

For Professional investors only.

Quant Redefined

Combining customised quantitative
and fundamental research to deliver
truly active ETF portfolios

CT QR Series Active ETFs



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Columbia Threadneedle Investments

Who we are: Investing smarter for the world you want



Four key strengths to pursue better outcomes for our clients:



We are globally connected



We are intense about research



We have a responsible ethos



We focus on continuous improvement

Business at a glance

Whatever world you want, our purpose is to help you achieve it



\$675 billion
Assets under management



Approximately 550
Investment professionals



18
Countries



200+
Research analysts



Parent company:
Ameriprise Financial Inc. is a Fortune 500 company and one of the largest wealth and asset managers in the US

Should concentrated markets cause concern for passive index investors?

- Across all asset classes, **33% of UK assets under management** are run passively as of 2023, up from ~20% in 2005
- Only **7 stocks** represent over **20%** of the MSCI ACWI
- **65% of the MSCI ACWI** is in **US equities** where the fewest stocks drive the greatest returns
- 8 US tech stocks accounted for **60% of the gains since Liberation Day**



Source: FT.com, April 2024

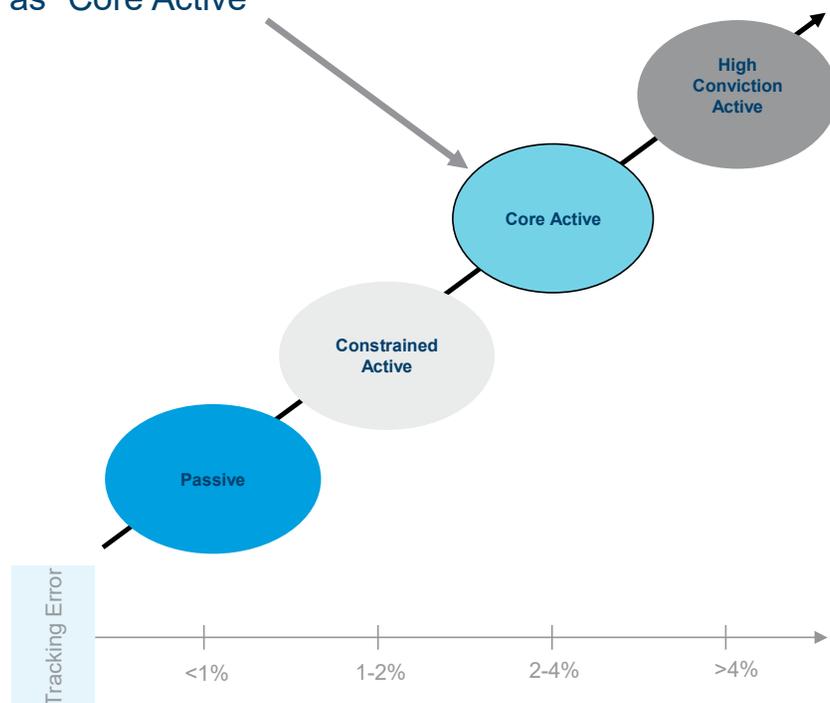
Is 2026 the turning point where markets show a greater dispersion of returns ?

Active ETFs

Finding the Sweet Spot for Alpha in an ETF wrapper

Active ETFs differ by design:

Tracking error sweet spot for Active ETFs lies at 2–4%, as “Core Active”



For illustrative purposes only and subject to change.
Source: FondsConsult as of October 2025.

It's all about risk-adjusted returns

- **Optimal Tracking Error (2–4%):** Stock selection drives alpha but portfolio constructed as benchmark-aware.
- **Diversification with Discipline:** Demonstrates conviction without excessive benchmark deviation.
- **Balanced Alpha Potential:** Higher tracking error than constrained active but avoids concentration risk of conviction strategies.
- **Benefits of CT Active ETFs:** Designed to deliver true alpha while maintaining the “bonus” features of an ETF;
 - *Transparency* (rules-based, daily portfolio x-ray, notification of holdings changes, execution costs)
 - *Liquidity* (intra-day trading, market close or NAV)
 - *Cost efficiency* (scalability of vehicle across jurisdictions, client transaction costs borne outside the fund, capped OCF)

Delivering Alpha for Cost Sensitive Clients

Columbia Threadneedle Investments

Consistently delivering value for clients



Introducing CT QR Series Active ETFs' strategy

- A new range of truly active core strategies, driving alpha through strong stock conviction in a benchmark aware approach
- Leveraging our fundamentally informed quant modelling platform and expansive global research capability
- Portfolio Manager, Chris Lo has over 25 years of experience and runs our equivalent and highly successful US ETF offering
- A proven customised investment capability we have conviction in, now offered to UK and European clients

QR Series at a glance



4 Active Equity ETFs

Global, US, European and EM



30-40%
Active Share

2-4%

Tracking Error



Article 8
aligned



3 exchange listings

LSE and Xetra, SIX Swiss Exchange



20 - 30bps OCF



Information ratio*

Top quartile over 5 years

For illustrative purposes only and subject to change.

Information ratio references a live track record of our US domiciled ETF deploying a similar investment strategy. Source: Morningstar, Columbia Threadneedle, 31.12.25

Quant Redefined strategy Investment process overview

- Incorporates our proven **customised** quantitative model to analyse and rate stocks
- The quantitative model objectively rates every constituent in the index and helps to **avoid style bias**
- Fundamental analysis is **complementary** in its outlook and dynamic insight



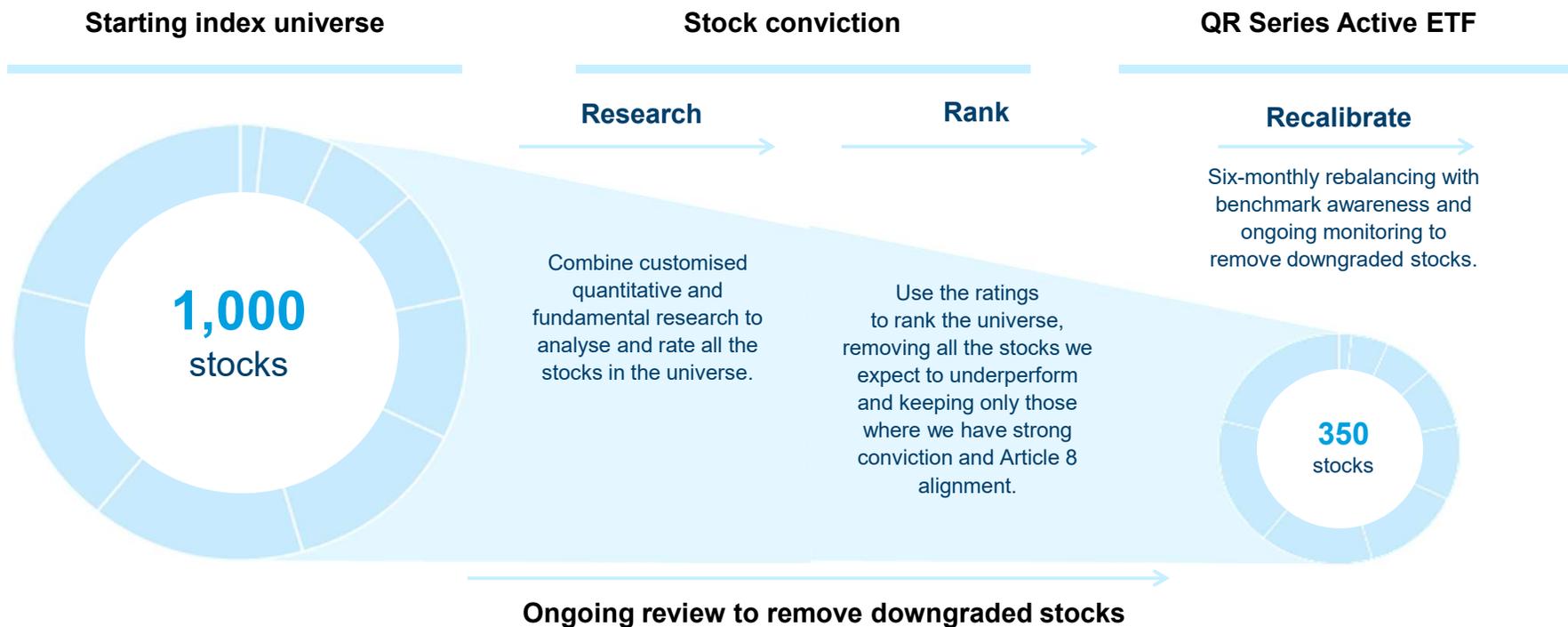
- Takes the ratings to rank the universe and **exclude stocks we expect to underperform**
- Exclusions to meet Article 8 alignment
- The ratings provide **strong stock conviction** about what to include in the portfolio

