# Digital Investment Management Solutions

Magnum Research Limited
Jun 2020
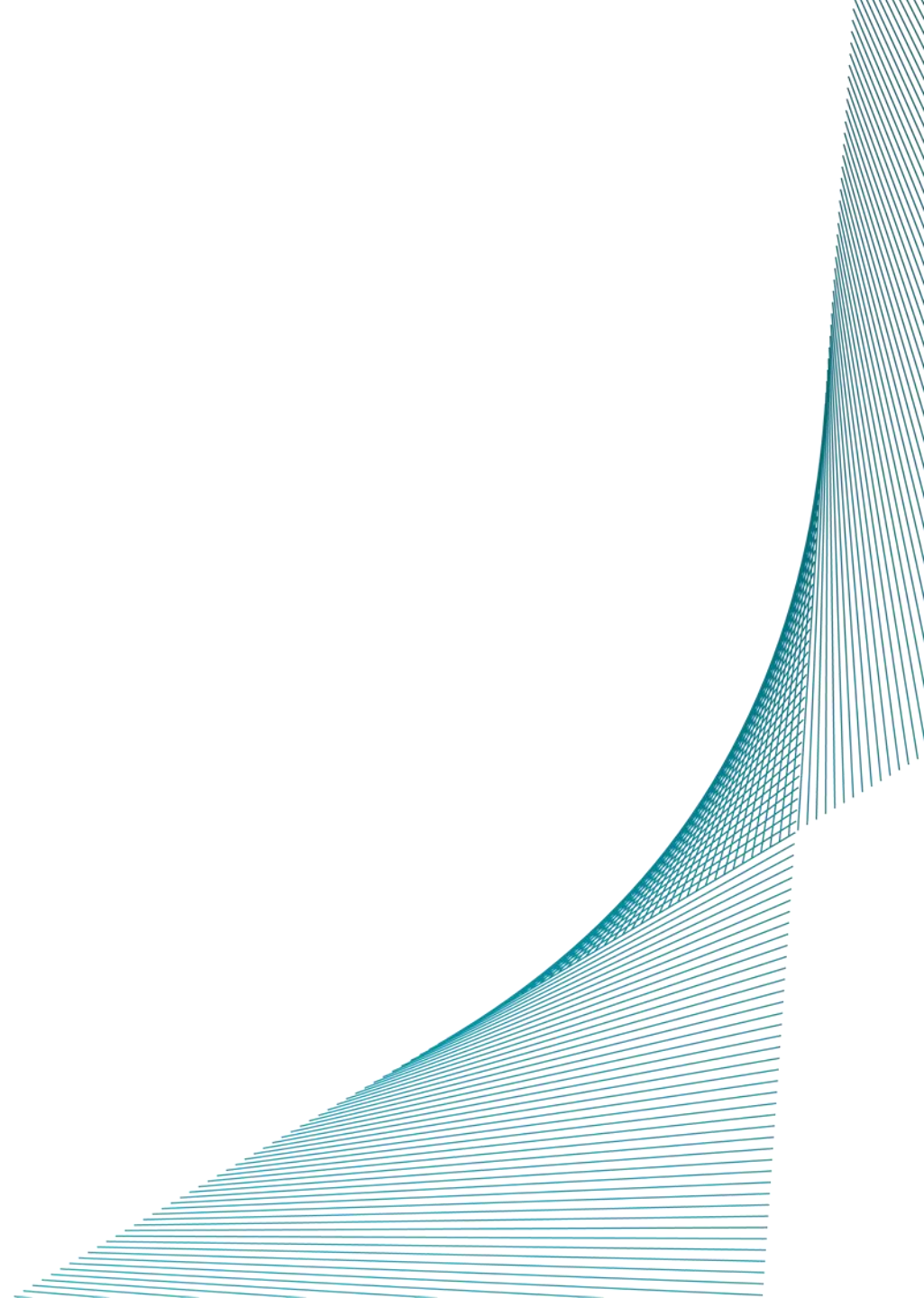
# Democratizing Investment Management

Algorithm

Financial Expertise

IT

A sophisticated **investment engine** that can be adapted in any financial institution to enhance asset & wealth management capabilities.

# Founders

## Kelvin Lei

**Chief Executive Officer**

- 9 years of FICC sales and Trading
- Former Vice President at Deutsche Bank
- Now leads Financial Markets team at AQUMON

## Dr. Don Huang

**Head of Quantitative Research**

- Lecturer and Researcher at HKUST
- Ph.D. in Mathematics from HKUST
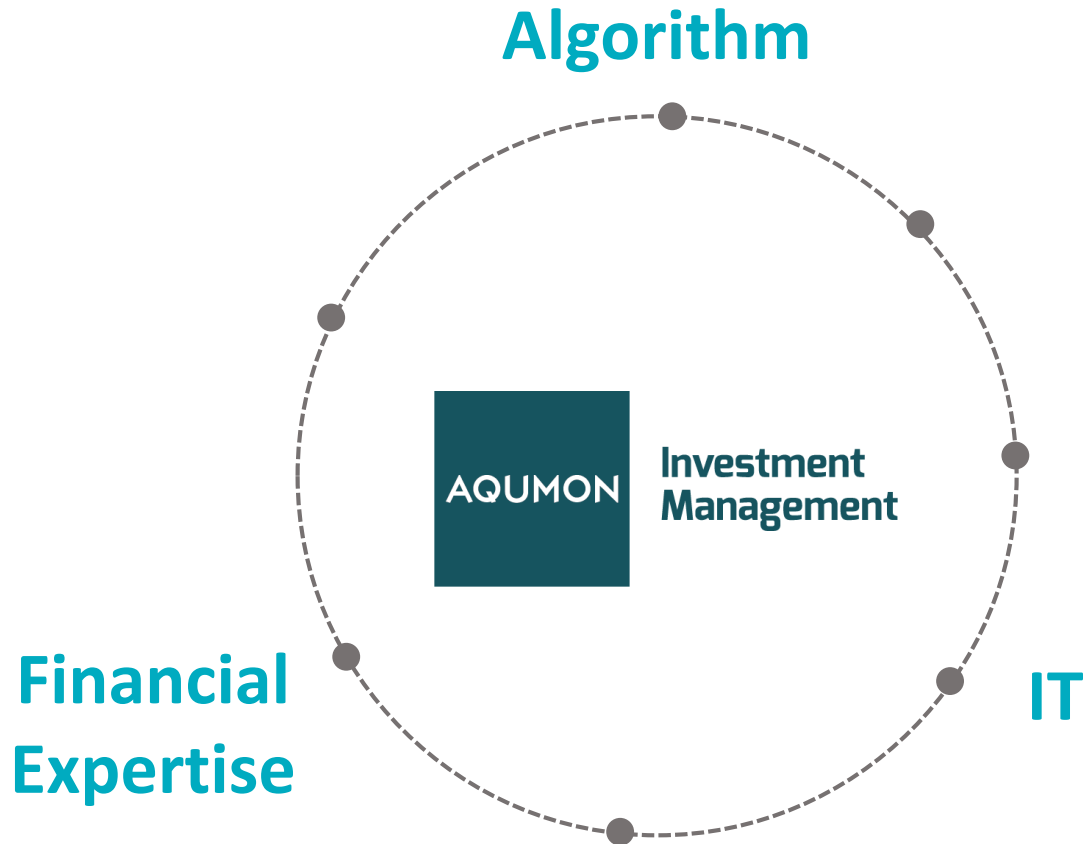- Now leads the Quantitative Research team at AQUMON

