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The art of quant investing

Mastering it for 20 years



The art of quant investing

January 2025

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The art of quant investing

Investing, like art, thrives on perspective. In both disciplines, the view shifts depending on where you stand – signals and brushstrokes forming patterns that only reveal their full depth over time. For 20 years, Robeco's quant equity journey has been shaped by diverse perspectives: a collective of minds bringing science, creativity, and experience to the canvas of global markets. This collection, 'The art of quant investing', celebrates those perspectives, offering a glimpse into the people, processes and performance behind our story.

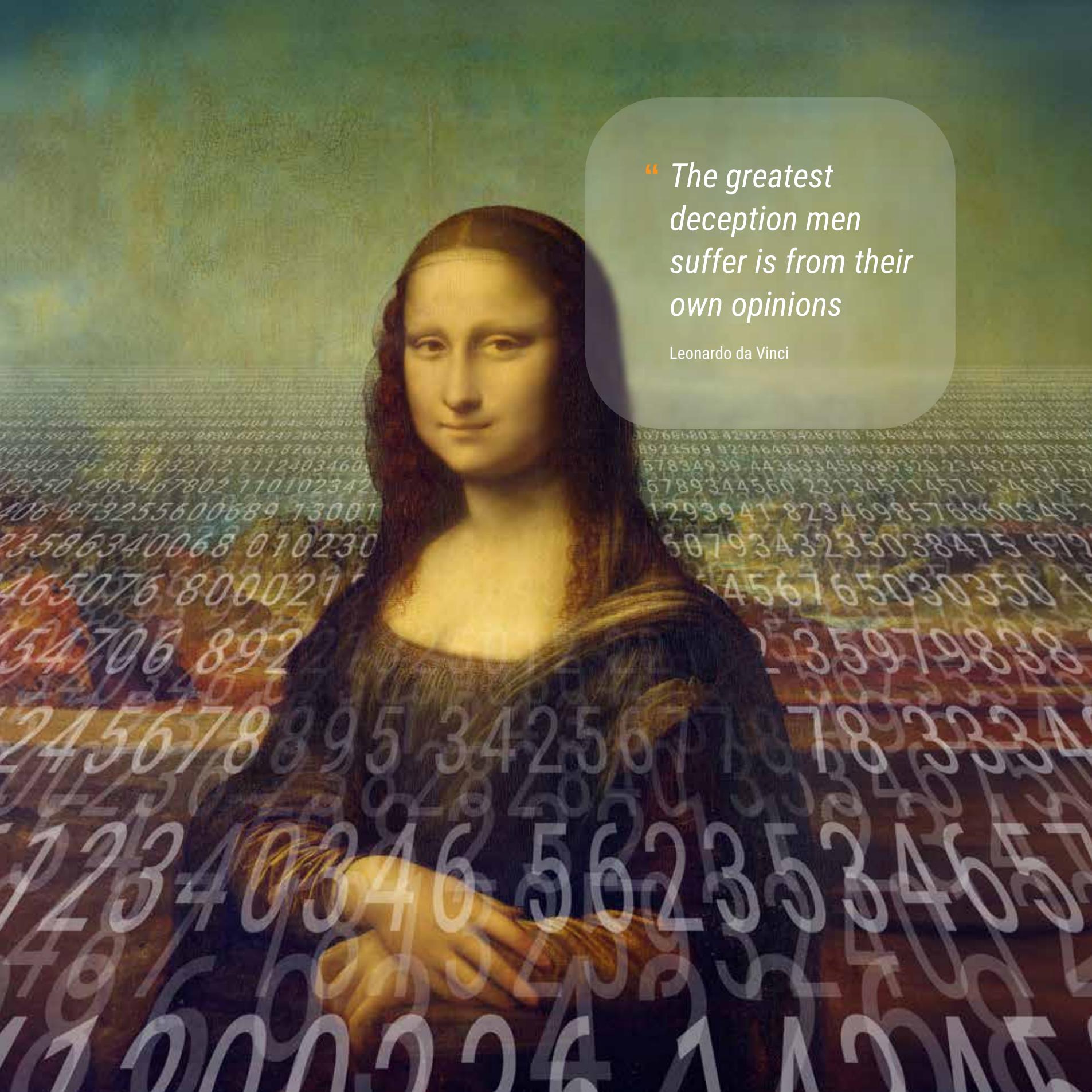
What makes a team exceptional? How do the distinct worlds of quant and fundamental investing intertwine? Where do sustainability and customization push boundaries, and how does innovation drive us forward? These are the themes we explore through 20 unique stories from portfolio managers, researchers, client portfolio managers, salespeople and clients. Each perspective adds a piece to the rich mosaic of our journey, offering insights, lessons learned, and a peek into what's next.

So step into the gallery. Let the stories inspire, challenge, and inform your own perspective on the art of quant investing.



CHAPTER ONE

team & culture

A digital composite image of Leonardo da Vinci's Mona Lisa painting. The painting is overlaid with a dense, semi-transparent grid of numbers in various sizes and colors (black, white, grey, and orange), creating a data visualization effect. A large, semi-transparent white speech bubble is positioned in the upper right corner of the painting, containing a quote.

*“The greatest
deception men
suffer is from their
own opinions*

Leonardo da Vinci

SUMMARY OF THEME

Prioritizing research culture

"I joined the asset management industry 20 years ago, exactly when the Core Quant journey started. Although it took me a while to join the fun at Robeco, I would say that the Quant team's significant research output has always been a guiding light throughout my career. Hence, I was very eager to become part of this organization that puts research first. But while prioritizing research is important, prioritizing research *culture* is equally important. We nurture our research culture and reward high-quality research, which in turn naturally drives the quality of our products and services.

Specifically, we follow an idea meritocracy where the best idea wins, regardless of whose idea it is. Also, we want our researchers to avoid simply going for the low-hanging fruit; instead, we want them to really make a difference by embarking on risky projects that can challenge the status quo. To this end, we don't only celebrate research that ultimately lands in the model but are also willing to embrace possible dismissals of ideas.



Harald Lohre
Head of Quant
Equity Research

To enable this, we nurture a safe environment for everyone to freely explore ideas and speak their mind. As a result, our team gets to enjoy and build upon the contributions of our highly ambitious yet collaborative colleagues. Naturally, we want a diverse team to produce diversifying research. Diversity is vital, especially since the problems we want to solve are often complex and thus call for collaboration across disciplines.

Going forward, the importance of research culture will remain key as quant investing continues to evolve at a fast pace. But above all, quant investing, as we practice it, has the distinct advantage of being a team sport, today more so than ever. And we expect all our team players to keep making a difference, and to innovate and advance our process for it to stay relevant for the next 20 years as well."

CLIENT Q&A

Culture has to be fit for purpose

How does company culture influence your experience as a client?

"It's integral. In my role, it's easy to fall into the trap of focusing purely on numbers – being quant-focused and trying to 'quantitize' everything. In reality, numbers are important but they don't always tell the whole story. It's about looking beyond the numbers and focusing on the people behind them."

We often flip the typical 80% numbers, 20% people approach on its head; making people, organizations, incentives, and team dynamics the heart of everything. People build processes, and refine and nurture them over time. Without the right people in place, even the best strategies often won't succeed.

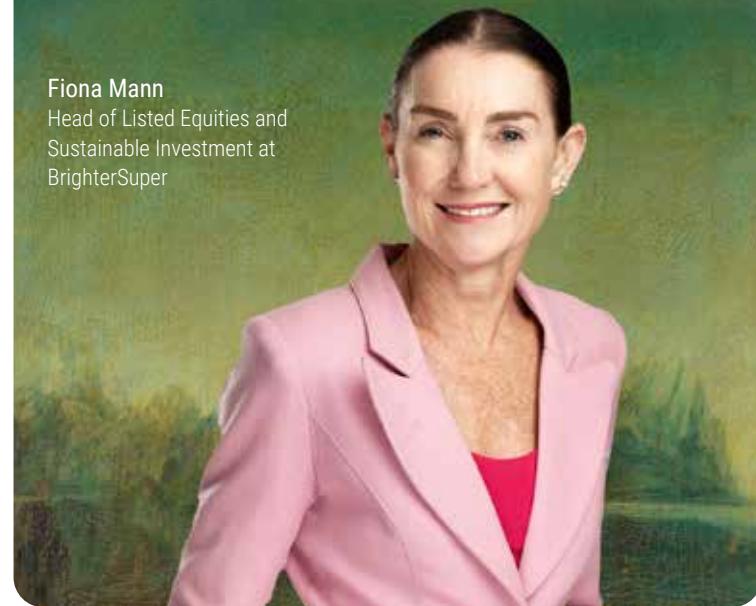
We look for organizations where the culture supports long-term innovation and excellence. And when I say culture, I don't mean something on a whiteboard. Living and breathing those values every day is the hard part. Take diversity – it's easy to tick that box on paper. But without real inclusion as well, you're missing the point.

Every time I visit the Mothership¹, it's clear they're wearing their culture with pride. From the sustainable choices like EVs and energy-efficient buildings to the people themselves – everyone seems genuinely happy to be there."

What elements of team dynamics are especially important when working with an asset manager?

"For me, true partnership is when you can work together and share ideas openly and honestly. I want my managers to be academically minded but also get that real life doesn't always exactly reflect research. Robeco can pick this apart; this academic intelligence and incredible curiosity and use that to make it work in the real world."