- Market cap weight our chosen holdings, minimise sector biases and ensure Article 8 alignment
- Repeat every six months to maintain **benchmark-aware** and minimise transaction costs
- **Quick response** to potentially exclude any downgraded stocks between rebalancing periods

CT QR Series Active ETFs

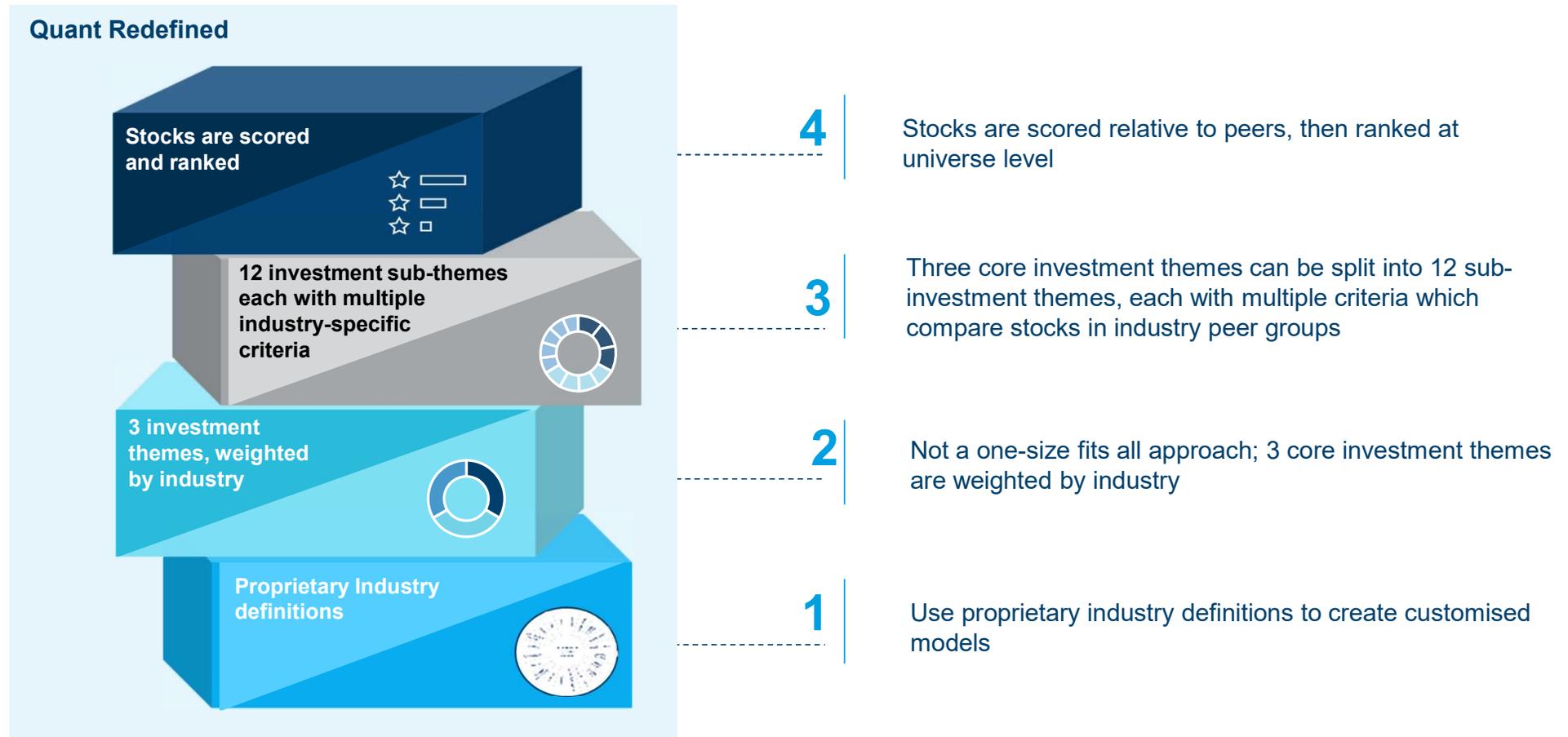
Strong conviction through robust and ongoing analysis

Starting with the index, we use our sophisticated and customised Quant model and fundamental research to remove stocks we believe will under-perform and realign sector allocation to benchmark



Quant Redefined

Multi-layered and customised Quant model helps to identify alpha



Quant Redefined

Step 1. Use proprietary industry definitions to create customised models



- Fundamentally-derived custom groupings help improve the fairness of company comparisons
- Stock selection signals can be broadly applicable and used in many industries or be industry specific
- Stocks are ranked relative to their industry peers
- **Industry-specific models** enhance stock selection by using more relevant metrics

Biotechnology *

*We do not provide quantitative ratings for Biotechnology stocks.