# Team: 90+ Talents

**AQUMON** Investment Management

## AI Algorithm

- **A star team of Quantitative Engineers and Data Analysts**

  - 1x PhD in Mathematics

  - 2x PhD in Electronic Engineering

  - 2x PhD in Physics

  - 1x PhD in Finance

  - 5x Master in Financial Engineering

## IT

- **Strong team from Tencent, Ping An Technology, Huawei**

  - Front and back-end software engineers

  - Product managers

  - UX designers

  - QA engineers & DevOps engineers

  - iOS & Android developers

## Investment Committee

- **95+ years and >USD10 bn combined investment experience**

  - Veterans from BlackRock, Goldman, Dymon Asia, BoC, Credit Suisse, Deutsche, UBS

  - Hedge fund managers, quant portfolio managers, macro & fixed income trading head, equity trader

## Business Development

- **Both experienced hires & graduates with degrees from from top tier universities in US, HK & China**

  - Institutional Client Group

  - Wealth Management Group

  - Legal & compliance

  - Accounting & administration

# Shareholders

# License and Regulatory Compliance

AQUMON Investment Management

Licensed in:

Type 1, Type 4, Type 9

Licensed in:

RIA, Qualified Intermediary

Applying for:

PFM License, Public Fund License

In 2017, AQUMON was the 1st independent Robo Advisor accredited by the SFC. In 2019, our partnership with CMB Wing Lung Bank is the 1st case to have entered the reviewing process by HKMA.

Past providers of Independent Assessments including KPMG, PwC and Deloitte

# Milestone

- Established at HKUST
- Released first-generation products **SmartGlobal®**
- **Angel Investor**

香港科技大學
THE HONG KONG
UNIVERSITY OF SCIENCE
AND TECHNOLOGY

- Launched **AQUMON APP**
- Launched China Resources Bank's intelligent investment products **RUN Zhitou**
- **Series A++ Funding**

中银国际附属机构 **BOC** International affiliate
渤海产业投资基金管理有限公司
BOHAI INDUSTRIAL INVESTMENT
FUND MANAGEMENT CO., LTD.

- Established **AI Algorithm Lab** with HKUST

**2018**

**2019**

**2016**    **2017**

- Obtained **Type 1 & 4 Licenses** from SFC
- **Series A Funding**

Alibaba
Entrepreneurs Fund
阿里巴巴創業者基金    戈壁创投

- HK's First Commercial Bank Robo with CMB Wing Lung Bank
- Partnership with **Guangzhou Rural Commercial Bank**
- Robo Advisor with **ICBC Asia**
- Robo Advisor with **BOCI**
- Hong Kong's 1st Insurance Robo Advisor with **AIA**
- Launched **AI Fund** with ChinaAMC
- Obtained **Type 9** License from SFC

# Full Spectrum Algorithm Library

AQUMON Investment Management

Global REITs Strategy

SmartX-ray          SmartRotation

Global FX Trading

**Low Risk**                                                                                              **High Risk**

Fixed Income

Global Asset
Allocation          SmartSwing

Multi-factor
Equity

Delta Hedging

**Bond**                    **Balanced**                    **Equity**          **FX & Derivatives**

# Quantimental Investing
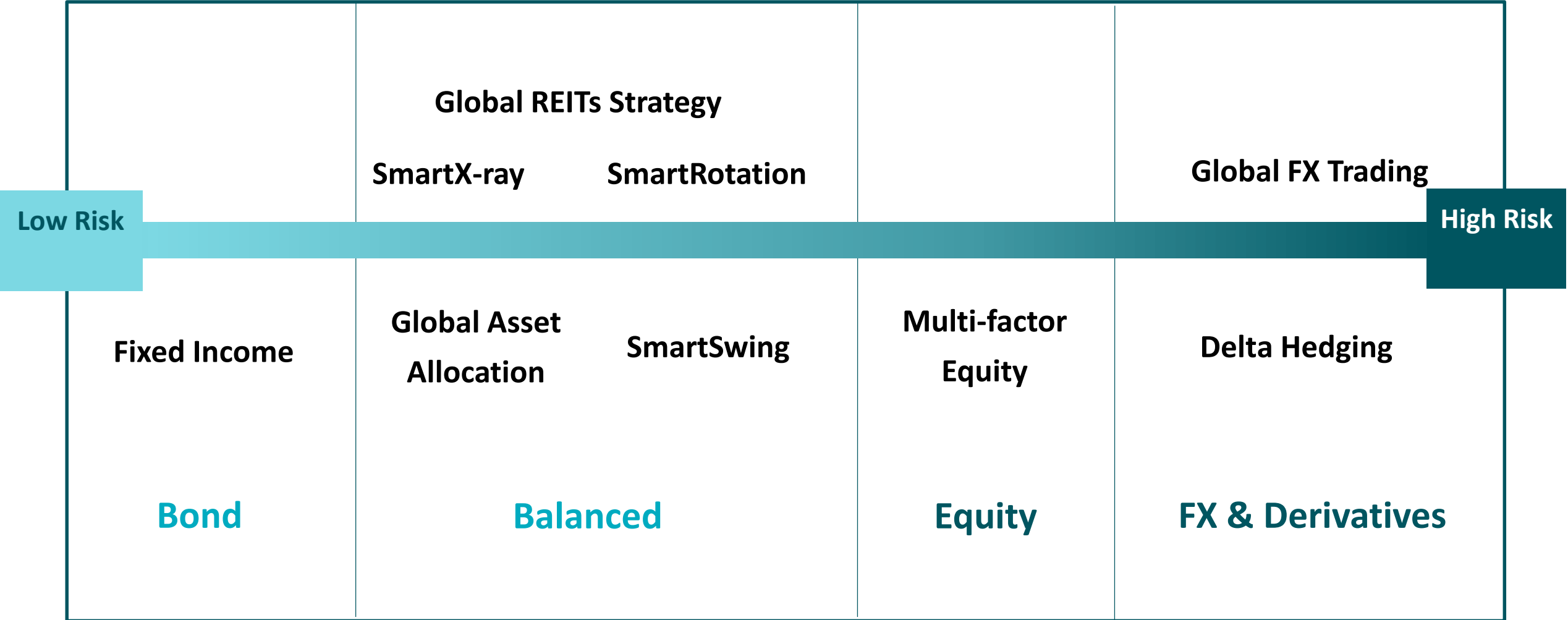
## Traditional Fund Manager

- Fundamental analysis

- 3-rd party data source

- Static factors

- Manual orders

- Limited backtest framework

- Unstable strategy performance

- Legal and admin fees

## AQUMON  Quantimental Strategies

- **Quantitative driven model**

  - Independent data centre
  - Non-static, hidden data patterns via machine learning
  - Robust trading platform to capture alpha signals in a short time
  - Quantitative risk management system, virtual backtest framework for extreme market scenarios

