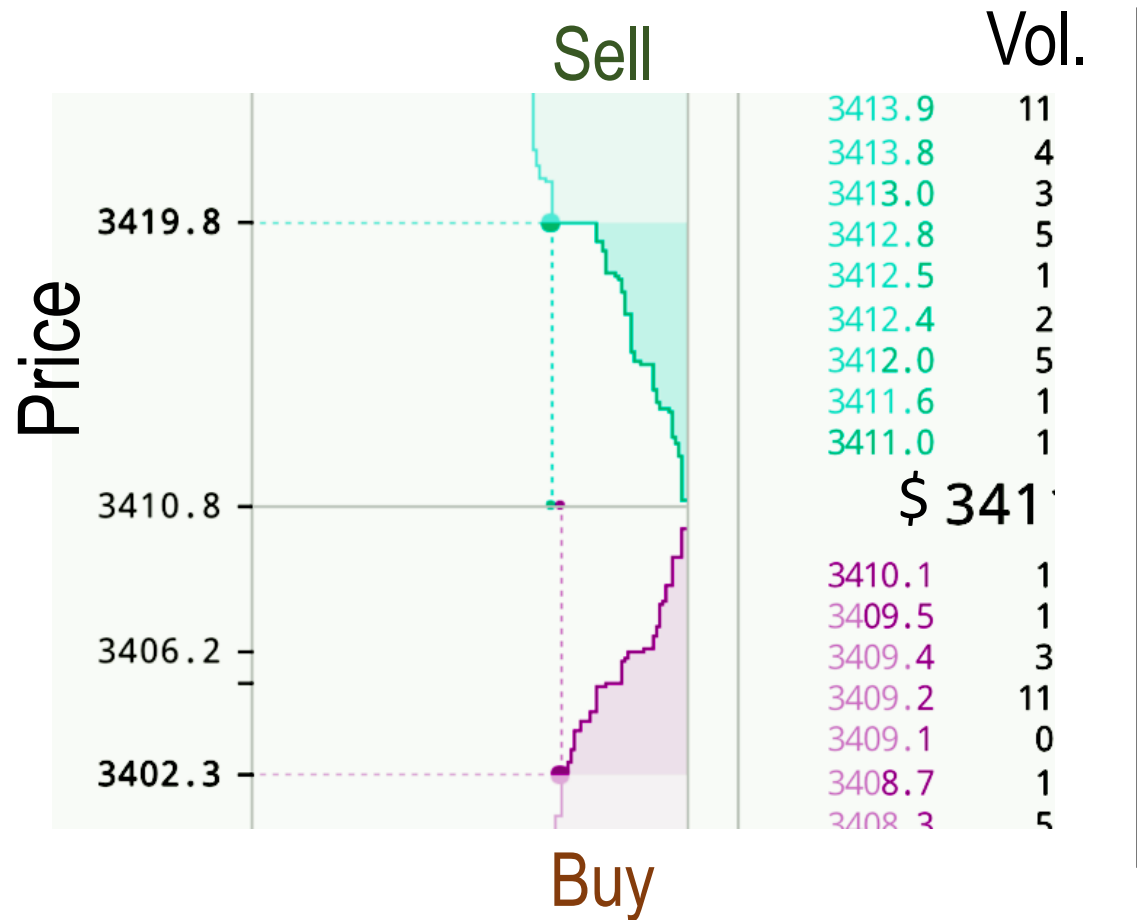


# Liquidity



# Measuring Liquidity

- Slippage
- Roundtrip
- Time of Recovery



# Smart Routing



# Yandex.Market – Smart Routing for Goods



Мобильные телефоны • Apple

Смартфон Apple iPhone Xs 64GB 4.0 19 ОТЗЫВОВ

Отложить

Сравнить

71 490 ₽

подробнее

В магазин

Ranked by  
Price

Описание

Характеристики

Цены 64

Карта 119

Отзывы 19

Обзоры 1

Вопросы о товаре 13

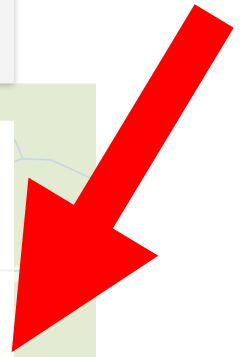
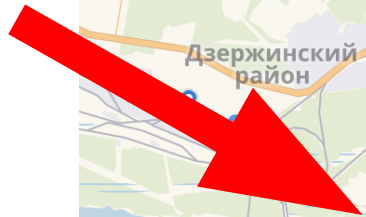
Optimised  
Location