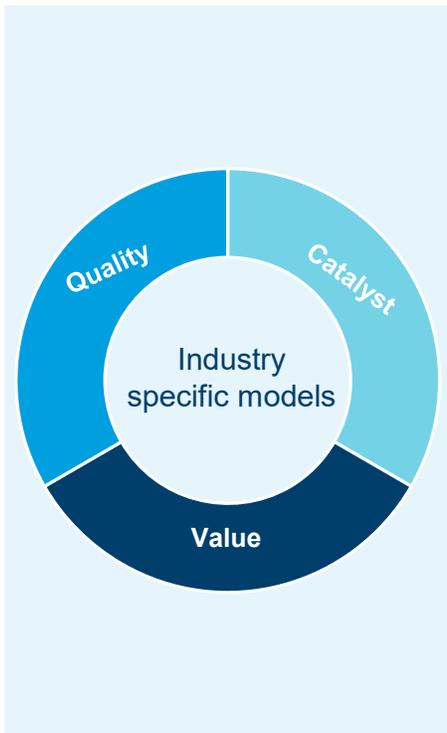
**LC: Large cap

***SC: Small cap

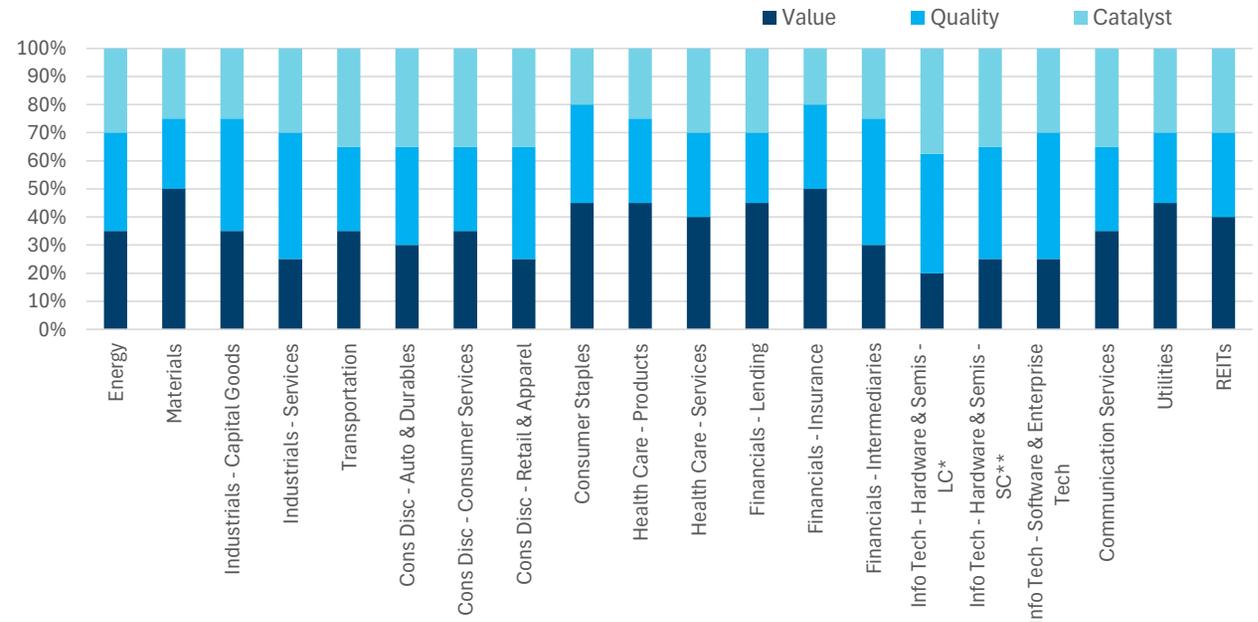
For illustrative purposes only. Example for current US Equity market defined industries.

Quant Redefined

Step 2. Not a one-size fits all approach; 3 core investment themes are weighted by industry



- There are variations in model weight allocations across different industries
- The weights of these three themes vary by industry to reflect the return drivers of each
- The average weights for Value, Quality and Catalyst are 37%, 34%, and 29%, respectively



Source: Columbia Threadneedle Investments, as of 31 December 2025. For illustrative purposes only. Example uses current US Equity market models.

*LC: Large cap

**SC: Small cap

Quant Redefined

Step 3. Three core investment themes represent 12 sub-investment themes, each with multiple criteria which compare stocks in industry peer groups

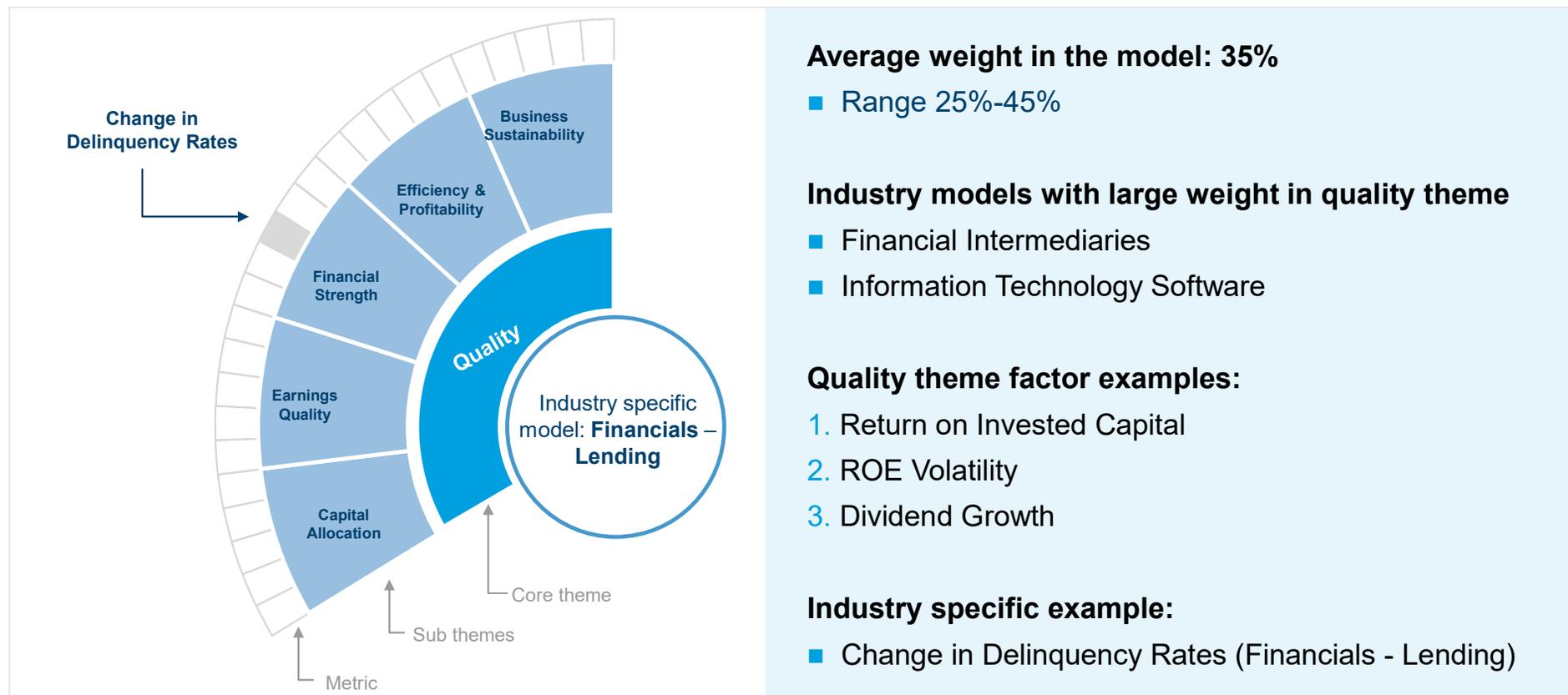


- 12 Investment sub-themes drive our industry-specific stock ranking
- Companies are scored relative to peers (using GICS¹) to align sector exposure to benchmark