- **Superior strategy performance**

- **Tailored solutions**

- **No legal and admin fees**
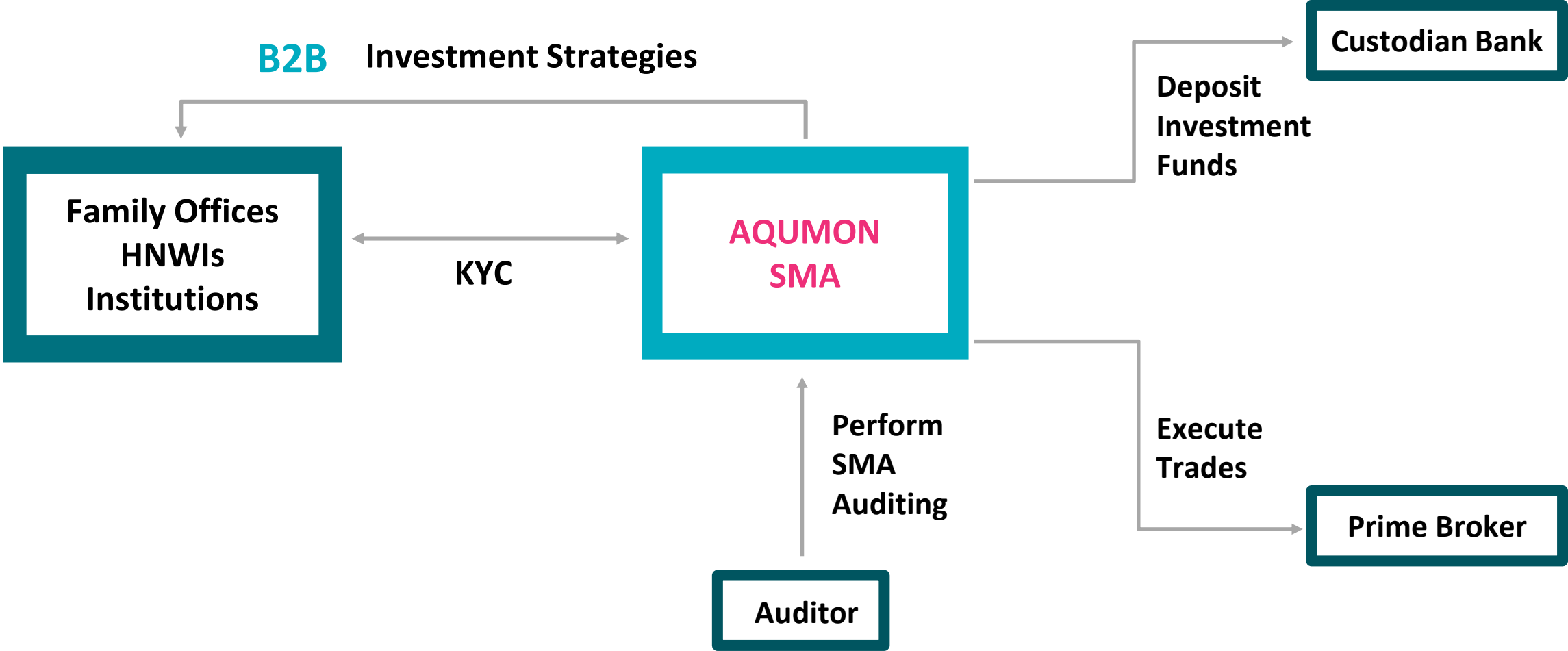
# AI China Alpha Strategy

# Investment Philosophy

Each stock has its own **unique DNA**, expressed in factors; and there are correlations between factors and future returns
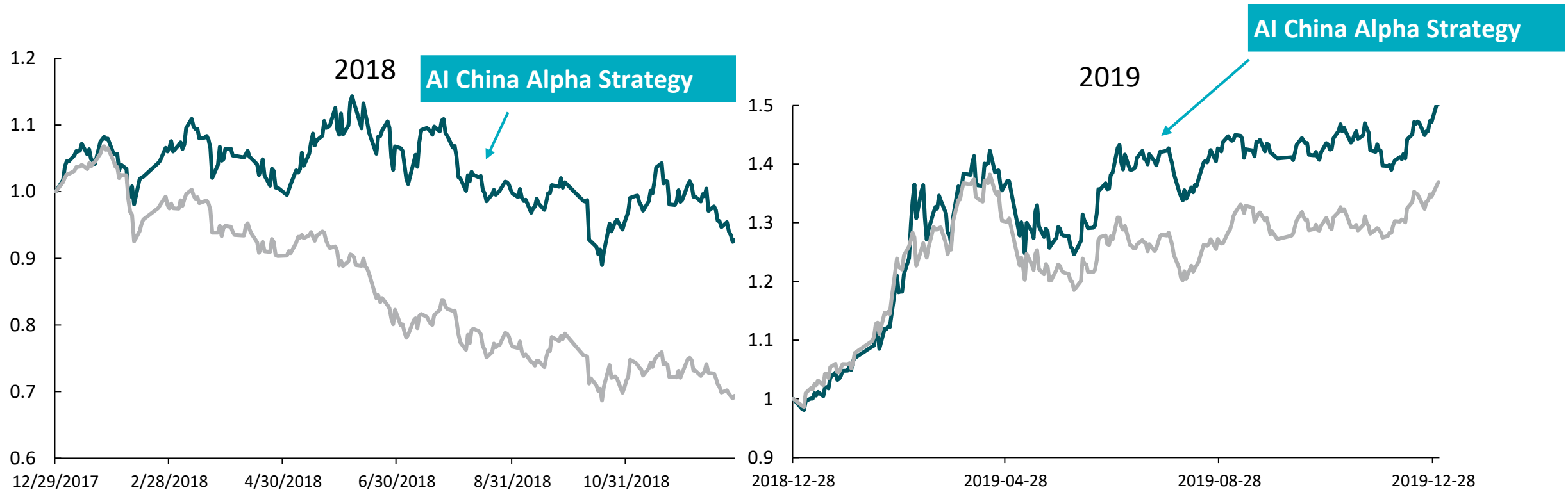
A-share market is **inefficient**; thus, stock prices often deviate from their true values, creating opportunities for alpha strategies