Fiona Mann
Head of Listed Equities and
Sustainable Investment at
BrighterSuper



Each culture is going to be specific to a particular need in an organization or investment strategy. A culture doesn't have to be one-dimensional, black, white, green, purple. It has to be fit for purpose. You might put the same group of people in a different culture and have a completely different outcome. It's almost like you've got a three-legged stool, all the pieces actually work together. If they don't, say one leg is longer or shorter, then the stool's not going to stand up."

What makes a team's culture authentic and meaningful, particularly within the financial industry?

"Frankness, transparency, and having a commercial mindset. You need that fearless honesty to drive real progress, while transparency drives trust."

If you could change one aspect of team culture within the industry, what would it be, and why?

"I would encourage curiosity as a priority. If you do that, you'll often get innovation as well. When things go wrong, you'll ask, 'What can we learn from this? How can we improve?' and find improvements in places you didn't expect."

It's important to remember that people are still running most processes. If you're not looking after your people, it's not going to work."

1. Robeco's headquarters in Rotterdam

LESSONS LEARNED

Reframing the strategy

Wilma de Groot
Deputy Head of Quant Equity
and Head of Quant Equity
Portfolio Management



"Our standalone Quant Equities journey started in May 2003 with a request from an existing client. Already invested in our fundamental equity strategy, they had seen how our models ranked stocks. They wanted something closer to passive investing – a low tracking error but not fully passive. That's how enhanced indexing was born.

At the time, our models were used primarily for research and by fundamental portfolio managers as input into their process. This new step – using quant models as a primary idea generator – was an exciting, team effort. Translating model outputs into actual portfolios required designing a portfolio construction algorithm, which we achieved under David's guidance. This collaboration saw us launch the first five mandates.

In September 2004, we launched our Global Developed Enhanced Indexing strategy. This was significant – a flagship strategy makes a strategy more commercial and visible. Back then, rebalancing portfolios was not fully automated, and involved late nights fueled by pizza. As we grew, we developed our first portfolio construction tool, automating many steps. Eventually, the portfolio management function was delegated to a separate team.

A key lesson was shifting focus from just the quant model to a client-first perspective. In the early days, our presentations led with technical slides. Wondering how to best position the strategy to better emphasize the benefits for investors, we reframed it as a compelling alternative to passive,

offering sustainability integration and return enhancement. We now start with the product's value and how it fits into a client's portfolio. Learning to communicate better is, in part, thanks to our collaboration with the Client Portfolio Management (CPM) team.

Today, it's a core offering. It's amazing to see how far we've come: from a small setup to managing over EUR 70 billion across various strategies, where dedicated research, portfolio management, and CPM teams work together.

So, the early days were sometimes tough, especially during challenging performance periods. We experienced this for example in 2009 during a strong market reversal, which our model had difficulties picking up. We further innovated and found ways to make our models more robust for these situations. Moreover, with our models we diversify across styles, which helps to improve results. Currently, we focus on further diversifying our model with new data sets and techniques.

Our attitude has always been, "How can we get through this? What do we need to improve?" Diversity of thought, of people and experience, has been crucial and always helped us come out stronger. Now, with more maturity, we navigate the good and the tough times with equanimity because we've seen similar situations before. We draw on our knowledge and teamwork, and have faith that we can maintain client trust."

GREEN FLAGS & RED FLAGS

Great ideas and voicing them

Lusanele Magwa
Investment Specialist

What stands out most is our team's commitment to meritocracy. That's not just a buzzword; it shapes an environment where anyone with a great idea can voice it, and those ideas, big or small, can actually make a tangible, visible difference.

Green flags

- 1. Flat structure:** A good indicator of a healthy team culture is a flat structure with little hierarchy. This can be especially beneficial for innovation and decision-making, as it invites and encourages diverse perspectives from all levels of the team.
- 2. Meritocracy:** A meritocracy signals that quality is more important than tenure or titles. With the best ideas winning, regardless of source, team members are empowered to consistently deliver their best, stay creative and deliver openly.
- 3. Fresh perspectives:** If you want innovation, look for teams that continuously invite fresh perspectives, where creativity, adaptability and being challenged are embraced as a natural part of the process. This openness keeps teams capable of responding effectively and inventively to change.

Red flags

- 1. No clear and open communication:** Watch out for teams that lack clear and open communication. If a team isn't committed to direct exchanges, there's a risk that members won't stay aligned, misunderstanding each other and missing key insights.
- 2. Lack of healthy competition of ideas:** This can indicate potential issues. Teams that thrive often have an environment where ideas are openly challenged and refined, which drives innovation and prevents groupthink. Without this, teams may stagnate, limiting the diversity of perspectives that enable and enrich decision-making.
- 3. Not nurturing collaboration:** Collaboration is critical for tackling complex challenges and aligning on goals. If collaboration is not actively nurtured, a subsequent explicit or implicit collapse in teamwork can hinder problem-solving and dilute the impact of the team's efforts. This will affect everything from the team's wellbeing to client outcomes.

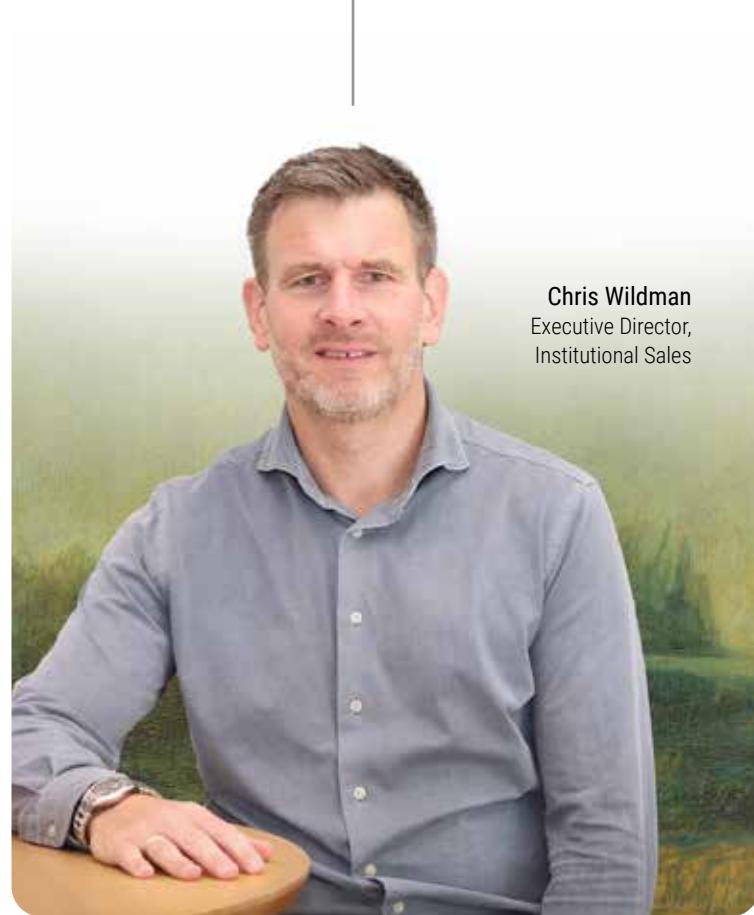
VISUAL ELEMENT

The art of breaking bread

"One of the various strengths of quant at Robeco is that clients can access various systematic strategies. Once you have something that works, it's easy to buy another. As an investor, you already know the team, the process, and the sustainability implementation. We work closely with people like Wilma, Weili, and Jan, who know our clients very well. The longer you work with someone, the deeper the partnership becomes. You build a tapestry of shared history, and it evolves into a relationship over time.

Quant strategies can often be a large part of a client's portfolio, which earns you a seat at the table. That position is quite valuable, and you get to know people in the organization better, which is crucial for building relationships. The quant team is fantastic at working with the sustainability team. The more high-quality content and products the sustainability team produces, the more we can implement them into quant strategies, strengthening both teams. Mike has been a tremendous addition, pushing us into the next frontier with AI, and clients are very interested in what he's working on.