197 магазинов

Пункты выдачи Торговые залы

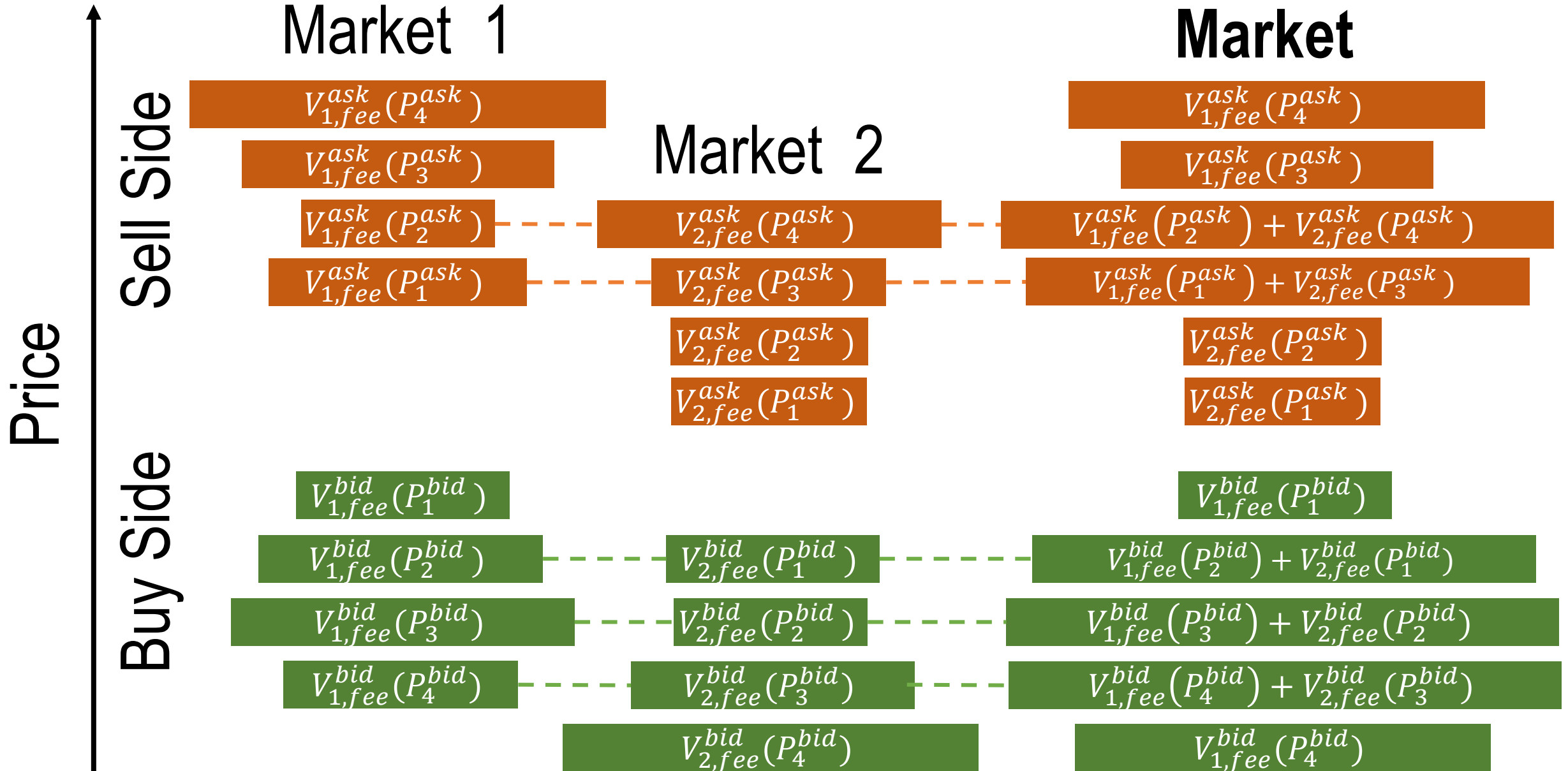
**AppleWorld** ★★★★★ 9 отзывов  
Пермь, Глеба Успенского, д. 2, корп. а  
🕒 Открыт до 21:00  
Apple iPhone Xs 64 Gb Space Gray **73 990 ₽**  
В магазин