The stock market is **not static**; we realize that effectives factors change from time to time, rather than remain constant
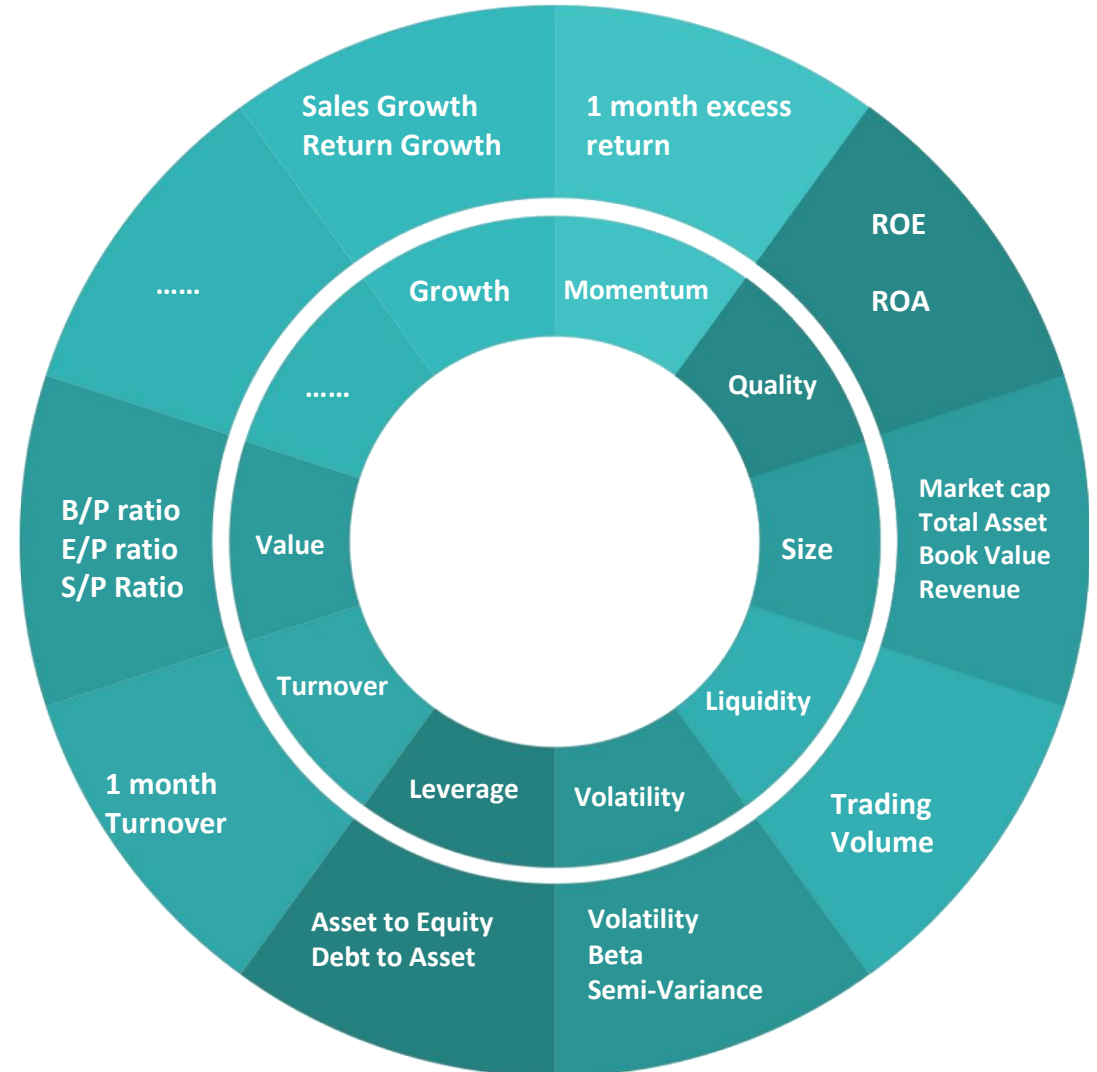
# ACAS 2020 YTD Performance

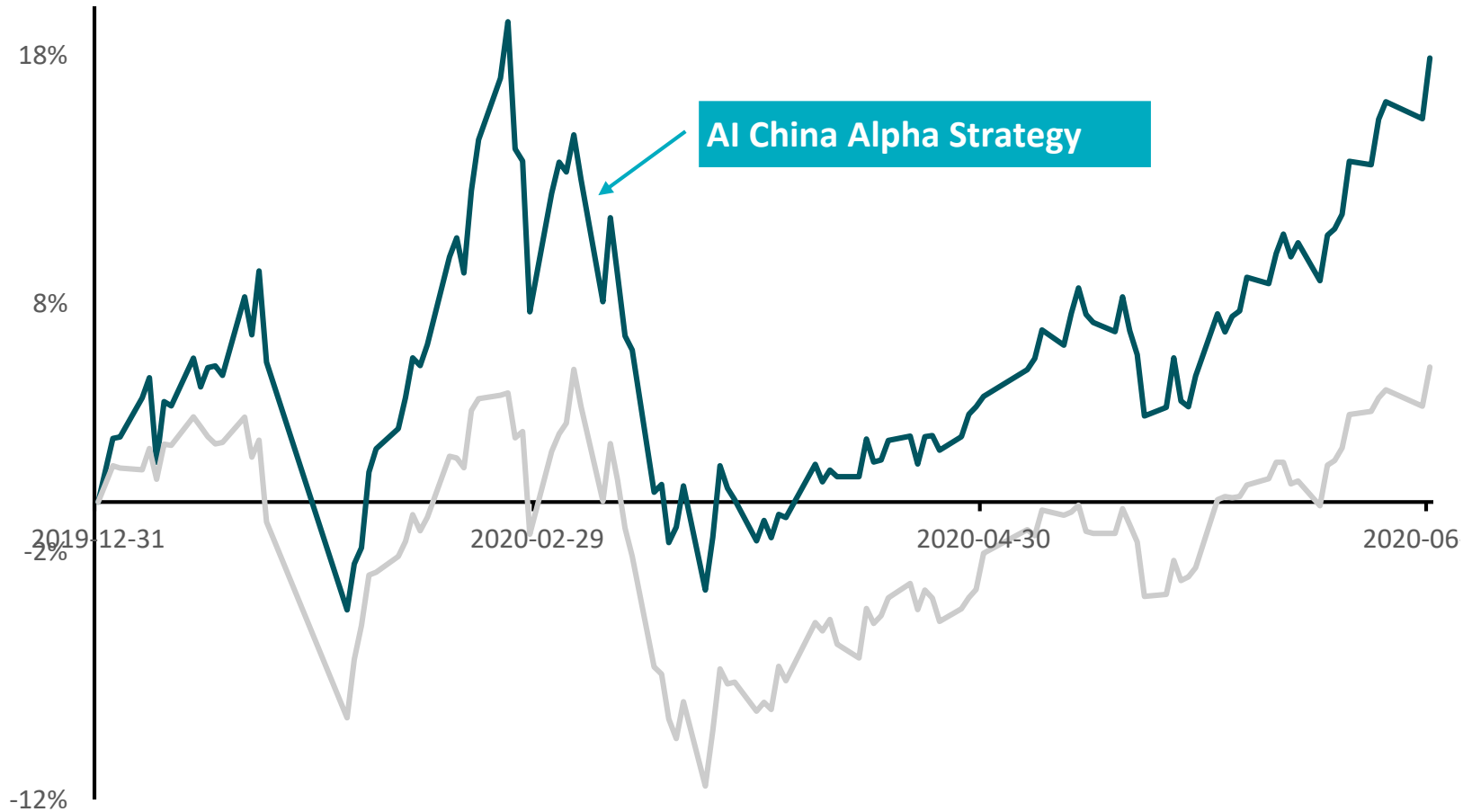**AI China Alpha Strategy vs. MSCI China A Onshore Total Return Index**



AI China Alpha Strategy

**+12.47%**

Alpha in 2020 YTD

Note: The above graph demonstrates performance from 1st January 2020 to 30th Jun 2020. currency in RMB, including transaction cost.