1. The Global Industry Classification Standard (GICS®)

Illustration: Financials Lending Model – Quality theme

Low risk, capital discipline and profitability are preferred



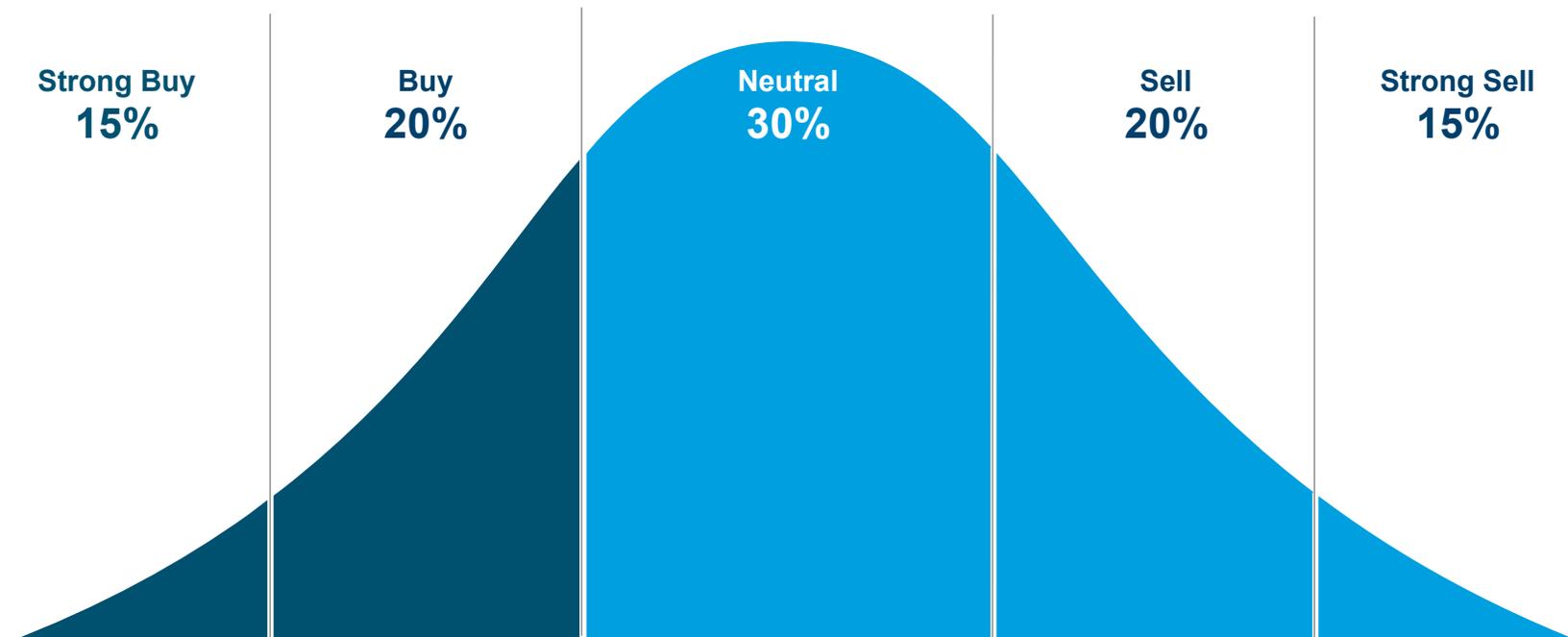
Quant Redefined

Step 3. Three core investment themes represent 12 sub-investment themes, each with multiple criteria which compare stocks in industry peer groups

Model Groups	Metric Examples	Investment Sub-Theme	Sub-Theme Weight (%)	Number of Sub-Themes
Communication Services	Shared Analyst Momentum	Price Momentum	15	11
Consumer Discretionary:				
Autos & Durables	EBITDA-to-Enterprise Value	Cash Flow Yield	15	10
Consumer Services	Text-based Earnings Response Model	Business Momentum	15	8
Retail & Apparel	Company Filing Similarity	Business Momentum	20	8
Consumer Staples	Total Yield	Shareholder Yield	15	11
Energy	Normalized FCF-to-Enterprise Value	Cash Flow Yield	20	10
Financials:				
Insurance	Change in Accounts Receivable	Earnings Quality	20	8
Intermediaries	Security Lending Utilization Rate	Informed Trading	5	9
Lending	Change in Local Loss Reserve	Earnings Quality	5	9
Health Care:				
Products	Net External Financing	Capital Allocation	10	7
Services	Operating Liability Leverage	Efficiency/Profitability	15	6
Biotechnology	N/A	N/A	N/A	N/A
Industrials:				
Capital Goods	Abnormal Inventory Change	Efficiency & Profitability	15	10
Services	Text-based Industry Momentum	Price Momentum	10	10
Transportation	Revenue Growth Stability	Business Sustainability	10	10
Information Technology:				
Hardware & Semiconductor	Revenue Guidance Surprise	Business Momentum	18	11
Software & Enterprise Tech	Rule of 40	Efficiency & Profitability	15	12
Materials	Gross Profit-to-Enterprise Value	Deep Value	15	7
Real Estate	Adjusted Funds from Operations Yield	Earnings Yield	10	10
Utilities	Equity Rate Base / Price	Deep Value	20	10

Quant Redefined

Step 4. Stocks are scored relative to peers, using the multiple criteria most relevant to their industry then ranked at universe level



Quant Redefined

Quant model outputs



Annualised excess returns of quant ranked stocks over the last 20 years (%)



Source: Columbia Threadneedle Investments, 31/01/2004 to 30/06/2025. Returns are annualised. The above graph shows that the quantitative model has been effective in ranking stocks according to their performance potential. Securities of the Russell 1000 index are ranked on a six monthly-basis into five categories and excess return is measured against the median performance of all securities ranked over the period. Model rankings are a single consideration in the investment process and do not solely dictate portfolio holdings. These figures do not represent performance of any product or managed account strategy. QR Series strategy rebalances every six months.

The strengths of our Quantitative research approach



1

Custom-built investment signals

- Incorporate fundamental expertise in signal construction
- Apply industry specific drivers in model construction

2

Close collaboration with fundamental teams

- Gain industry insights and source systematic investment ideas
- Verify investment thesis and understand the potential downside risks

3

Well grounded research practice

- Blend statistical inference and expert judgment
- Analyse factor and model behaviour holistically

4

Robust platform and high-quality data

- Establish a streamlined production and research system
- Utilize comprehensive data including fundamentals, estimates and pricing
- Combine methodical data cleaning with diligent oversight

Columbia Threadneedle Quantitative model



Established over **20 years** ago



Jason Wang

Head of Quantitative Research
24 years industry experience



Team of **6** Quantitative Analysts informed by **124** Fundamental Research Analysts



Underpins **>\$29 Billion** across Columbia Threadneedle equity strategies



Model evolves in conjunction with research teams, advancement of data sourcing and academic literature