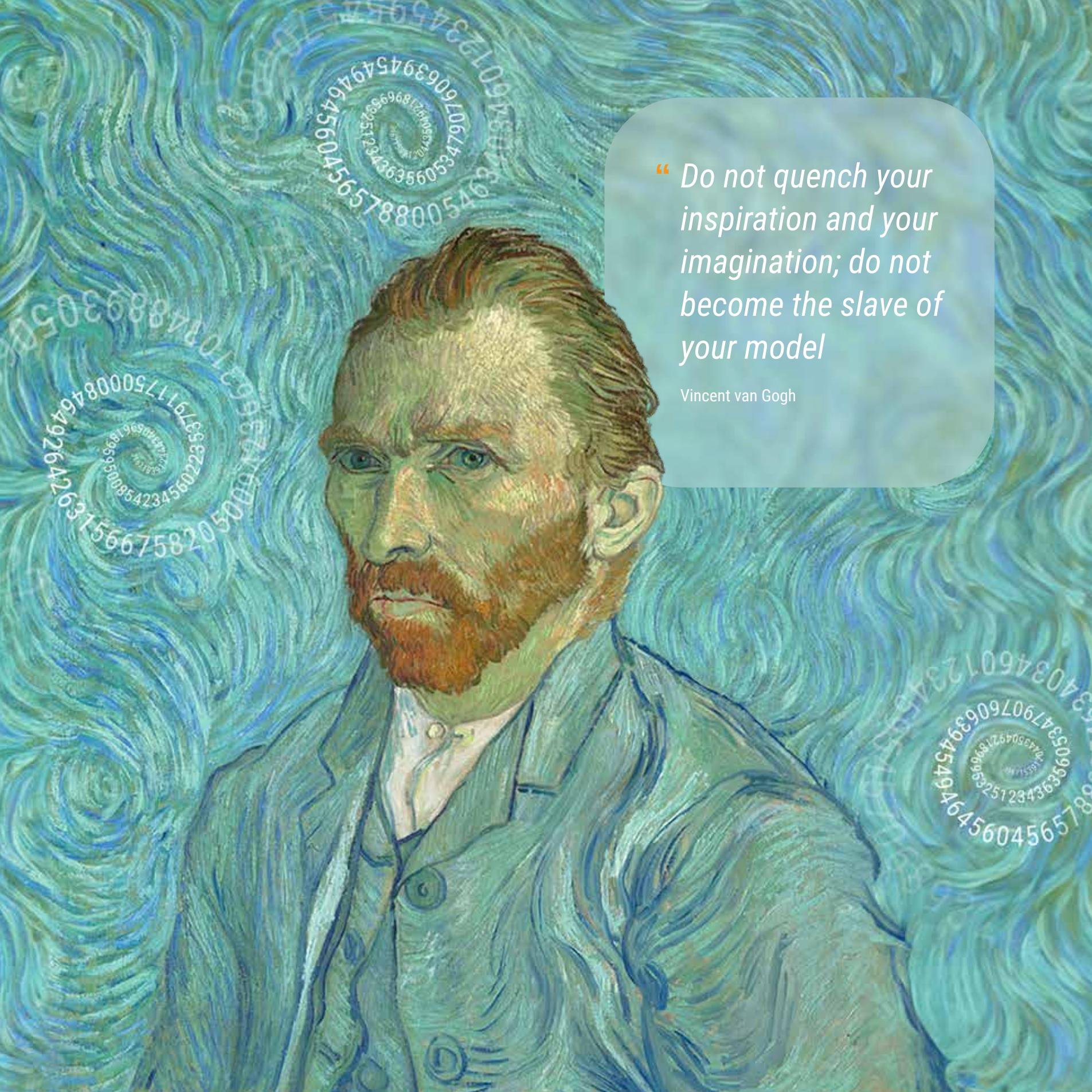
I also love getting clients into our office to meet the team. In Australia, we don't have office canteens like you do. When clients see our canteen, they're amazed. Everyone sits down and shares lunch, which they find fascinating. It's a lovely cultural moment, creating a connection that's different from working at your desk. It fosters sharing ideas and being more human. When clients visit and meet CPMs and the researchers, they feel that familiarity and trust. At the end of the day, if you're giving someone USD 2 billion, you want to look them in the eye and feel that human connection."



Chris Wildman
Executive Director,
Institutional Sales

CHAPTER TWO

fundamentals

A self-portrait of Vincent van Gogh, showing him from the chest up. He has a thick, reddish-brown beard and hair, and is wearing a dark green, button-down shirt. The background is a swirling, green and blue pattern, similar to the Starry Night. The quote is overlaid on a light blue speech bubble.

*“Do not quench your
inspiration and your
imagination; do not
become the slave of
your model*

Vincent van Gogh

SUMMARY OF THEME

The ultimate quantamentalist



Jack Neele
Portfolio Manager

"When I joined Robeco more than 15 years ago, many portfolio managers trained by Robeco knew the quant model very well and actively used it to manage their fundamental equity portfolios. As more new people joined, the influence of quant on fundamental equity portfolios diminished, but I'm happy to say that in the last few years the ties have grown closer again, initiated by Weili. We no longer use quant models just as input; quant has expanded the tools available to fundamental portfolio managers.

For example, I used quant input and worked with Iman Honarvar Gheysary when I wanted to take a deep dive into our portfolio risks during and after the pandemic, when equity markets were volatile and positioning changed dramatically due to the strength in technology stocks. Quant insights prove valuable in helping us understand our factor exposures better and led to a rebalancing of the portfolio.

From a personal perspective, I studied econometrics which is very quant-focused, but I was always more drawn to fundamental equity. However, as one of our colleagues says, 'You can take the person out of quant, but you can't take the quant out of the person'. So I still have a lot of interest in the models. I don't make or run them daily, but I understand how they work, which helps me connect their outputs to fundamental market events. From a fundamental perspective, quant helps remove emotion. If I'm hesitant about a decision I check how it scores on valuation, momentum, and the quant model. That often makes the final decision easier.

Conversely, fundamental input is useful during periods where quant might struggle with short-term decisions. For example, when we had a large position in a well-known car company during a short squeeze driven by market manipulation, quant models couldn't react immediately, but it was clear from a fundamental perspective that we should sell. In such cases, fundamental input allows for an override, though I'd generally avoid this to preserve the model's power.

On the next-gen side, there's been real collaboration. For instance, a team member of mine co-developed the Dynamic Theme Machine strategy, which recently launched as an active ETF. That's our first true 'quantamental' collaboration that resulted in an actual product. And I join the quant equity meeting to provide fundamental input, similar to what some colleagues do on the fixed income side. Looking ahead, I think it's important to continue fostering collaboration, especially as Robeco has become more international.

I've always believed in leveraging our strengths. Robeco is a top-tier quant house, and we have that knowledge in-house. Very few houses excel at both quant and fundamental; that's a unique edge."

LESSONS LEARNED

Cycles of connection



Weili Zhou
Deputy Chief Investment
Officer and Head of Quant
Investing & Research

"At the start of my career, I felt a bit lost, I wanted to grow but didn't know how. As a junior, I lacked experience, but I decided that the best way to make progress was to give others a hand, and to do so freely and sincerely. When you help people without expecting anything in return, they start to see your value, your sincerity, and your strong work ethic.

I focused on being a helpful 'data' scientist. For example, if a young person from the fundamental team was struggling with a signal or needed some data-driven insights, I'd take five or ten minutes to help them, even if it was just over a casual coffee chat. That way, I was building good internal connections. We'd share stories and sometimes fun investment thoughts, too. They'd tell me about their winning or losing positions, and they knew they could come to me for help with research ideas or data. It wasn't something assigned or official; people just knew they could reach out to me.

When I became Deputy Head of Research, I wanted to bring back that sense of connection. I remembered how, when I joined, I learned so much from working closely with the fundamental team. I wanted the juniors I was coaching to have a similar experience – to understand that the world is bigger than just quant. I didn't want to raise, let's say, quant researchers in particular. But to develop young people with broad horizons, big hearts, who are well-connected and well-informed.

I encouraged a lot of consultation with the fundamental team, even as we were going through a 'quant winter' of performance turbulence back a few years ago. When everything is going well, you don't reflect on your success formula.

But during tough times, you start wondering if you've missed something. That's when we reconnected with the fundamental team. They were doing well, particularly those investing in growth and tech stocks, which triggered us to reconsider how we value companies under the new macro dynamics.

Their feedback was crucial, like pointing out that although we often added new signals to our models, we were very (maybe too) cautious with retiring old ones whose efficacy decayed over time. It was a fair point. When you underperform, you don't go to an external advisor; you turn to your colleagues – safe, trusted consultants who use your quant rankings.

When it's my turn to check in with our fundamental colleagues, to ask what's going on with their performance, it's not necessarily an easy conversation. But I make my intentions clear and say, we can look at things together with you. The purpose is solely to see whether anything's gone unnoticed, undetected – and we can quantify it and also give them very actionable suggestions. And as a bonus, when we're drawing on their knowledge, we can also incorporate useful insights into our process such as defining intangible value, for example.

And it's fun! Having somebody very different adds perspective to what you're doing, and lets the team create more social capital within the firm. Don't box yourself in a vertical line of production.

Always think about what you can add to another person's process. That's how I see it."

GREEN FLAGS & RED FLAGS

A bend in the trend



Kees Verbaas
Head of Fundamental Equity

Green flags

- Idea generation:** One of the main ways a fundamental team can use quant research is in idea generation. We actively use quant rankings to identify promising investment opportunities, relying on the combination of the Quant group's long-proven factor research and next-gen signals. Quant screens give us a starting list of potential stocks, which we then investigate deeply – analyzing the business, meeting with management, and assessing fundamentals like earnings estimates and valuation.
- Complementary approaches to risk management:** There's a clear difference between our strategies. Quant portfolios are typically broad, with up to hundreds of names to spread risk, whereas our fundamental approach is more concentrated, holding 40 to 50 high-conviction stocks. We use quant tools to balance risk, but we add insights from deep research and company visits. It's not about one approach being better than the other; they serve different investor needs.
- Collaborative learning:** We learn a lot from each other. The quant team gets feedback from the fundamental teams on dynamics the model might not pick up, like stock-specific events, sector-specific adjustments or macro considerations in emerging markets. Our input informs their human oversight process, especially in complex environments or relating to company-specific issues where quant-only approaches might miss key risks. In the future, alternative data, machine learning (ML) and natural language processing (NLP) will affect collaboration by strengthening our offering and enhancing both quant models and fundamental research. Investments in these areas are very interesting and promising.

Red flags

- Bend in the trend:** Quant models can face challenges during sudden shifts in the market environment, a possible pitfall in data-driven investing. While staying the course is typically rewarded in these cases, both teams need to be alert and proactive during these times in understanding the risks. They should also communicate them to clients in line with maintaining a long-term mindset.
- Emotional attachment:** On the fundamental side, it's easy to 'fall in love' with a stock, especially after engaging positively with management or being impressed by a company's story. But we always need to remind ourselves to stay rational and grounded in the data, even when a narrative is compelling.
- Not balancing diversification with conviction:** Quant and fundamental portfolios naturally differ in breadth, leading to distinct volatility profiles. Quant's diversified portfolios can offer stability, whereas some clients prefer fundamental's concentrated approach which offers high-conviction portfolios. Ensuring clients understand these differences is key, as each style appeals to varied investor preferences and risk tolerances.