# ACAS (Hedged) Strategy
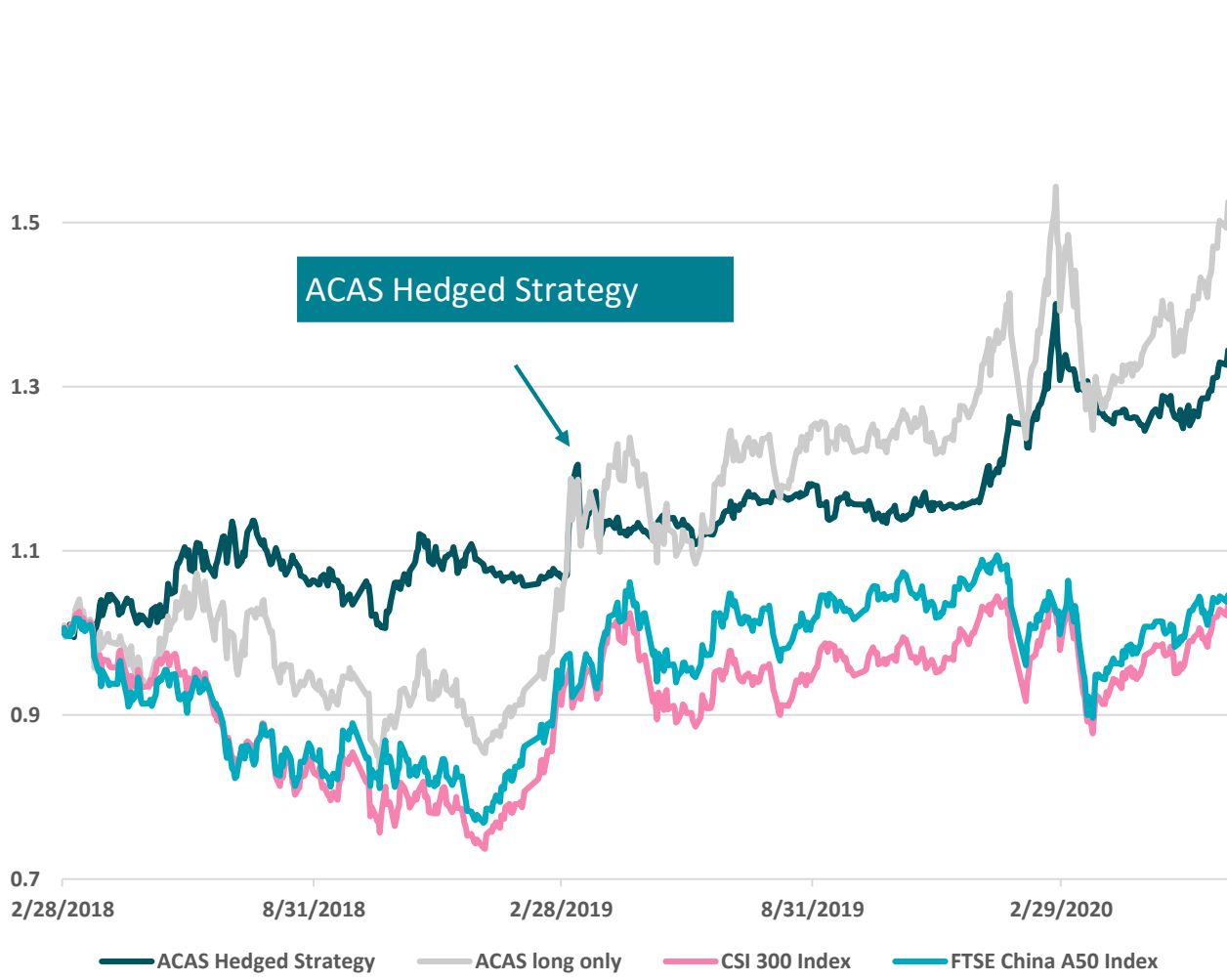


| | Total Return | Annualized Return | Annualized Volatility | Max Drawdown |
|---|---|---|---|---|
| **ACAS Hedged** | **34.45%** | **13.51%** | **14.46%** | **11.03%** |
| ACAS Long Only | 52.51% | 19.81% | 26.14% | 19.20% |
| CSI 300 Index | 3.49% | 1.48% | 21.77% | 28.17% |
| FTSE China A50 Index | 4.64% | 1.96% | 21.90% | 24.49% |

# Stock Pick Example (Jan 2020)

**AQUMON** | Investment Management

Top Holding in Dec 2019 (Weighting: 6.4%)

**Kweichow Moutai Co. Ltd. (600519 CH)**

Sector: **Consumer Staples**

Jan 2020 Return: **-11.01%**

**KWEICHOW MOUTAI CO LTD-A
January Total Return**



**Rebalance**
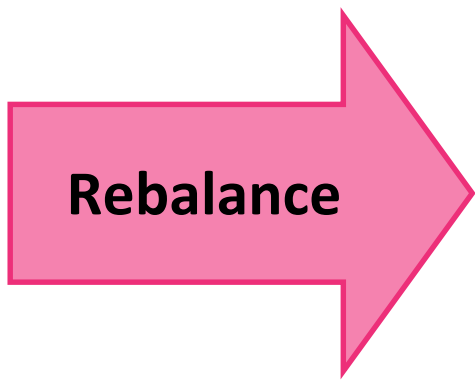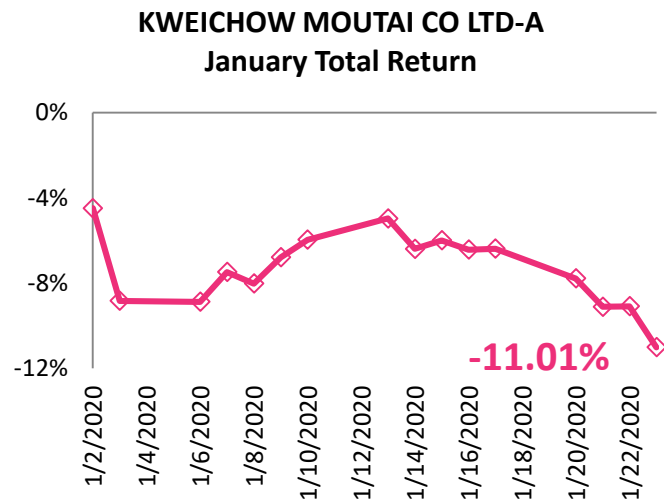
Top Holding in Jan 2020 (Weighting: 4.7%)