**МегаФон** ★★★★★ 6892 отзыва  
Пермь, Ленина, д. 58  
🕒 Открыт до 21:00  
Apple iPhone Xs 64GB Gold (Золотой) **80 990 ₽**  
В магазин

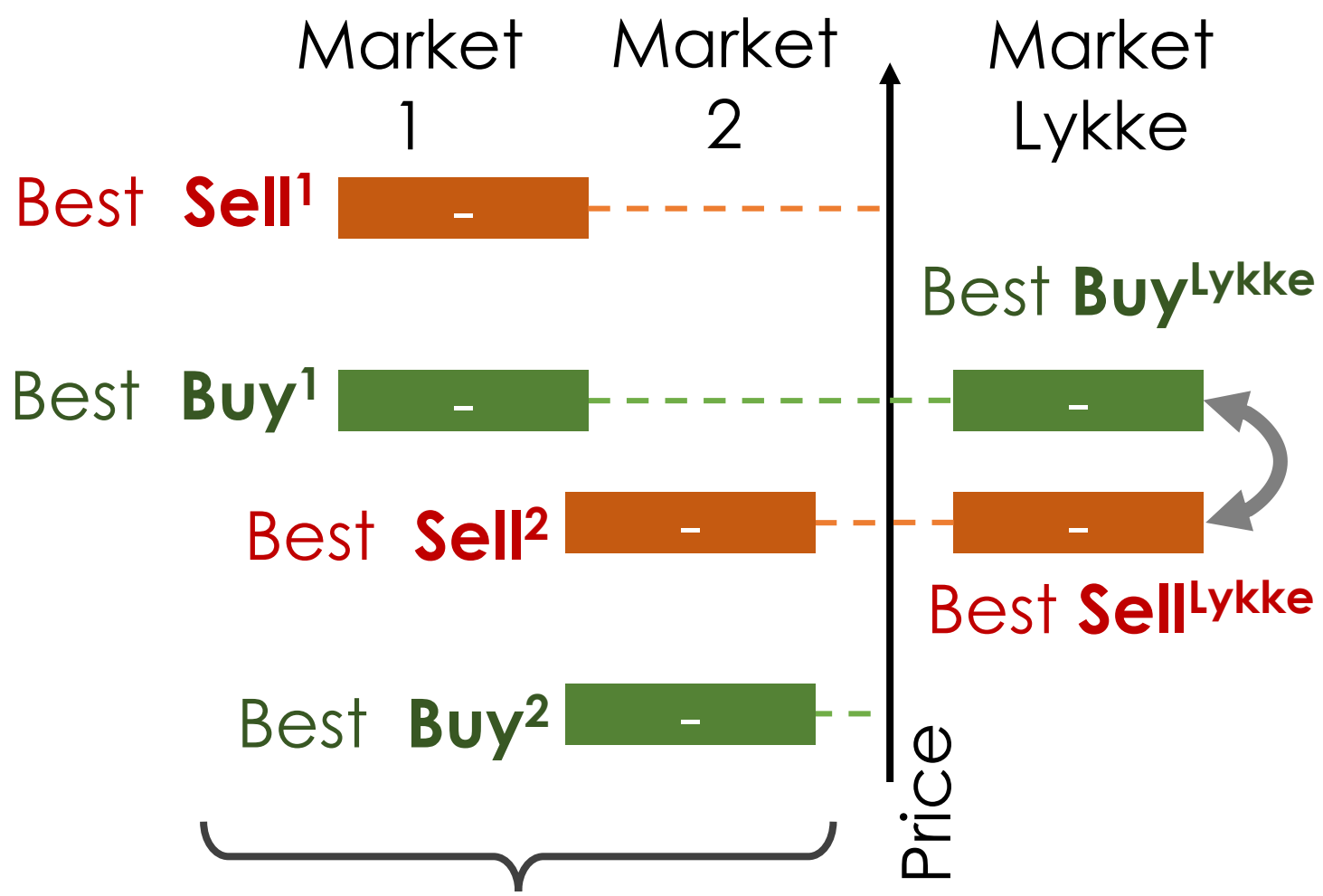


# Smart Routing

# Aggregated Market



# Arbitrage Opportunity – Instant Profit



## Cross-exchange arbitrage indicators



	Bitfinex(e) 3492.6	BitMEX(e) 3416	Bitstamp(e) 3418.32