Quant Redefined

CT QR Series Active ETF strategy

Portfolio Construction

Investment process

Research



Blending the very best of our global research platform



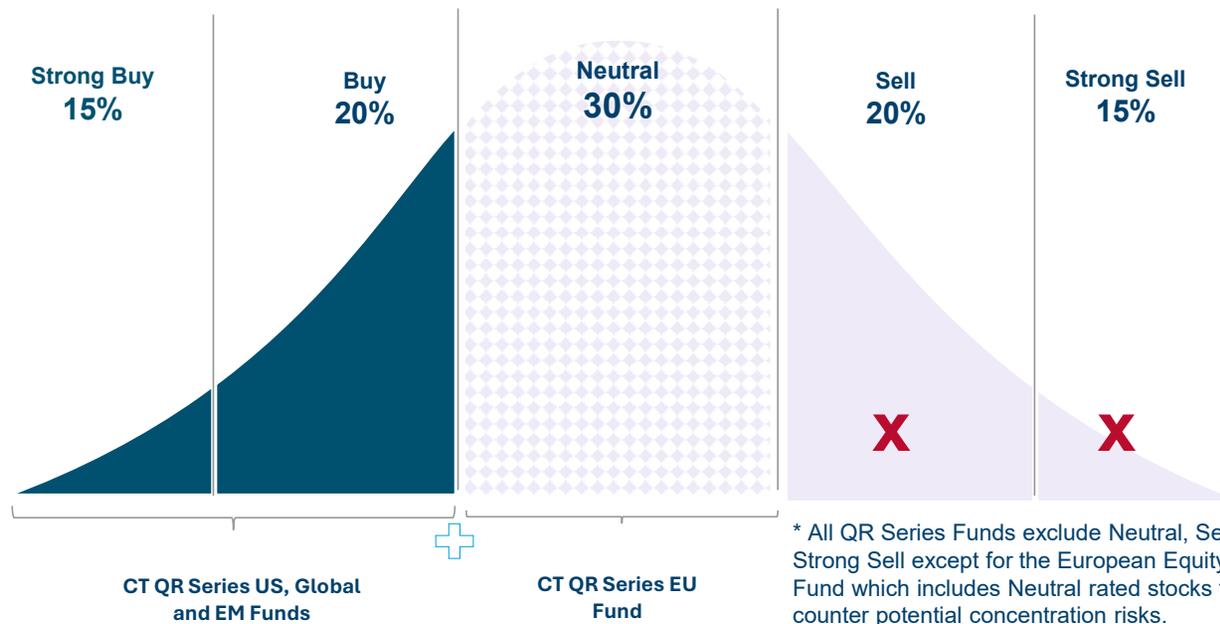
- Our **global Fundamental Research** is independent and complementary
- Supported by **40** Fundamental Equity Research Analysts
- Our sector specialists leverage their industry knowledge and discussions with corporate management to assess management quality, ESG dynamics, capital structure and industry trends
- Extensive issuer engagement triggering changes in stock ratings or risks
- Sustainability Analysts input to ensure the strategy meets Article 8 requirements

Investment process

Rank



Our quantitative model ranks the full index from 'Strong Buy' to 'Strong Sell'



* All QR Series Funds exclude Neutral, Sell and Strong Sell except for the European Equity Fund which includes Neutral rated stocks to counter potential concentration risks.

QR Series Funds invest in **'Strong Buy'** and **'Buy'** stocks – investing where we have conviction*

Typically **reducing the stocks held by 65% versus the index**, removing the companies in the index we expect to under-perform

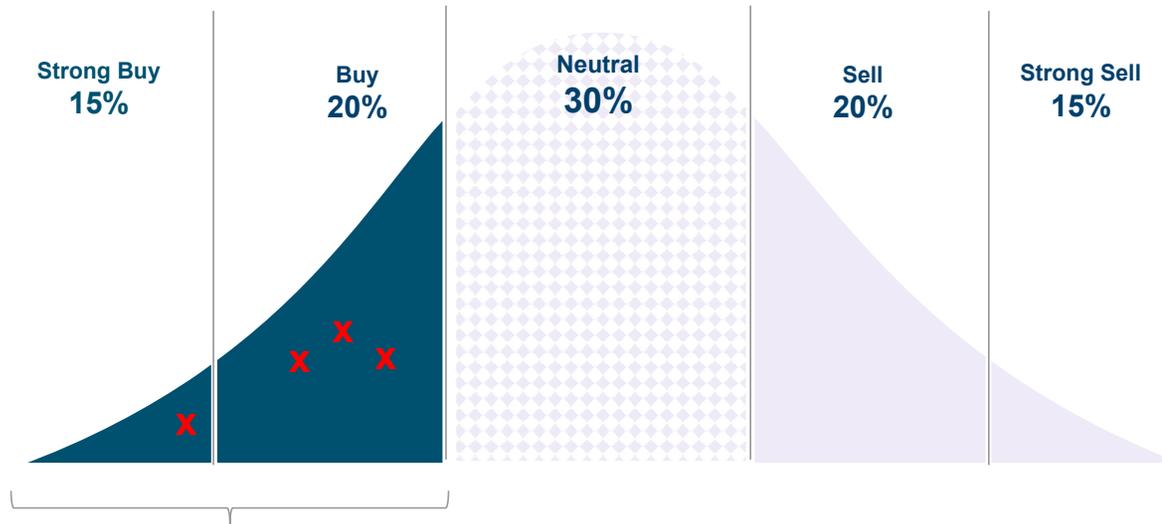
For professional investors

Investment process

Rank



Our Fundamental Research ratings are cross-checked



Columbia Threadneedle Investments
CT QR Series Active ETFs

Any stocks rated a **'Strong Underperform'** by our Fundamental Research analysts are excluded, irrespective of the quant model recommendations

The Fundamental research outlook is complementary to the quantitative research model. The ratings are cross-checked in case a **material downside risk** is missed by the Quant model

All QR Series Strategies exclude Neutral, Sell, Strong Sell except for the European Equity strategy which includes Neutral rated stocks to counter potential concentration risks.

Investment process

Recalibrate



Rebalance every six months
effectively capturing alpha while optimising transactions costs



June & December

Our portfolio construction

(1) **minimises sector, region & country biases** and
(2) ensures a **positive ESG materiality tilt** verses the benchmark



Quick Response

Remove any stocks downgraded to **'Strong Sell'** by Columbia Threadneedle in-between rebalancing periods



Columbia Threadneedle Investments
CT QR Series Active ETFs

Meet the QR Series

Investment team (as at 30 September 2025)