**Lens Technology Co. Ltd (300433 CH)**

Sector: **Information Technology**

Jan 2020 Return: **49.64%**

**LENS TECHNOLOGY CO LTD-A
January Total Return**



Source: AQUMON, Bloomberg , data as of January  2020
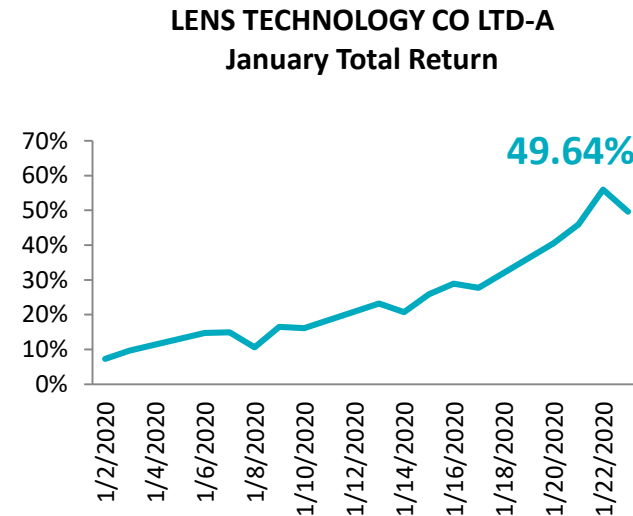
# Global FX Alpha Strategy

# Overview

AQUMON | Investment Management

- **Trading Universe**

  FX spot + NDF

  Global currency

- **Training Data**

  FX daily price

  Macro indicators

- **Commission**

  1 bps for spot & 3 bps for NDF

- **Modeling**

  16 models covering fundamental and technical indicators

**Universe includes but is not limited to:**

| | | | | |
|---|---|---|---|---|
| CAD | SGD | NOK | ILS | INR |
| CHF | USD | PLN | MXN | IDR |
| CNH | ZAR | SEK | RUB | TWD |
| HKD | CZK | TRY | EUR | |
| JPY | DKK | AUD | KRW | |
| NZD | HUF | GBP | THB | |

| | Momentum | Reversion | RSI | KD | MACD-P | CCI | Bollinger-MACD-Divergence | Donchian-Channel | Single-EMA | Single-MA | Double-MA | OLS-Monthly | Monthly-Rank | OLS-Weekly | Weekly-Rank | Equally Weighted |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Momentum | 1.00 | | | | | | | | | | | | | | | |
| Reversion | -0.08 | 1.00 | | | | | | | | | | | | | | |
| RSI | -0.03 | 0.01 | 1.00 | | | | | | | | | | | | | |
| KD | -0.01 | 0.10 | 0.17 | 1.00 | | | | | | | | | | | | |
| MACD-P | 0.33 | -0.06 | 0.13 | 0.01 | 1.00 | | | | | | | | | | | |
| CCI | -0.02 | -0.02 | 0.12 | 0.00 | 0.08 | 1.00 | | | | | | | | | | |
| Bollinger-MACD-Divergence | -0.01 | -0.05 | 0.09 | 0.04 | 0.06 | 0.06 | 1.00 | | | | | | | | | |
| Donchian-Channel | 0.01 | 0.09 | -0.04 | 0.10 | -0.04 | 0.01 | 0.03 | 1.00 | | | | | | | | |
| Single-EMA | 0.00 | -0.04 | 0.06 | 0.05 | 0.05 | 0.11 | 0.07 | -0.03 | 1.00 | | | | | | | |
| Single-MA | -0.02 | 0.01 | 0.11 | 0.09 | 0.07 | 0.16 | 0.09 | -0.02 | 0.26 | 1.00 | | | | | | |
| Double-MA | 0.01 | -0.11 | -0.05 | -0.05 | 0.02 | -0.02 | -0.02 | -0.03 | 0.01 | -0.02 | 1.00 | | | | | |
| OLS-Monthly | 0.09 | 0.05 | -0.03 | 0.02 | 0.08 | 0.06 | 0.05 | 0.02 | 0.02 | 0.01 | 0.01 | 1.00 | | | | |
| Monthly-Rank | -0.01 | 0.09 | 0.04 | 0.05 | 0.05 | 0.06 | 0.03 | 0.01 | 0.06 | 0.08 | -0.03 | 0.46 | 1.00 | | | |
| OLS-Weekly | 0.04 | 0.03 | -0.03 | 0.00 | -0.04 | 0.01 | -0.02 | 0.04 | 0.01 | -0.09 | 0.00 | 0.29 | 0.14 | 1.00 | | |
| Weekly-Rank | 0.05 | 0.13 | -0.04 | 0.04 | 0.04 | 0.05 | -0.04 | 0.03 | 0.03 | 0.00 | -0.03 | 0.32 | 0.39 | 0.20 | 1.00 | |
| Equally Weighted | 0.43 | 0.28 | 0.41 | 0.45 | 0.49 | 0.31 | 0.25 | 0.26 | 0.27 | 0.40 | 0.10 | 0.10 | 0.10 | 0.00 | 0.09 | 1.00 |