Bitfinex(e) 3492.7	-	2.25%	2.18%
BitMEX(e) 3416.5	-2.18% 40.9979	-	-0.05% 11.7586
Bitstamp(e) 3422.24	-2.01% 40.9979	0.18%	-
CEX.IO(e) 3488.3	-0.12% 1.5466	2.12%	2.05%

Asynchronous Markets



# LyCI Index. LYCI Utility Token

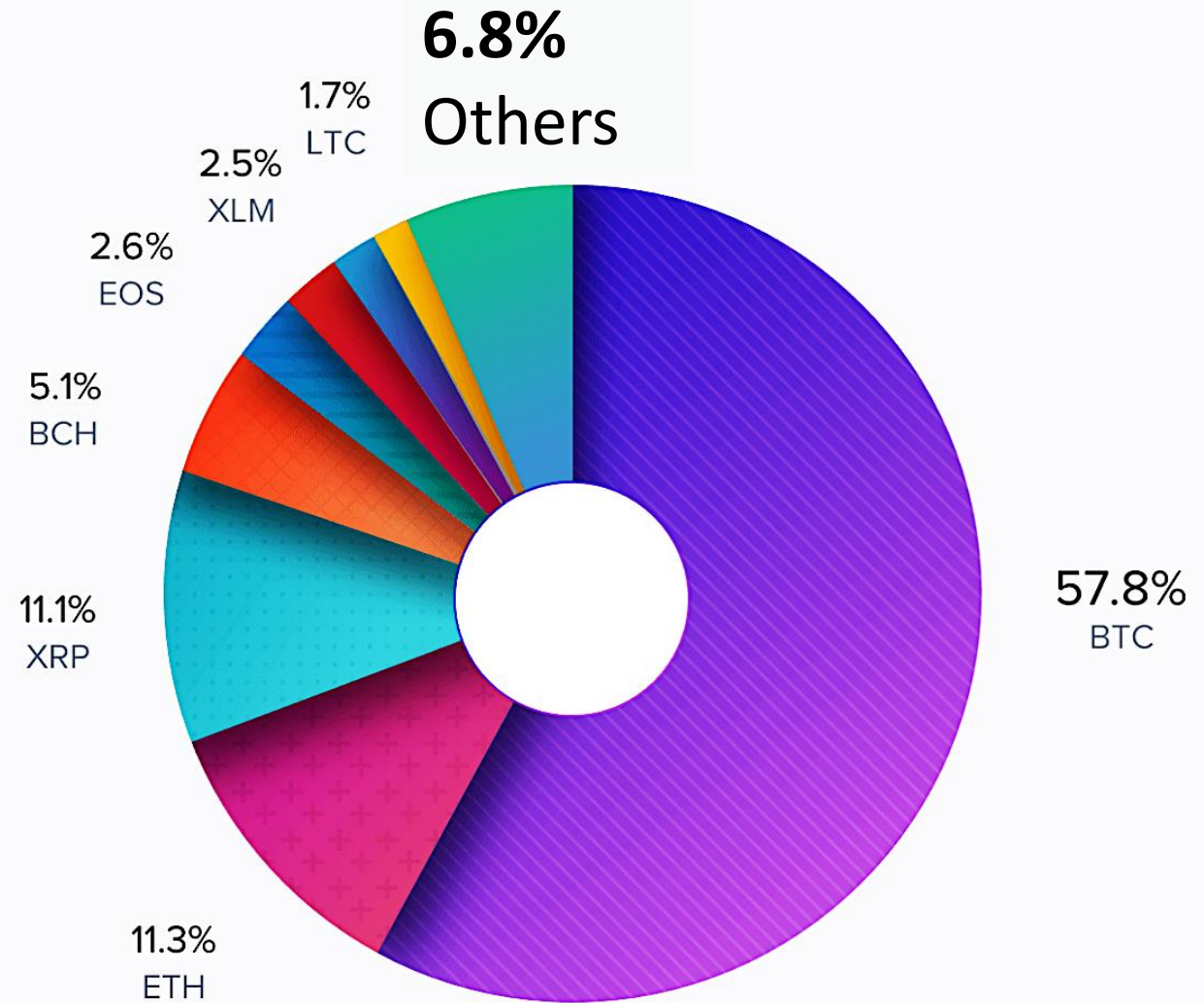
Not sure which crypto is right for you?