Christopher Lo

Head of Research Enhanced Equities,
ETF Portfolio Manager



Henry Hom

ETF Portfolio Manager, Research
Enhanced Equities



>\$16 billion

AUM managed across US domiciled
ETFs and funds



44 years

Combined industry experience



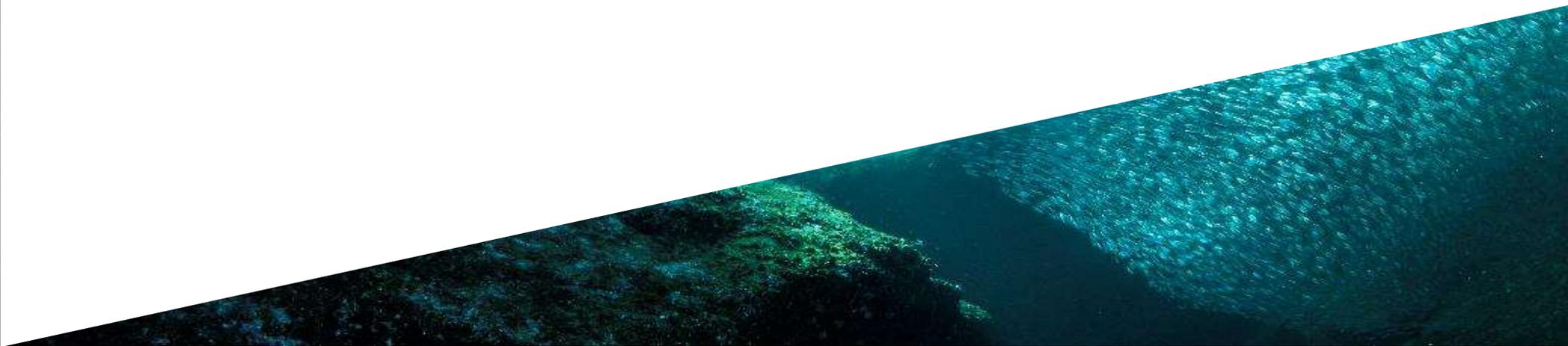
ETF Credentials

Columbia Threadneedle acquired
Emerging Global Advisers in 2016

- 14 ETFs listed in US
- \$7bn in US listed ETFs

CT QR Series Active ETF strategy

Process Deep Dive



Model portfolio composition



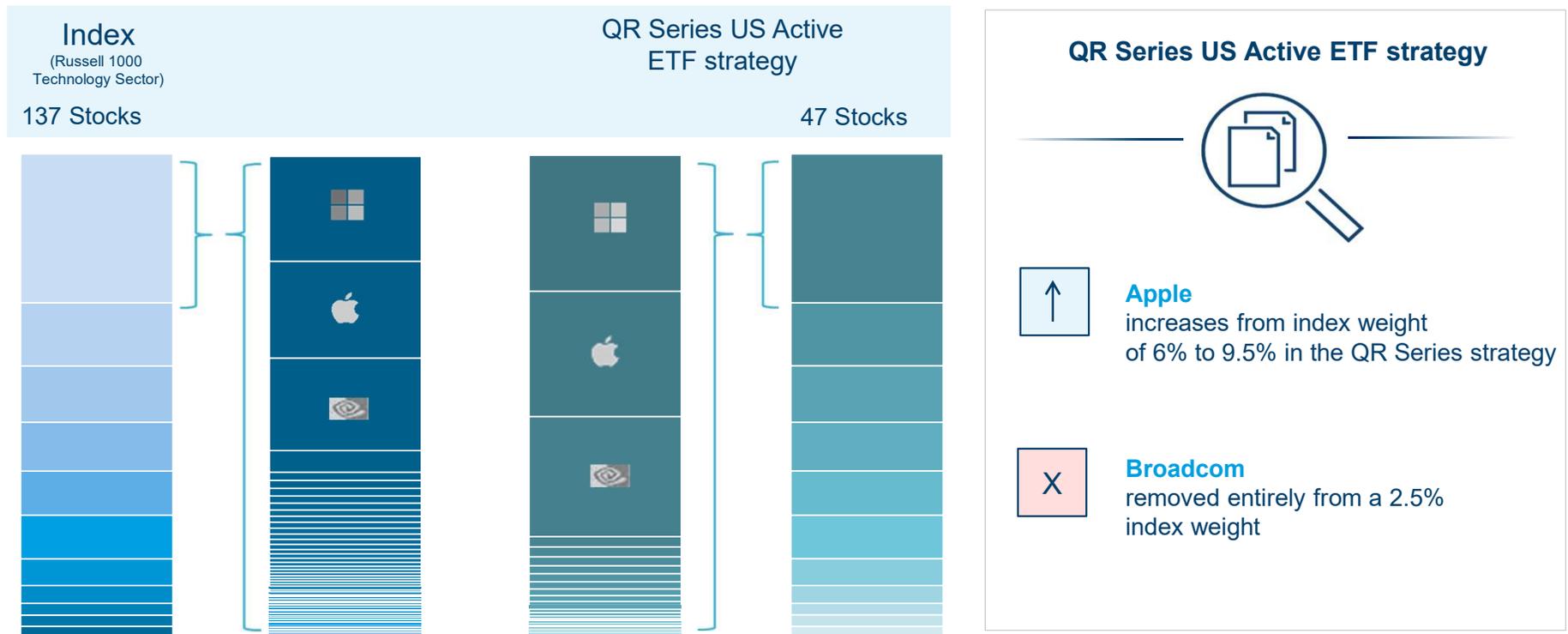
Starting with the index, we rate and remove stocks we believe will under-perform and realign sector allocation to benchmark



An example, for illustrative purposes and subject to change, following all the stated steps.

Creating alpha through genuine stock selection decisions

Sector look-through of US Active ETF strategy model portfolio



Example for illustrative purposes only. At rebalance, sector weights of the strategy are tied to those of the benchmark within a range of +/- 25% relative to the benchmark sector weight. e.g. if a sector has a 20% index weight, the ETF strategy's weight is set to a minimum of 15% and maximum of 25% exposure at portfolio level.

1. Source: FTSE Russell, FactSet, Columbia Threadneedle as of 03/31/25, updated semi-annually. Past performance does not guarantee future results. It is not possible to invest directly in an Index.

QRUS

Stock positioning shows meaningful active weights relative to benchmark



QRUS - US holdings vs. Russell 1000 Index (USD)

Top 10 Overweights	Portfolio	Index	Difference
Apple Inc.	9.3	6.3	3.0
NVIDIA Corporation	8.6	7.0	1.6
Alphabet Inc.	6.2	5.3	0.9
JPMorgan Chase & Co.	4.0	1.4	2.6
Visa Inc.	3.0	0.9	2.1
Meta Platforms, Inc.	3.0	2.3	0.7
Exxon Mobil Corporation	1.7	0.8	0.9
Booking Holdings Inc.	1.5	0.3	1.2
TJX Companies, Inc.	1.5	0.3	1.2
Cisco Systems, Inc.	1.5	0.5	1.0

Top 10 Underweights	Portfolio	Index	Difference
Microsoft Corporation	0.0	5.7	-5.7
Amazon.com, Inc.	0.0	3.5	-3.5
Broadcom Inc.	0.0	2.5	-2.5
Tesla, Inc.	0.0	2.0	-2.0
Berkshire Hathaway Inc.	0.0	1.5	-1.5
Eli Lilly and Company	0.0	1.4	-1.4
Johnson & Johnson	0.0	0.8	-0.8
Walmart Inc.	0.0	0.8	-0.8
Mastercard Incorporated	0.0	0.7	-0.7
Netflix, Inc.	0.0	0.6	-0.6

Characteristics

	QRUS	Russell 1000 Index	Relative to Benchmark
Dividend Yield	1.3	1.1	0.2
Price to Earnings (WHAvg)	23.0	26.1	-3.1
ROE (WAVG)	23.3	22.3	1.0