VISUAL ELEMENT

Puzzle pieces fitting together

"Our collaboration with the fundamental team is like pieces of a puzzle. Each piece is a different expertise – like trading insights or real-time knowledge of geopolitical events, the ongoing Russia-Ukraine situation, or discussing trends across emerging markets.

Each team brings a distinct school of thought: the quant side thinks in numbers and structured processes, while our fundamental colleagues visualize and bring real-world nuance. This becomes especially relevant in situations when pure data might fall short: the quant model is rules-based and objective, but we want human oversight to mitigate risks that stem from corporate actions and sudden controversies, especially when it comes to the finer details that lie in the language and news on emerging markets and the like. Here, the insights and the exchange with our fundamental peers can help us make the right decisions on behalf of our clients.

This blend helps us act with agility, whether we're navigating the influence of the US and China in global indices or adapting to the unique characteristics of Latin American and other emerging markets.

In practice, this helps us avoid unnecessary overlap and makes our portfolio decisions more resilient to market shocks. When clients inquire – like one did recently – about the shared elements between a quant and fundamental strategy, they address us as Robeco, as one company. It highlights how we're not just seen as separate teams but as a cohesive firm. And actually, the puzzle pieces don't stop at quant and fundamental but extend throughout the entire organization."



Lejda Bargjo

Deputy Head of Quant Client Portfolio Management

CLIENT Q&A

Quant models don't tell stories



Martin Demmel
Head of Investments
LVM Versicherung

What do you look for when you invest in a quant strategy?

"The first and most crucial factor is model transparency. We need to fully understand how it works and avoid 'black box' models. No model is purely a technical given, every quant approach implicitly embeds an economic rationale and assumptions. When properly understood, I believe that systematic or quant models can offer more transparency than discretionary ones. Of equal importance is the experience and expertise of the investment team developing and managing the strategy. Team curiosity is a factor: being open-minded and skeptical. How the team handles machine learning or AI is especially relevant to quant strategies. We like to have access to and regular exchanges with team members."

Do you focus on any specific areas of the investment process or model?

"The robustness of the model is crucial. Before deployment, we want to be sure that it's rigorously tested and validated. How do the model, its signals and its weights behave under various market conditions? This includes back-testing, out-of-sample testing, and scenario analysis. As well as alpha², many other indicators are relevant, including Sharpe and information ratios and maximum drawdowns. Another requirement for the strategy is that its characteristics, like specific factor exposures, fit into our overall portfolio and that we can integrate these into our overall risk and overlay management."

Are there specific challenges or risks in quant strategies that you consider most critical?

"To us, the most critical risk lies in the development of the mathematical model itself. Pitfalls could be incorrect underlying assumptions, poor data quality and especially an overfitting of the model to historic data, which results in capturing noise rather than true market signals. In the longer term, one should also be aware of reduced effectiveness that might result from crowded trades when too many similar strategies try to exploit the same risk premia. Other than this, we consider operational risks which include human errors and execution risk. At the same time, in a repeatable systematic investment process, this should be of minor concern. Quant models don't tell stories, which is net positive."

2. A measure of risk-adjusted performance, representing the excess return of an investment relative to its benchmark after accounting for the level of risk taken. It reflects the added value or skill of active management.

QUANT EQUITY INVESTING AT ROBECO

Shared and unique strengths across our strategies

Our well-resourced and diverse team are responsible stewards of more than EUR 80 billion in assets (as of December 2024) from clients across the world. These assets are primarily managed across the Enhanced, Active and Defensive capabilities.

Feature	Enhanced Indexing	Active Equities	Defensive Equities
Why choose this?	Smarter alternative to passive	Smart way of generating alpha	Winning by losing less
How it can fit into a portfolio	Suitable as core equity allocation	Augments core equity allocation with the aim of higher returns	Augments core or higher-beta equity allocation with a focus on downside protection
Objective	Stable excess returns with limited relative risk	Higher stable excess returns with moderate relative risk	Better than long-term market returns with lower volatility
Expected outcome	High risk-adjusted returns (information ratio)	High risk-adjusted returns (information ratio)	High risk-adjusted (Sharpe ratio) or beta-adjusted returns
Sustainability	Integrated across entire investment process	Integrated across entire investment process	Integrated across entire investment process
Offering	DM, EM & other regions	DM, EM & other regions	DM, EM & other regions

Enhanced Indexing

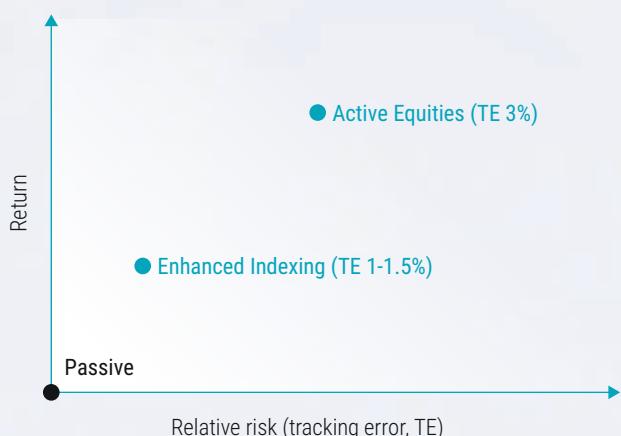
- Benchmark-aware approach designed to generate stable excess returns
- Offers market-like absolute risk profile with potential for outperformance after costs

Active Equities

- Benchmark-aware approach designed to generate higher excess returns
- Offers smart risk control to generate high alpha within moderate relative risk levels

Defensive Equities

- Absolute risk reduction approach designed to generate long-term market-beating returns
- Offers downside protection, while also incorporating return factors to enhance upside potential

Beta³ 1 strategies: Enhanced and ActiveBeta³ < 1 strategies: Defensive

Source: Robeco. The DM volatility reduction is based on the representative account with the longest available track record, the Robeco QI Institutional Global Developed Conservative Equities strategy from its inception in October 2006 until December 2024. The EM volatility reduction is based on the representative account with the longest available track record, the Robeco QI Emerging Conservative Equities strategy from its inception in March 2011 until December 2024.

3. A measure of an investment's sensitivity to market movements. A beta of 1 indicates the investment moves in line with the market, while a beta greater than 1 implies higher volatility and risk compared to the market.



David Blitz, Chief Researcher at Robeco's Quant Equity Research team, has helped shape the company's quant strategies since 1995. An expert in portfolio construction and stock selection, he chairs the committees overseeing new strategies and model enhancements. David has published extensively in leading academic journals and holds a PhD in Finance and a Master's in Econometrics (cum laude) from Erasmus University Rotterdam.

When I joined Robeco in the early nineties, we were at a crossroads – an established player in fundamentally managed strategies but ready to explore new frontiers. The creation of our quant research team was an ambitious step into the unknown.

At first, it felt like a start-up within an established firm. We were small, young, and had the freedom to explore. Back then, it was more about discovery than delivery. We didn't have the accountability that comes with managing client portfolios, so we spent time experimenting – sometimes on things that, in hindsight, weren't all that useful. But it was a formative period, laying the groundwork for where we are today.

The culture behind the craft

At one point, we were perhaps seen as being very strong academically but not necessarily streetwise. We had a tendency to rely on years of data before drawing conclusions, which sometimes made us feel a step behind in

DAVID BLITZ, CHIEF RESEARCHER

REFLECTIONS ON THE CULTURE OF QUANT

understanding the immediate realities of the market. It's fair to say that perception was probably accurate to some extent.

Since then, we evolved – our client base grew significantly, and we expanded the team to include more diverse expertise. For instance, we now have dedicated trading researchers who scrutinize trading performance and portfolio managers who are deeply knowledgeable about individual stocks. They provide critical feedback when they identify potential blind spots in the models.

We've also broadened our hiring approach – not just focusing on academic backgrounds but bringing in professionals with practical, market-oriented experience. It's not that we've abandoned our academic roots; rather, we've struck a healthier balance between maintaining academic rigor and ensuring we stay connected to the realities of the markets. In other words, a good mix between book smarts and street smarts.

“People join Robeco’s quant group not to make a quick buck but because they are passionate about systematic investing

David Blitz

Key differentiators of our culture

Culture, like investing, requires deliberate effort. One thing people notice when they join us is how much we focus on collaboration. No workplace is entirely free of politics, but at Robeco, we’re lucky that it doesn’t dominate or drain our energy. It’s something we actively work on – creating an environment where people can focus on doing their best work without worrying about internal distractions.

During tough periods, like the quant headwinds of 2018-2020, this culture made a big difference. Those years tested everyone’s patience and resolve. There’s always a temptation to tweak models under pressure, especially when clients start questioning if the approach still works. It takes nerves of steel to stand firm. But senior management’s support, combined with our own understanding of long-term expected returns, helped us ride out the storm and benefit from the recovery.

We’re often described as being “just the right size” – large enough to have the resources we need, but small enough to stay agile. Unlike some of our peers, who manage sprawling investment centers or juggle other businesses like banking or insurance, we’re focused purely on asset management. This focus allows us to keep things simple and effective, even as we operate globally.

Our team’s roots in Dutch culture play a role in how we work – emphasizing openness, fairness, and evidence-based decisions. Juniors are encouraged to question and challenge ideas, which keeps us grounded and ensures decisions are based on facts, not hierarchy. It’s not that we think Dutch culture is the best, but its focus on fairness and practicality works well for our team dynamic. This can also be seen in the way we don’t add bells and whistles to make our models

look more appealing; every enhancement must genuinely add value.