**Buy them all with  
Lykke Index**

25 Cryptos – One click

Don't put all your eggs in one basket.

[Start now](#)



# Reducing Price Change Risks. Hedging.



spot



product



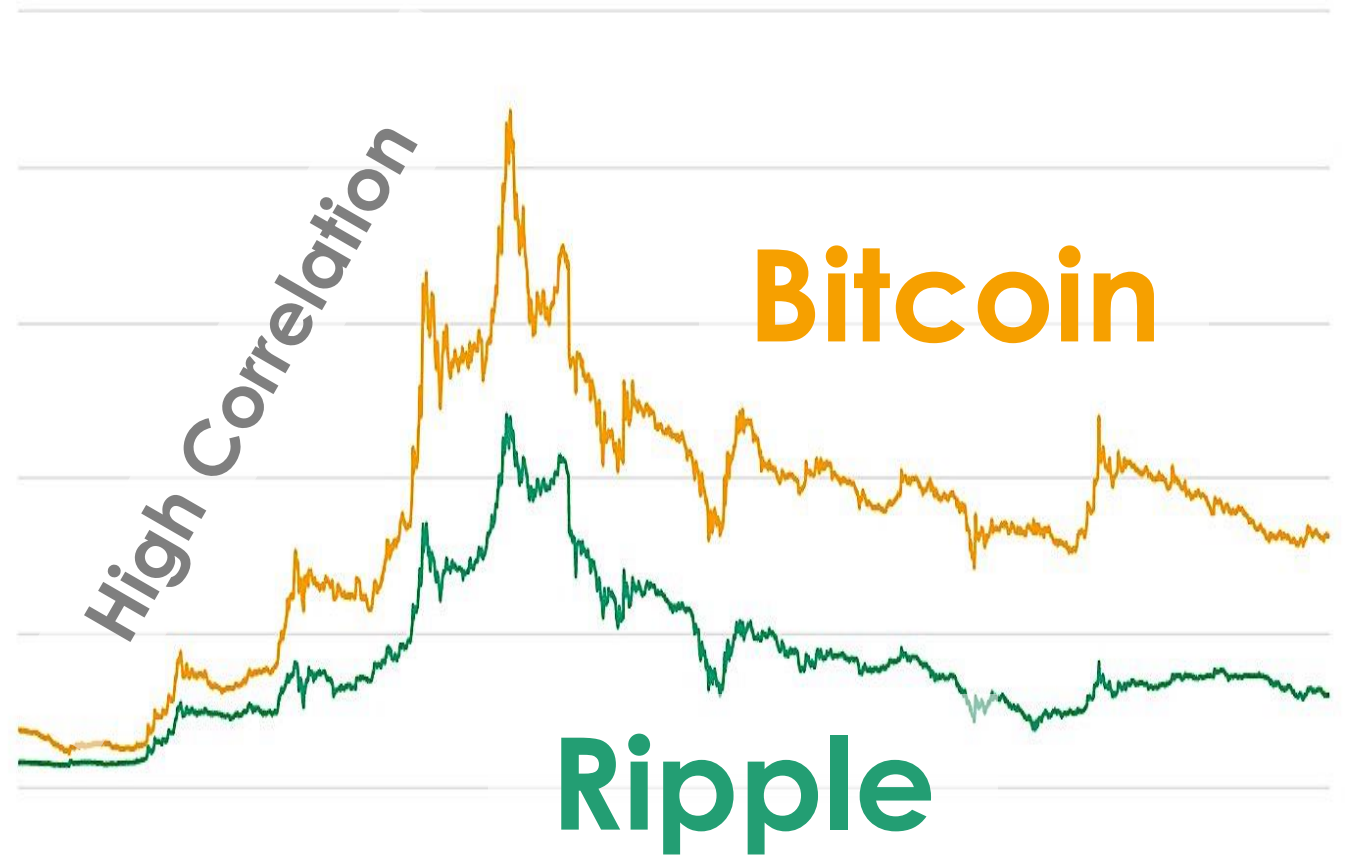
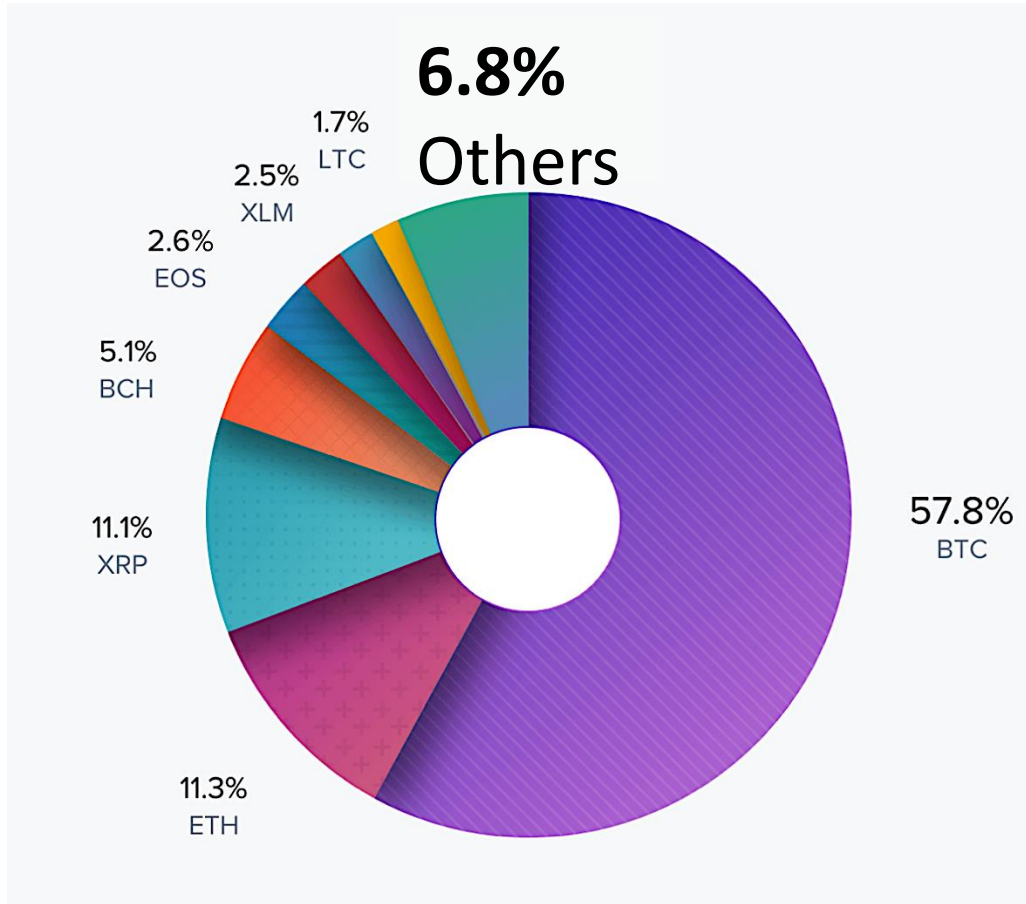
future

Wealth:



# LYCI Token and Proxy Hedging

25 cryptocurrencies, 6 at Lykke Exchange



# Future. Phases of Advanced Development

Blockchain for Finance = **TCP IP** for Internet

- Single use
- Localised use
- Substitution
- Transformation



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