# Performance Overview

Strategy Performance 2013 - 2020
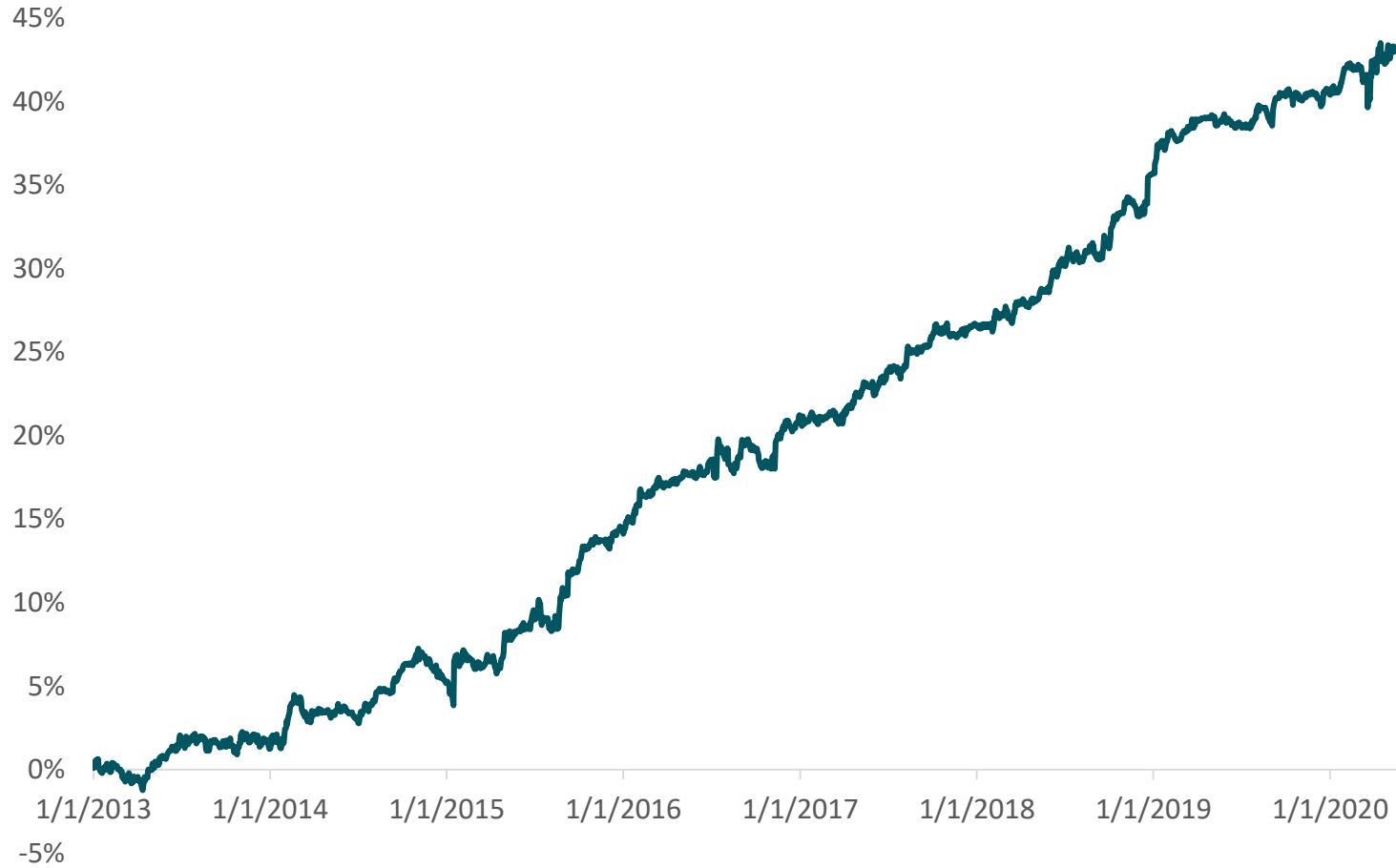


| Metrics | Performance |
|---|---|
| Total Return | 43.59% |
| Daily Return | 0.02% |
| Annualized Return | 5.68% |
| Daily Volatility | 0.21% |
| Annualized Volatility | 3.33% |
| Maximum Drawdown | 3.40% |
| Average Drawdown | 0.45% |
| Sharpe Ratio | 1.70 |

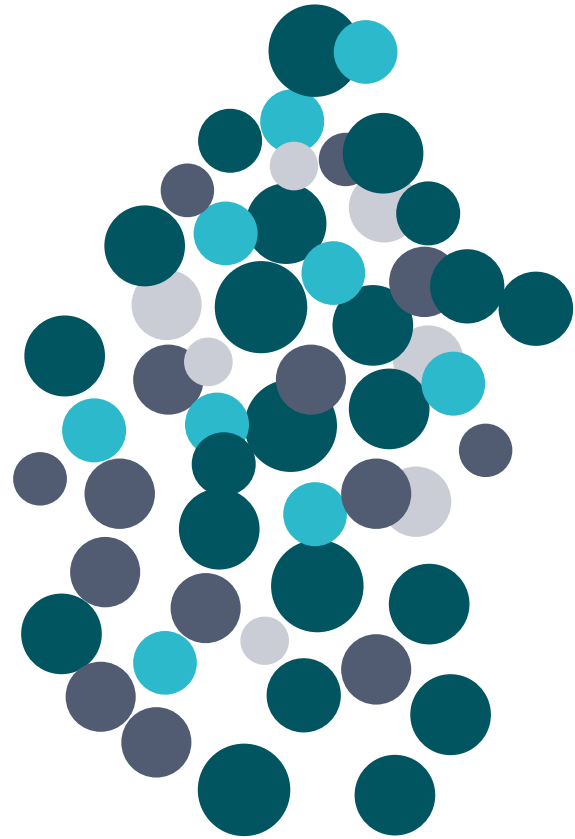| Time | 2012.12.31-2020.05.29 |
|---|---|
| Number of Trading Days | 2192 |

# AQUMON Global SmartREITs

# Why invest into REITs through quantitative method

1.  There are 1,492 REITs across 46 markets

2.  Many factors affect the REITs future returns, including macro-economic factors, trading factors, and fundamental factors.

3.  Some countries/some sectors are not suitable for real estate investment

# Multi Factor Model to Select the Best REITs

① **Market-Level Factors**
- **Growth**
- **Inflation**
- **Profitability of Overall Market**

② **Trading Factors**
- **Momentum**
- **Liquidity**
- **Volatility**

③ **Fundamental Factors**
- **Organic Growth**
- **External Growth**
- **Valuation**
- **Debt payment capability**
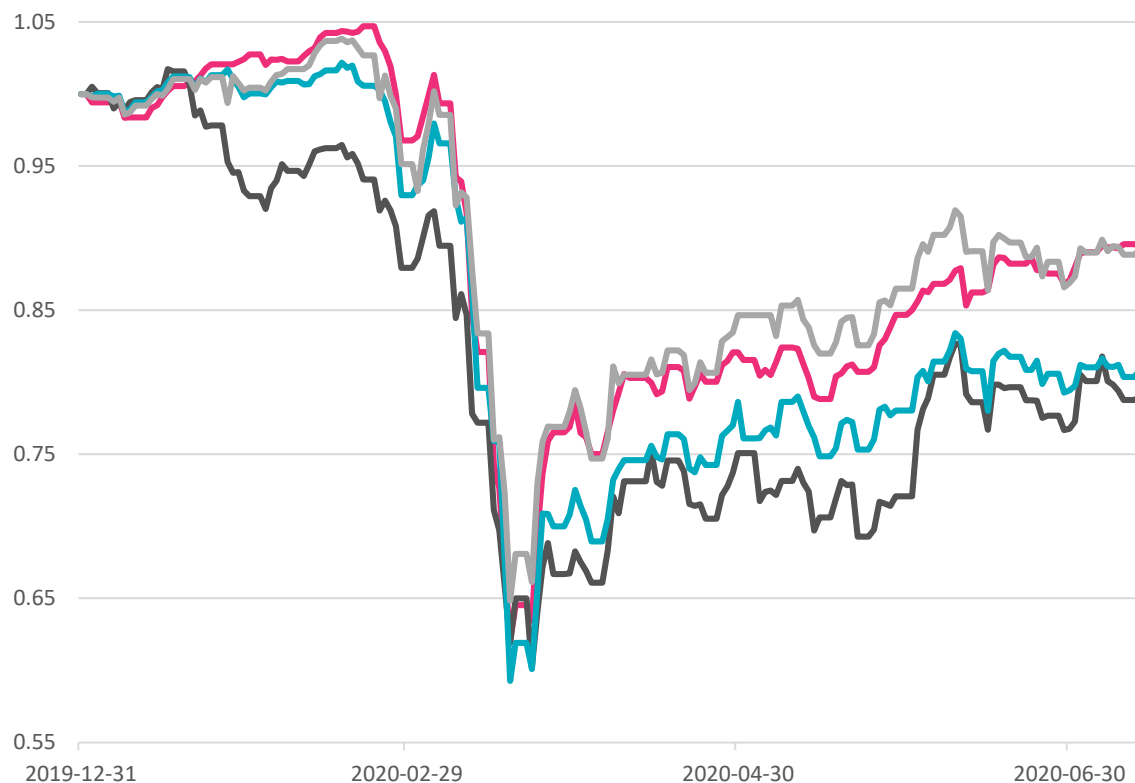- **Analyst Prediction**