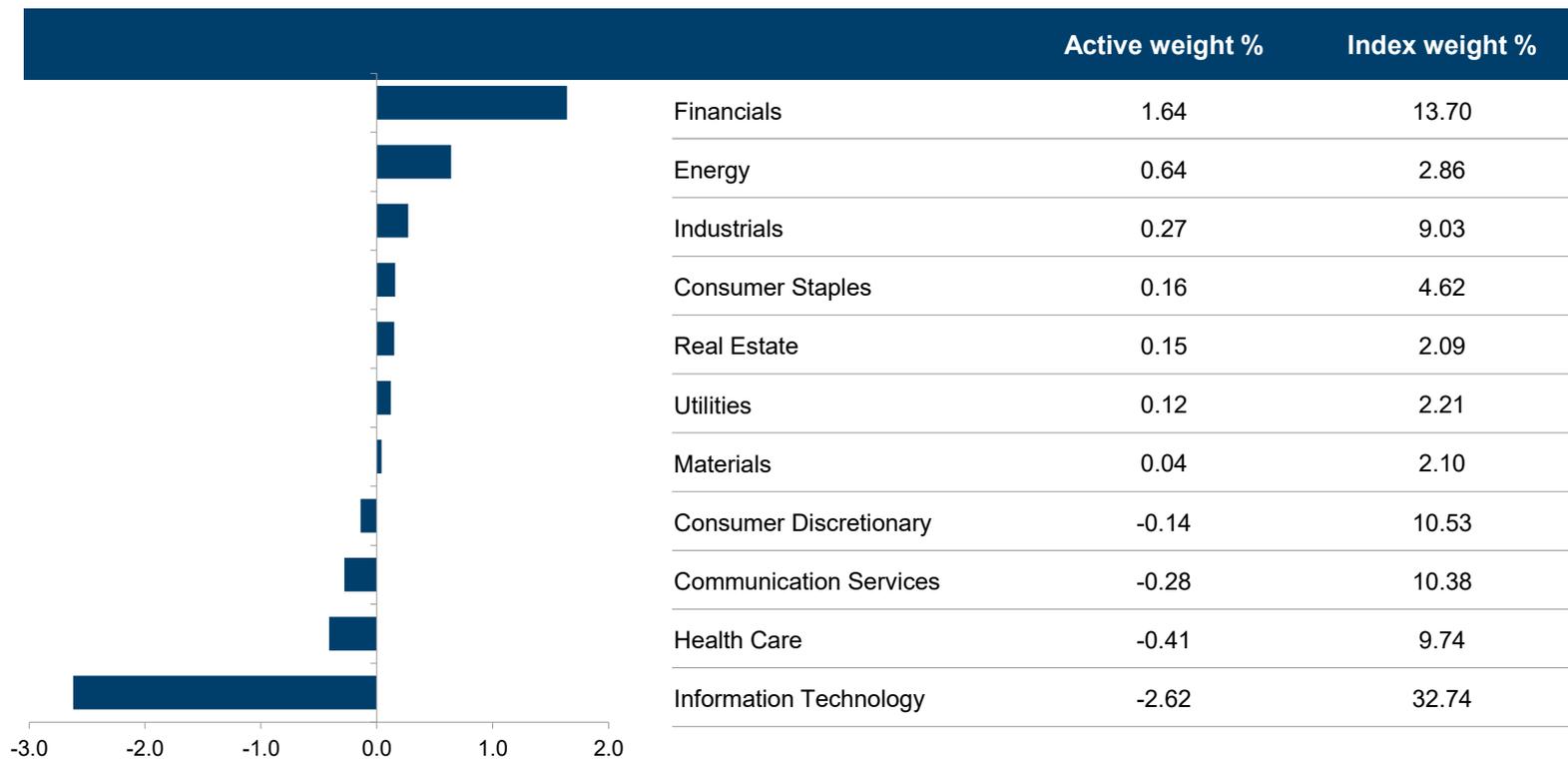
Source: Columbia Threadneedle Investments. As at 31 December 2025.

QRUS portfolio

Sector positioning intended for minimal biases



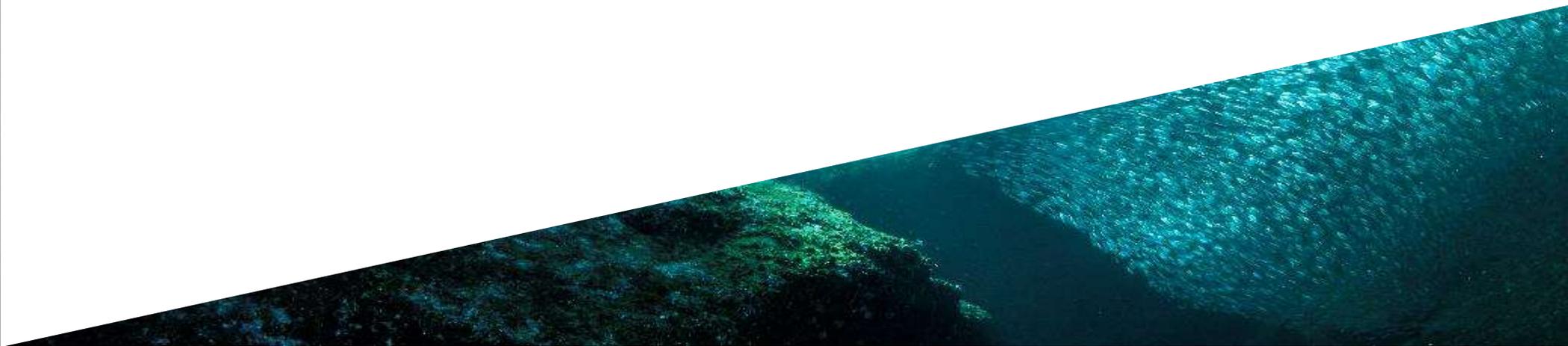
QRUS Portfolio's Sector exposure relative to Russell 1000 Index



Source: Columbia Threadneedle Investments. As at 31 December 2025.

Manager Track record

Evidencing Performance



Back-tested performance data

Why does this back test meet our quality control expectations?



Rules based

QR Series follows a rules-based process

- We have applied these rules – with no human discretion – using the model and research ratings at the time of each rebalance using historical data and inputs “as-was”
- Simulated performance are monthly returns based on official share price of each company selected



Live US track

Returns align with our ‘live’ US portfolio – Research Enhanced Core ETF (RECS), managing \$4.9bn

Overall Morningstar Rating



The Morningstar rating is as of 09/30/25. Among 1,226 Large Blend Funds. Morningstar Ratings are based on a Morningstar Risk-Adjusted Return measure.