Economists in quant clothing

People join Robeco’s quant group not to make a quick buck but because they are passionate about systematic investing. Some quant houses comprise mathematicians applying their toolkit to an economic problem. For us, every research project we take on starts with economic intuition. Without a strong rationale for why a signal might work, it’s easy to fall into the trap of chasing patterns in data – what some call data mining. In markets, the signal-to-noise ratio is so low that you can’t afford to be careless. Staying disciplined about economic logic has been our best defense against being fooled by randomness.

Of course, it’s tempting when a backtest looks great but the rationale is weak. Those moments challenge us to stay true to our principles. If the reasoning doesn’t hold up, we don’t move forward. It’s not always easy, but it’s a lesson we’ve learned over time.

We’ve also learned to acknowledge our limits. For example, we avoid areas like aggressive factor timing or country allocation, where the risks often outweigh the rewards. That doesn’t mean we stop trying to improve, but we don’t take unnecessary risks just to keep up with what others might be doing. It’s about staying focused on and committed to what we do best – highly diversified, bottom-up stock selection.

It’s pretty common in this industry to see firms chase asset growth at the expense of performance. But at Robeco, we soft-closed or even hard-closed capabilities on multiple occasions, to protect alpha potential. That’s not always an easy decision, but it’s the right one for our clients.

Looking under the hood

New hires tend to be particularly impressed by the sophistication of the back-end of our quant process – the research database and back-testing code base. Many quant peers operate as little islands that each create their own research environment from scratch. Today, our infrastructure is robust, but it didn't come easily.

Getting results quickly can be seductive but means you need to take shortcuts. That can work for a while, but we learned it has a habit of catching up with you at some point. Bugs start to appear because the process hasn't been designed to be foolproof and robust from the outset. Moreover, new joiners have a hard time understanding what's going on because things were set up in an unstructured manner and without proper documentation.

So, building the database and code base required a lot of upfront work. At the time, it slowed us down – it's hard to focus on research when you're busy setting up systems. Also, maintaining it requires constant effort, meaning fewer people are available to generate output. But we knew it was an investment in the future. Today, that platform enables us to test ideas quickly, ensure continuity, and reduce key-man risk. It's not the most glamorous part of what we do, but it's foundational.

Walking the walk

Culture plays a big role in how we grow. Expanding geographically comes with challenges – keeping everyone aligned isn't easy as the team spreads out. That's why we put effort into regular interactions and making sure new hires spend time at our main office. It helps preserve the values we've built over the years.

But culture isn't something you set and forget. It needs constant care. We're always learning and adapting – it's less about trying to be perfect and more about staying true to what matters. Part of that is how we support people through tough times. If someone is unwell or dealing with personal challenges, we don't treat them as replaceable. We tell them, "focus on your recovery," and we mean it.

Our culture isn't just an internal strength – it's something clients notice, and explicitly ask about sometimes. It's the little things, like shared meals and open conversations, that reflect the fact we're not just a collection of individuals but a cohesive team.

A personal journey

People often ask why I've stayed at Robeco for nearly 30 years. The answer is simple: it's rewarding to be part of a team where ideas come to life and collaboration is genuine. Over the years, I've seen us grow, adapt, and make a real impact – not just in our results but in how we work together. In shaping the design of Robeco's quant equity strategies, the sense of shared purpose within our team has not only fueled our success but also made the journey immensely rewarding for me.

That mindset has shaped our culture, and it's what will keep us evolving in the years to come. I hope it inspires the next generation of quants to keep raising the bar – and maybe even stick around as long as I have. ●

“We're always learning and adapting – it's less about trying to be perfect and more about staying true to what matters

David Blitz



CHAPTER THREE

sustainability & customization

“ *The creation of a work of art must be accompanied by distortion of the natural form. For, therein is nature reborn.*

Paul Klee

SUMMARY OF THEME

No hard limits or rigid borders

Kristina Ūsaitė
Researcher



"When it comes to sustainability, what started as exclusions and integration of ESG ratings has evolved to allow for real customization. We can assess companies systematically, drawing from a broad set of data points. Where fundamental investing is about deep dives into individual companies, in quant it's about broad screening, making it easy to tailor solutions."

For example, we can measure carbon reduction, or ensure alignment with certain SDGs, based on what matters most to our clients, allowing them to align their investments with their beliefs. Robeco is ahead of the curve in sustainability, with our unique data sources and in-house capabilities to implement and further develop these strategies. We can integrate internally developed IP, such as SDG or climate scores, or rely on years of engagement expertise, which is also important in systematic strategies. This wide range of assessment data points gives us flexibility to easily steer toward client demands, offering a wide range of sustainable quant solutions.

Flexibility and variety in technique and data are key. Our 3D⁴ investing approach lets clients optimize for sustainability, risk and return as inputs in the investment process, rather than relying only on portfolio restrictions – we aim to provide clients with the tools they need to make their own choices.

Our research team extends beyond sustainability integration and customization. We specialize but we're always exploring a range of areas: factor investing, NLP, alpha and sustainable alpha signals, and so on.

We're constantly seeking and assessing new data sources as well, experimenting and integrating these into our models if they have proven added value.

Innovation and ambition drive our next-gen quant capabilities, and we're given the time to explore and push boundaries. This spans alpha research, portfolio optimization, sustainability topics, and factor investing. We don't work in silos – there's a lot of cross-fertilization and collaboration across different domains. We collaborate closely with Mike on signals that blend sustainability and alpha research, using NLP and machine learning techniques to develop alternative data signals.

We're encouraged to find our strengths early on. There are no hard limits or rigid borders. If someone's interested in an idea, they're told, 'Go and explore it', supporting a creative environment. Researchers aren't put into boxes, and there's a strong focus on continuous improvement. The team is ambitious, viewing setbacks as a chance to learn. Young researchers are given real responsibility, which keeps the work motivating. This shift is thanks to leadership like Weili, who makes people feel confident in taking responsibility."

4. An investment approach that optimizes portfolios across three dimensions – risk, return, and a third such as sustainability. Here we treat sustainability as a distinct input alongside risk and return, seeking long-term, dynamic trade-offs between the dimensions.



LESSONS LEARNED

Understanding implications of choices



Machiel Zwanenburg
Portfolio Manager
Quantitative Equity

"We began integrating sustainability into our quant equities models as far back as 2010. If there is one thing we've learned since then, it's that investors' beliefs about sustainable investing are personal and differ from client to client.

Initially, we aimed to offer a one-size-fits-all solution. While the investment funds we developed then remain popular and suitable for many, they don't fully capture the diverse needs of our clients. This realization led us to develop comprehensive sustainability frameworks, enabling us to craft customized solutions and provide tailored advice.

We've had to ensure that our portfolio construction tools have access to a wide range of sustainability data sources and that our algorithms can create optimal portfolios while taking sustainability into account. This also meant we had to put a lot of work into understanding the interactions between risk, return, and sustainability. For example, how does your tilt to a proven factor like value change when you target a substantially lower carbon footprint? And what steps can you take to limit that impact?

And how can you best achieve a sustainability target? Say a pension fund has identified specific Sustainable Development Goals that are important for its members and wants to integrate them into the investment strategy we manage for them. What is the best approach to achieve that? Excluding harmful stocks? Favoring companies with positive impacts? For each sustainability objective, we've had to figure out the pros and cons of different approaches. This enables us to guide our clients effectively, making this journey incredibly rewarding.

We've also learned that clients want to see and understand the implications of their choices. To accommodate this, we've developed proprietary software that allows us to create a model portfolio based on the investors' desires in terms of the three dimensions of risk, return, and sustainability. This can be done iteratively to jointly formulate an optimal investment strategy."



CLIENT Q&A

Moving with Momentum



Lorenzo LaPosta
Portfolio Manager,
Momentum Global
Investment Management

How have your needs and expectations around sustainability evolved, and how important is it for a quant partner to keep pace?

"Our needs have changed significantly. It's been a journey for us and the entire industry. Over the last five to ten years, sustainability has shifted from being a background consideration to a core focus. We now understand the impact of sustainable choices. It's crucial for partners like Robeco to keep up, as we rely on them to implement our values in investment strategies."

Are there any aspects of sustainability or customization that you feel are often overlooked but are meaningful to you?

"Yes. The industry often focuses heavily on metrics like carbon, which is understandable but limited. Carbon data is abundant and quantifiable, so it's a go-to metric. However, sustainability is complex and multifaceted. We like frameworks like the SDGs, which address various dimensions and recognize that sustainability isn't black and white. Some decisions have mixed consequences, so it's essential to take a holistic view and understand that sustainability varies across regions and contexts."

What does customization bring to your investment strategy? Are there specific benefits that make it worthwhile?

"Customization ensures that our investments reflect our unique values. Sustainability is not one-size-fits-all; it's subjective and depends on individual perspectives, background, and region. Customization is crucial for aligning investment solutions with our strategic goals and preferences."

In practice, has customization helped you achieve your sustainability goals?

"Yes, definitely. It's often a matter of allocating assets to sustainable solutions. Customization has propelled us forward in our sustainability journey. While there are many factors that influence this, investing sustainably has been foundational for our progress."



Sustainability is a constantly evolving field. Regulations change frequently, data availability shifts, and we have to stay adaptable. It's important to be honest about what's feasible and keep an open mind. Sometimes things can't be achieved yet with current tools, but progress is ongoing.