**1,492** **REITs across 46 markets**

**REITs Portfolio**

# SmartREITs Strategy Performance

AQUMON | Investment Management

Dec. 31, 2019 – June 30, 2020



| | YTD | Max drawdown | Sharpe ratio |
|---|---|---|---|
| Smart_REITs | -10.58% | -40.75% | -0.49 |
| EASTSPRING INVESTMENTS - ASIAN PROPERTY SECURITIES (USD) A | -21.02% | -40.78% | -0.83 |
| FIRST STATE ASIAN PROPERTY SECURITIES FUND (USD) CLASS I DIS | -19.12% | -41.98% | -0.74 |
| JANUS HENDERSON HORIZON FUND - ASIA-PACIFIC PROPERTY EQUITIES FUND (USD) A2 | -10.80% | -37.55% | -0.44 |

JANUS HENDERSON HORIZON FUND - ASIA-PACIFIC PROPERTY EQUITIES FUND (USD) A2: investing at least 75% of its total assets in the quoted equities of companies or Real Estate Investment Trusts (or their equivalents) having their registered offices in the Asia-Pacific Region and listed or traded on a regulated market.
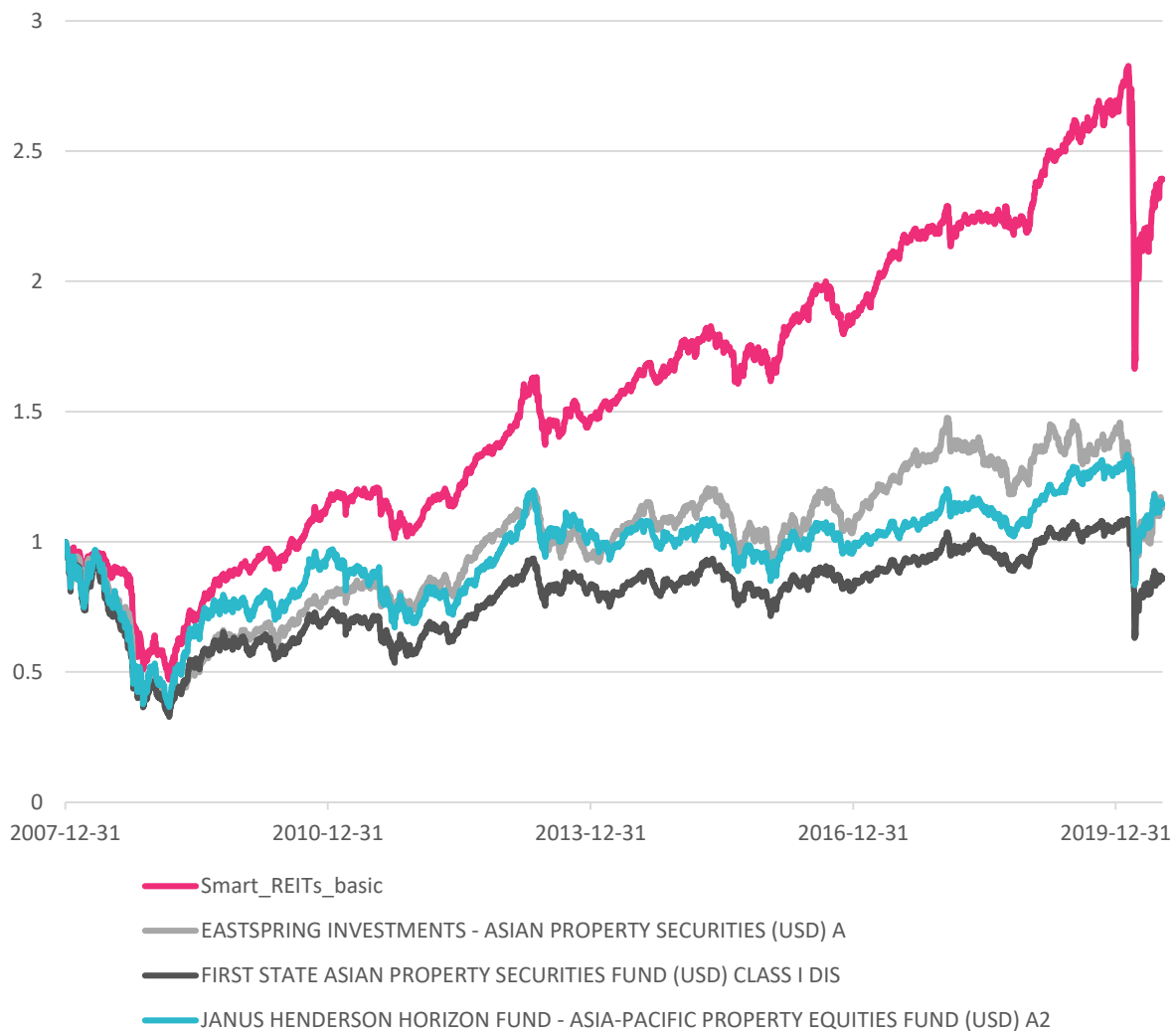
— Smart_REITs
— EASTSPRING INVESTMENTS - ASIAN PROPERTY SECURITIES (USD) A
— FIRST STATE ASIAN PROPERTY SECURITIES FUND (USD) CLASS I DIS
— JANUS HENDERSON HORIZON FUND - ASIA-PACIFIC PROPERTY EQUITIES FUND (USD) A2

# SmartREITs Strategy Performance

Dec. 31, 2007 – June 30, 2020



| | Total return | Max drawdown | Annualized return | Annualized volatility | Sharpe ratio |
|---|---|---|---|---|---|
| Smart_REITs | 183.44% | -49.41% | 5.96% | 11.76% | 50.67% |
| EASTSPRING INVESTMENTS - ASIAN PROPERTY SECURITIES (USD) A | 3.32% | -65.21% | 0.18% | 15.40% | 1.18% |
| FIRST STATE ASIAN PROPERTY SECURITIES FUND (USD) CLASS I DIS | -16.92% | -67.28% | -1.02% | 17.10% | -5.99% |
| JANUS HENDERSON HORIZON FUND - ASIA-PACIFIC PROPERTY EQUITIES FUND (USD) A2 | 11.16% | -63.45% | 0.59% | 17.18% | 3.43% |

— Smart_REITs_basic

— EASTSPRING INVESTMENTS - ASIAN PROPERTY SECURITIES (USD) A

— FIRST STATE ASIAN PROPERTY SECURITIES FUND (USD) CLASS I DIS

— JANUS HENDERSON HORIZON FUND - ASIA-PACIFIC PROPERTY EQUITIES FUND (USD) A2