Source: Morningstar.
Applies to US Fund only
[Columbia Research Enhanced US Core ETF]
Not available for sale in EMEA



Live model

QR Series back-tests utilises a 20 year+ live model which influences more than \$29.5bn of assets

- No changes have been made to our proprietary, industry specific models when preparing these back-tests

Fund Manager live track record and Model Portfolio characteristics



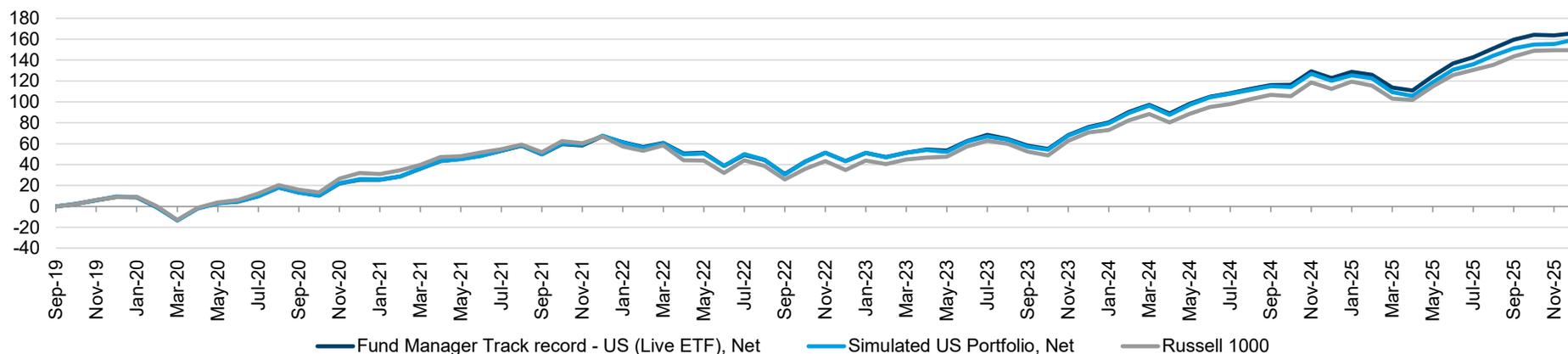
Strategy	US (Live ETF)	Simulated Model US Equity	Simulated Model Global Equity	Simulated Model Europe Equity	Simulated Model Emerging Markets Equity
Reference Benchmark	Russell 1000	Russell 1000	MSCI ACWI	MSCI Europe	MSCI Emerging Markets
Benchmark Holdings	1010	1010	2,517	403	1197
Strategy Holdings*	370	366	862	243	413
Excess Return (5Y Annualised, Net)	2.59	1.97	2.62	1.38	3.56
Morningstar Category % Rank (5Y Return)	1	3	3	4	8
Ex-Post Tracking Error (5Y)	1.98	2.87	2.36	1.22	2.99
Information Ratio (5Y)	0.94	0.69	1.11	1.13	1.19
Fees (OCF)	0.15%	0.20%	0.25%	0.25%	0.30%

US Live ETF refers to the US listed Columbia Research Enhanced Core ETF which is shown for illustrative purposes only. The four other strategies are showing the portfolio characteristics applying the steps outlined in this presentation at theoretical rebalance dates only (31st December and 30th June). The period of returns runs from 31/12/2020 – 31/12/2025. *Holdings are an approximate number based on portfolio simulations. Fees are for illustrative purposes only and subject to change. Morningstar percentile ranking is up to the end of September 2025.

Fund Manager Track record – US (Live ETF) Performance (Net)



Past performance does not predict future returns



Calendar year performance (Net) %

	2025	2024	2023	2022	2021	2020	2019 (3m)
Fund Manager Track record - US (Live ETF)	19.3	26.5	22.9	-14.3	33.2	15.2	9.0
Russell 1000 Index	17.4	24.5	26.5	-19.1	26.5	21.0	9.0
Excess Return*	2.0	2.0	-3.6	4.8	6.7	-5.8	-0.1

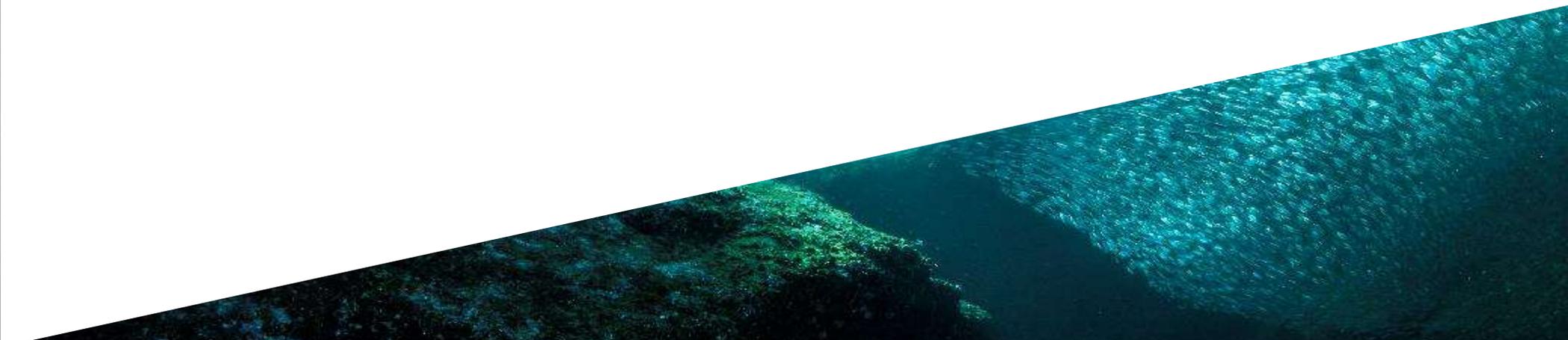
Performance Risk statistics (Net)

	Information Ratio	Tracking Error	Beta	Up capture ratio	Down capture ratio
5 years	0.9	2.8	0.9	102.3	91.4

Source: Columbia Threadneedle Investments. US Live ETF refers to the US listed Columbia Research Enhanced Core ETF. Benchmark: Russell 1000 Index. As at 31 December 2025. Inception date 30.09.19. Returns are calculated using the weighted total returns for each stock in the portfolio, compounded daily to create the return stream. The total net returns account for the expected OCF for each strategy and estimated transaction costs at rebalance (twice a year).

* Arithmetic excess return

In Summary



Quant Redefined

Blending the very best of our global platform



Summary of distinguishing features

Client benefit



1	Truly differentiated Quantitative model <ul style="list-style-type: none">■ Rule-based methodology, customized, proprietary industry models■ Ranking at the core	>	Alpha generated through thoughtful bottom-up analysis
2	Experienced team with live track-record <ul style="list-style-type: none">■ Performed through various market cycles	>	Confidence in investing with seasoned ETF professionals
3	Recalibration – fine tuning regularly <ul style="list-style-type: none">■ 6 monthly rebalancing■ Quick Response on downgraded stocks – daily review	>	Attention on downside risk
4	Sophisticated research <ul style="list-style-type: none">■ Leverages Fundamental Research Analyst scores■ RI lens to meet Article 8 requirements	>	Expansive global research means higher quality overall
5	Transparent approach <ul style="list-style-type: none">■ Strategy and holdings are accessible■ Clear rationale for exclusions – conviction led	>	Clients know what they're invested in

QR Series Active ETF Strategy

Research, Rank, Recalibrate

Quant Redefined

A truly active approach, using a **rules-based** methodology, leveraging the power of our **quantitative capability** and our **global fundamental research**.

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[Active ETFs \(Exchange Traded Funds\) | Columbia Threadneedle Investments](#)



Christopher Lo
Head of Research Enhanced Equities,
ETF Portfolio Manager



Henry Hom
ETF Portfolio Manager, Research
Enhanced Equities



Christine Cantrell
Head of EMEA Active ETF and
Investment Trust Distribution



Important information

IMPORTANT INFORMATION. FOR PROFESSIONAL INVESTORS ONLY. For marketing purposes.

The Fund is a sub fund of Columbia Threadneedle (Irl) ICAV, an open-ended Irish collective asset management vehicle with variable capital (ICVC), registered in Ireland and authorised by the Central Bank as a UCITS scheme.

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