For example, when we visited Rotterdam in July, there was a presentation by a sustainability analyst who shared all the different perspectives and nuances that made a situation quite complex. By the end, I realized how difficult it is to draw simple conclusions. This complexity highlights the need for an open mind and a comprehensive approach. Quants need to quantify things; that's essential. Measurability and the ability to translate qualitative dimensions into numbers are crucial. That's what I value most."

GREEN FLAGS & RED FLAGS

We live in a world where everything is tailored

Jan de Koning
Head of Quant Client Portfolio
Management



Green flags

1. Sustainability as a core element: Sustainability is now fully mainstream, with the same level of relevance – and variation – as risk and return. As we enter 2025, it's clear that sustainability isn't just an add-on or a box to tick anymore. Clients want to know exactly how we balance all three elements. And we're seeing a shift where people are moving beyond strict constraints. They say, "If you can sometimes get more alpha even with a bit less carbon reduction, that's fine. And if we get a greater carbon reduction plus more alpha, go for it." It's all about deep integration, not just restrictions, and our 3D engine is set up to handle that balance.

2. Exclusivity and high-touch service: One of the unique aspects of Robeco is that we'll never be the biggest player, but we aim to be the best. Our approach makes for close, interactive, and long-term partnerships with clients. We work hand-in-hand with our sustainability experts to make their core portfolios stronger, greener, and more impactful. This exclusivity means we can give each client the attention they deserve.

3. Client collaboration and customization: Customization is no longer optional; it's expected. We live in a world where everything is tailored, from your car to your fitness plan, so why not your investments? The demand for true customization is here, and it's only growing. We sit down with our clients, use our customization tools, and show them what's possible. It's all about building portfolios that evolve with their sustainability needs. And that's something we continue to refine.

Red flags

1. Overpromising AI capabilities: AI is a game-changer, but I'd urge caution. There are a lot of players overpromising on AI without having the track record to support their claims. At Robeco, we've been working with modern techniques for a long time, but we don't claim more than we can deliver.

2. Offering low-cost, one-size solutions: Don't settle for a low-cost solution that might meet today's needs but fails tomorrow. Your stakeholders will demand constant updates and improvements. Many clients have told me, "Our portfolio needs to be more sustainable each year," and if your provider can't keep up, that's a problem. Paying a bit more for customization can save a lot of headaches down the road.

3. Neglecting voting and engagement: Sustainability isn't just about having a green label on your portfolio. Voting and engagement is where you can have the most impact, and that's why you need to ensure those practices are meaningfully integrated. Otherwise, you're opening yourself to reputational risk and potential accusations of greenwashing.

VISUAL ELEMENT

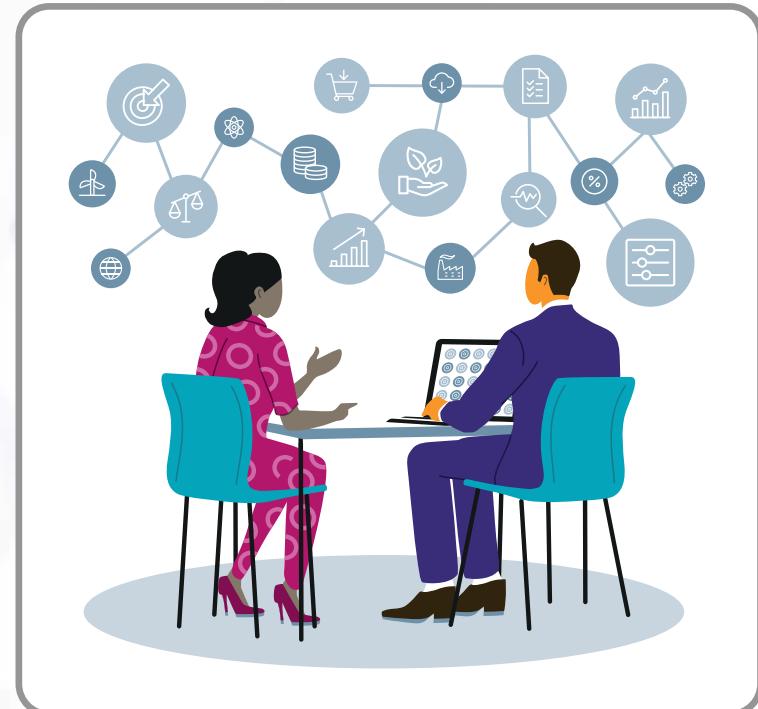
Unique sense of ownership



"We're really pleased with the proprietary customization tool we take with us to clients when we discuss their needs and wishes. In real life, in real time, this tool lets a client design a portfolio: set parameters, experiment with different options. They can specify everything they want in a portfolio – risk, return, and sustainability profile – and visualize it right away. As far as sustainability goes, they can zoom in on various elements and adjust each one exactly as they see fit. It shows our flexibility; it's an eye-opener for what customization can mean. The tool allows the client to play with the portfolio, to tweak it, to try something new."

We've seen more and more clients coming to us wanting a higher level of sustainability partly because standard indices are not that flexible, often not that sustainable, or if they are, they deviate a lot from market indices. Developing this tool in response took significant behind-the-scenes effort, open discussions with clients, sharing of our research, and a keen desire to keep talking, keep refining.

The message we want to convey is that we're flexible in finding solutions to the client's needs because we have the creativity and solutions to tailor to them. It can be a fund; it can be a mandate. For clients, there's something compelling about seeing their ideas come to life in a portfolio they've literally helped shape. It creates a unique sense of ownership – you can see it's empowering for clients to see their own vision take shape in real time."

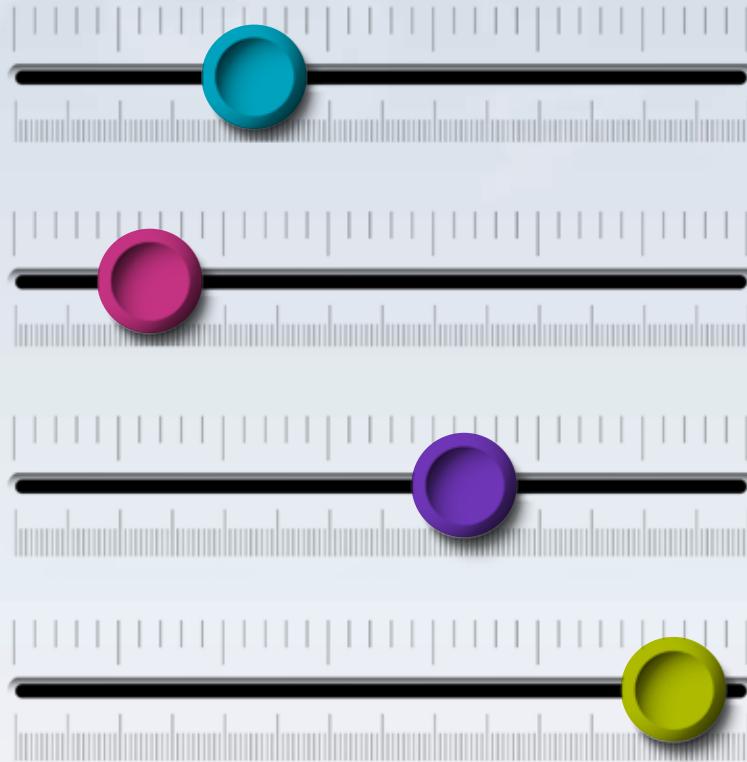


Robin van der Poel
Head of Wholesale
Netherlands

QUANT EQUITY INVESTING AT ROBECO

Different dimensions of customization

We acknowledge that investing is deeply personal, especially relating to sustainability integration. Our proprietary customization software provides the flexibility to align portfolios with clients' unique preferences.



Investment universe

We can tailor portfolios to client preferences, for example, by offering broad market universes (Global, DM, EM) or specific regions (Asia-Pacific, Europe, US), provided there's enough breadth and liquidity.

Risk levels

Portfolios can be fine-tuned to fall within client-specific tracking error targets, balancing risk, return and sustainability to meet expectations regarding relative risk.

Use of tracking error budget

Clients decide how tracking error is used – whether for alpha generation, sustainability integration, or both – ensuring portfolios are best positioned to meet their unique goals.

Sustainability integration

We align portfolios with client values through bespoke exclusions, ESG integration, SDG alignment, and environmental footprint reduction.

CHAPTER FOUR

innovation

“ Evolution is always the work of pioneers, and their followers are always small in number

Piet Mondriaan

SUMMARY OF THEME

Innovation doesn't happen overnight

"If you have a 20-year-old car, and over time, you've replaced several parts – the windows, air conditioning, steering wheel – is it still the same car? I'd argue it is. Over the last 20 years at Robeco Quant Equities, we've improved our approach, but the soul remains.

We've enhanced our factor definitions, introduced new alpha signals, and revamped our portfolio construction algorithms. We've updated our portfolio management tooling. Many things have evolved, but we still have a 20-year track record.

That's the beauty of Robeco: that you get a lot of freedom to pursue goals if you think it can be done differently, better. Wishlist trading, which is about opportunistically looking for liquidity within the market, is an example of an idea that seemed obvious to me because of my background, but it was a new idea here.

Having a mix of stable, experienced team members and fresh perspectives from new hires or university graduates drives that kind of innovation. We make changes that don't disrupt everything at once but improve the machine over time. Innovation doesn't happen overnight.

Robeco is well-sized for this – small enough to be agile but with enough resources to do impactful work. Collaboration is easy here, in a culture of

Wouter Tilgenkamp
Portfolio Manager



trust, where worthwhile ideas are explored cautiously but proactively. We have a fiduciary duty to our clients, so we can't take risks lightly. But we also can't let caution paralyze us.

We strike a balance: we explore new ideas in a controlled environment, like our incubator, where we test concepts with Robeco's own money. Only when an idea matures do we implement it broadly. A great example of this is our active ETF strategy: Dynamic Theme Machine.

It's similar to Amara's law: most people overestimate what can be done in a year but underestimate what can be accomplished in a decade. The way we work is quite special, and that slow but steady progress speaks to Robeco's mindset of cautious pioneering. And whenever new people come in, they bring new ideas to add to or alter the machine. I truly hope in five years' time a new person will come in and tell me: 'You've been doing it all wrong'."

LESSONS LEARNED

You need to love your job

"The quant investment industry evolves very quickly, at the speed of technology. When I graduated, AI and machine learning were already topics of interest, but it was during the second AI winter. Many students didn't focus on machine learning, but we all developed a solid fundamental background in logic, mathematics, computer programming, and more. Having that foundation makes it easy to pick up new applications like machine learning.

I was lucky to have that foundation, but the lesson is that things change fast. For example, NLP's application in finance has gone through four generations in just over ten years, from bag-of-words models to generative pre-trained models such as GPT. On top of that, there's the rise of intangibles and sustainability, the machine learning revolution, and alternative data sources like satellite images, credit card spending, etc. You can't rest on your laurels. The upside is that you're always learning, but the downside is it's highly competitive. You have to keep exploring, developing, and innovating, because alpha gets commoditized over time and arbitraged away.

So, to keep up, you really have to enjoy this field. If you're in it just because it seems cool or stable, you won't last. When I talk to students, I emphasize that you need to really think about why you want to work in this field! Ideally, you love it. Success in this field requires sustained effort and constant learning, so you need genuine interest to stay motivated.

Mike Chen
Head of Alternative Research



Another observation is regional variations. I'm originally from Taiwan, moved to North America at ten, and spent 30+ years there. Now I work for a European firm, and I've noticed both commonalities and differences across regions. Adapting to local norms while maintaining global perspectives is crucial.

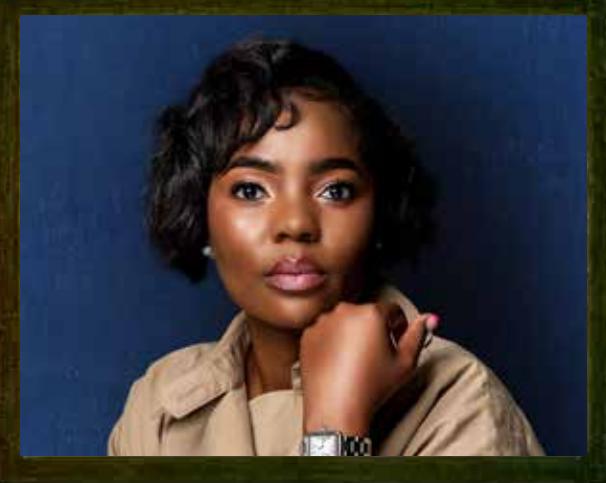
What I learned most of all is the importance of having a multidisciplinary team. Some people are agile, creative thinkers, while others are detail-oriented and focused: you need both types. The industry changes fast, but execution has to be solid. Code must be well-written and run on reliable infrastructure. We handle billions of dollars on behalf of clients, so we can't afford sloppy work. Having negative returns, such as predicting a stock's movement incorrectly, is acceptable as long as research and implementations are done correctly. But careless errors are not. The work of detail-oriented people is often underappreciated compared to the big idea thinkers, but both are essential for a successful team.

Asset management is truly a team sport. I've seen companies full of individual superstars with lots of politics and animosity. That's not sustainable. For long-term success, everyone needs to collaborate, from portfolio managers and researchers to traders, sales, and compliance teams. I'd choose a competent, supportive colleague over a brilliant but difficult one every time."

CLIENT Q&A

Real innovation is about solving problems

Bonolo Magoro
Portfolio Manager
Global Equity, PIC



What are you looking for in a quant house in terms of innovation?

"Innovation is exciting for us when it enhances quant investing. We want to know how effectively innovative predictive models can help managers outperform benchmarks. It's key for us to understand the scalability of the innovation – whether using AI or other methods – and how it identifies opportunities. Managers need to clearly articulate their strategies so we can understand what they're doing, if it's repeatable, and know in which cycles their strategies will perform. If they don't perform, can we stomach that depth and length of underperformance? Since investing is an unknown game – using historical data to predict the future – we look at how comfortable innovation is making our underlying clients feel in their investments."

What separates genuine innovation from the rest?

"At the heart of genuine innovation is a manager's ability to demonstrate their competitive edge by showing pre- versus post-innovation outcomes, providing clear value-add in the investment process."

Sometimes managers claim, 'We've got this innovation, we want to do X, Y, Z,' but when you ask for the outcomes, there's not much difference. So, is it really innovation, or have you just added one or two enhancements? For us, it's about how material the changes are when you introduce something new in your process that you term as 'innovation'.

Does it shift the outcomes materially? When we look back, can we say they introduced X, and this is what happened, and why it happened? Our ability to interrogate that proposition gives us conviction in what's being proposed. Typically, if it's genuine, the outcomes will show that it was real innovation."

How does a company's approach to innovation influence your trust in them?

"We encourage innovation: things shouldn't stand still, because the world doesn't. But when a manager says they're innovating, we first want to understand what prompted it. What wasn't working in your process that made you think introducing something different would improve it? This forces the manager to reflect on what's broken or not working as good as it used to.

It's important how honestly the manager answers that question. If you're innovating, you're indirectly telling us something isn't working as it should, or that you're missing something. We want to see that you're not innovating for the sake of it, but to address real challenges, because I think real innovation is about solving problems or specific needs.

If a manager can't admit that something is broken or missing, we question why. Nothing works perfectly all the time, so there's no need to hide. We approach investment relationships as partnerships – we want you to succeed as much as you do. We invest based on trust: that you'll do what you say you'll do, and as you innovate, change and reflect, you'll take us on that journey as well.

It's about the manager's ability to fully own the process, even the parts that don't work (yet). Engagement, dialogue, and transparency build that trust."

VISUAL ELEMENT

Foundations to build upon

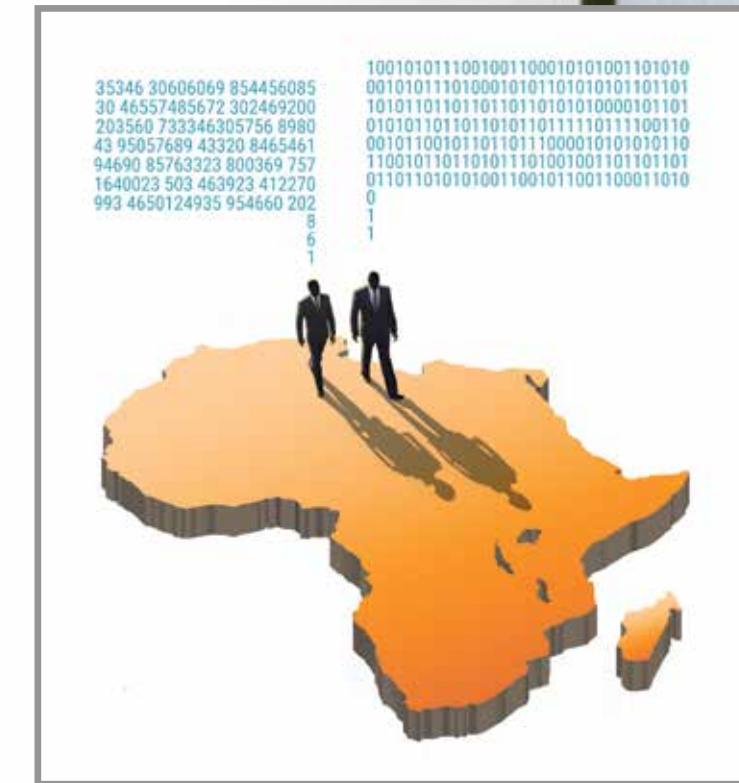
"One of the reasons I originally joined Robeco was its strong heritage in quant, EM, and sustainability. Those areas aligned perfectly with what I saw clients in our region gravitating toward. But what has emerged over time is the importance of innovation. Robeco not only has a long track record but has shown it's willing to invest in new and innovative ways to keep generating alpha for clients.

Our next-gen quant capability, for example, is exciting. Clients understand traditional factors, but the world has changed so dramatically in the last decade alone that staying ahead will require more than relying on old paradigms. Key to this change are AI and data science: technologies we've integrated into our core operations. This means we can analyze vast amounts of data to uncover patterns and insights that traditional methods might miss, keeping us and our clients ahead of the curve.

When Mike travels to Africa, he's more than a Robeco representative: he embodies that innovation. Our peers often see him as a tangible example of what it means to be dedicated to adapting and pushing the boundaries of what's possible in finance.

Mike shows how these new sources of alpha complement traditional Fama-French factors. It's a compelling story for both me and my clients in Africa. They started with passive strategies, then moved to enhanced factor-optimized portfolios, and later started to include sustainability. Now, innovation is essential. I picture it like a house that builds on these elements, from its robust foundation up to the innovation happening at the top.

In sales, it's not just about the product, whether it's a secondhand item or a luxury good like a Ferrari or even a sophisticated investment product. What truly matters is the person behind the transaction, the individual who is impacted by your work. Prioritizing humanity is essential. And at the end of the day, while it's about generating alpha, it's the combination of people, tradition, innovation, and robust processes that makes us successful."



Thabo Tembo
Head of Africa
Distribution



GREEN FLAGS & RED FLAGS

The future is so open

Jeroen Hagens
Client Portfolio
Manager



Green flags

1. Research techniques: Currently, there are exciting developments in AI-related research techniques such as machine learning and natural language processing. For example, we're augmenting our existing strategies or developing products with next-gen quant signals, including variables that combine alpha generation and sustainability elements, while we're also exploring machine learning approaches for stock selection.

These techniques are good at identifying alpha opportunities while also managing risk, adding value to our traditional quant strategies and underpinning next-gen approaches that offer distinct sources of alpha.

2. Alternative data: We're also drawing unique insights by tapping into alternative datasets. One of the latest variables we've derived from alternative data sources involves an earnings call audio signal that uses NLP to translate spoken words into data for sentiment analysis. Another example I like is our job momentum signal, which gauges a company's health by tracking job vacancies and layoffs. A company hiring more staff signals near-term business growth, and we can create alpha signals from this by scanning the entire internet landscape for this jobs data.

We're also seeing unique alternative data from China. These datasets are often based on regulatory requirements specific to the region, revealing opportunities we hadn't considered before.

Red flags

1. Incorrect or unreliable data: Our research team gets offered new datasets by vendors constantly, and it's crucial to scrutinize each one, ensuring the data isn't from questionable sources or altered after the fact. We need datasets that are accurate and reliable from the start.

2. Overuse: We're careful with how we apply these new techniques. Even though we trust machine learning methods, for example, we don't want to overuse them. It's about balancing established approaches with new techniques. Our strategies have worked for 20 years, and we need to ensure that foundation remains strong. Our next-generation product range has more room for innovation and that's generally where we can try out those new techniques and data sources.

In the end, it's a delicate balance. We've seen exponential growth in data and computational power, and it's hard to predict where we'll be in five years. It's exciting but also a bit daunting because the future is so open. Innovations from next-gen quant solutions can eventually benefit broader applications, like how developments from Formula One benefit street cars. It's exciting to see what the future will bring.

QUANT EQUITY INVESTING AT ROBECO

Dynamic Theme Machine

The DTM strategy integrates quantitative and fundamental investing to create a multi-thematic equity portfolio that can adapt to changing market dynamics.

1

Detecting themes

Identifies emerging and established themes using alternative datasets and NLP

2

Detecting who benefits

Assesses stocks that are positively or negatively affected by themes through sentiment analysis using NLP

3

Timing entries and exits

Establishes optimal buy & sell points for themes and stocks using time-tested quant model

What it does

DTM uses a novel approach (including AI techniques) to detect emerging themes as well as when to exit trends before they become unfavorable. This is unlike traditional thematic strategies that can be confined to a static set of themes.

Harnessing AI

DTM leverages NLP to sift through massive data – from earnings calls to social media – spotting emerging themes and their winners, while also distinguishing beneficiaries and losers of specific themes. It then uses a time-tested quant model to decide on which themes to back, and which stocks to pick.

Combining AI and human intelligence

Our approach combines AI with human oversight. Algorithms efficiently identify themes, while experienced managers validate and refine results by addressing gaps or errors, while also ensuring diversification and setting constraints on higher-risk themes, such as biotechnology.

Celebrating 20 years of partnership



Transforming quant research
into implementable innovations
in client portfolios



Proven long-term track record
of delivering superior
risk-adjusted performance*



Based on proprietary factor
definitions, including
AI-related novel signals



Entrusted as stewards
of capital by clients
from across the world



Well-resourced team
focused on delivering
excellent client outcomes



Solutions are kept as
simple as possible &
as complex as necessary

Thank you for shaping our journey together

* Past performance is no guarantee of future results. The value of your investments may fluctuate.

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Additional information for US investors

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This information is solely intended for professional investors or eligible counterparties in the meaning of the Austrian Securities Oversight Act.

Additional information for investors with residence or seat in Brazil

The Fund may not be offered or sold to the public in Brazil. Accordingly, the Fund has not been nor will be registered with the Brazilian Securities Commission (CVM), nor has it been submitted to the foregoing agency for approval. Documents relating to the Fund, as well as the information contained therein, may not be supplied to the public in Brazil, as the offering of the Fund is not a public offering of securities in Brazil, nor may they be used in connection with any offer for subscription or sale of securities to the public in Brazil.

Additional information for investors with residence or seat in Brunei

The Prospectus relates to a private collective investment scheme which is not subject to any form of domestic regulations by the Autoriti Monetari Brunei Darussalam ("Authority"). The Prospectus is intended for distribution only to specific classes of investors as specified in section 20 of the Securities Market Order, 2013, and must not, therefore, be delivered to, or relied on by, a retail client. The Authority is not responsible for reviewing or verifying any prospectus or other documents in connection with this collective investment scheme. The Authority has not approved the Prospectus or any other associated documents nor taken any steps to verify the information set out in the Prospectus and has no responsibility for it. The units to which the Prospectus relates may be illiquid or subject to restrictions on their resale. Prospective purchasers of the units offered should conduct their own due diligence on the units.

Additional information for investors with residence or seat in Canada

No securities commission or similar authority in Canada has reviewed or in any way passed upon this document or the merits of the securities described herein, and any representation to the contrary is an offence. Robeco Institutional Asset Management B.V. relies on the international dealer and international adviser exemption in Quebec and has appointed McCarthy Tétrault LLP as its agent for service in Quebec.

Additional information for investors with residence or seat in the Republic of Chile

Neither Robeco nor the Funds have been registered with the Comisión para el Mercado Financiero pursuant to Law no. 18.045, the Ley de Mercado de Valores and regulations thereunder. This document does not constitute an offer of or an invitation to subscribe for or purchase shares of the Funds in the Republic of Chile, other than to the specific person who individually requested this information on their own initiative. This may therefore be treated as a "private offering" within the meaning of Article 4 of the Ley de Mercado de Valores (an offer that is not addressed to the public at large or to a certain sector or specific group of the public).

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This document does not constitute a public offer in the Republic of Colombia. The offer of the fund is addressed to less than one hundred specifically identified investors. The fund may not be promoted or marketed in Colombia or to Colombian residents, unless such promotion and marketing is made in compliance with Decree 2555 of 2010 and other applicable rules and regulations related to the promotion of foreign funds in Colombia. The distribution of this Prospectus and the offering of Shares may be restricted in certain jurisdictions. The information contained in this Prospectus is for general guidance only, and it is the responsibility of any person or persons in possession of this Prospectus and wishing to make application for Shares to inform themselves of, and to observe, all applicable laws and regulations of any relevant jurisdiction. Prospective applicants for Shares should inform themselves of any applicable legal requirements, exchange control regulations and applicable taxes in the countries of their respective citizenship, residence or domicile

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The Management Company is not making any representation with respect to the eligibility of any recipients of the Prospectus to acquire the Shares therein under the laws of South Korea, including but not limited to the Foreign Exchange Transaction Act and Regulations thereunder. The Shares have not been registered under the Financial Investment Services and Capital Markets Act of Korea, and none of the Shares may be offered, sold or delivered, or offered or sold to any person for re-offering or resale, directly or indirectly, in South Korea or to any resident of South Korea except pursuant to applicable laws and regulations of South Korea.

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Additional information for investors with residence or seat in Malaysia

Generally, no offer or sale of the Shares is permitted in Malaysia unless where a Recognition Exemption or the Prospectus Exemption applies: NO ACTION HAS BEEN, OR WILL BE, TAKEN TO COMPLY WITH MALAYSIAN LAWS FOR MAKING AVAILABLE, OFFERING FOR SUBSCRIPTION OR PURCHASE, OR ISSUING ANY INVITATION TO SUBSCRIBE FOR OR PURCHASE OR SALE OF THE SHARES IN MALAYSIA OR TO PERSONS IN MALAYSIA AS THE SHARES ARE NOT INTENDED BY THE ISSUER TO BE MADE AVAILABLE, OR MADE THE SUBJECT OF ANY OFFER OR INVITATION TO SUBSCRIBE OR PURCHASE, IN MALAYSIA. NEITHER THIS DOCUMENT NOR ANY DOCUMENT OR OTHER MATERIAL IN CONNECTION WITH THE SHARES SHOULD BE DISTRIBUTED, CAUSED TO BE DISTRIBUTED OR CIRCULATED IN MALAYSIA. NO PERSON SHOULD MAKE AVAILABLE OR MAKE ANY INVITATION OR OFFER OR INVITATION TO SELL OR PURCHASE THE SHARES IN MALAYSIA UNLESS SUCH PERSON TAKES THE NECESSARY ACTION TO COMPLY WITH MALAYSIAN LAWS.

Additional information for investors with residence or seat in Mexico

The funds have not been and will not be registered with the National Registry of Securities or maintained by the Mexican National Banking and Securities Commission and, as a result, may not be offered or sold publicly in Mexico. Robeco and any underwriter or purchaser may offer and sell the funds in Mexico on a private placement basis to Institutional and Accredited Investors, pursuant to Article 8 of the Mexican Securities Market Law.

Additional information for investors with residence or seat in Peru

The Superintendencia del Mercado de Valores (SMV) does not exercise any supervision over this Fund and therefore the management of it. The information the Fund provides to its investors and the other services it provides to them are the sole responsibility of the Administrator. This Prospectus is not for public distribution.

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Robeco Institutional Asset Management B.V. is registered and regulated by the Financial Sector Conduct Authority in South Africa.

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Some Funds referred to in this marketing material have been registered with the UAE Securities and Commodities Authority ("the Authority"). Details of all Registered Funds can be found on the Authority's website. The Authority assumes no liability for the accuracy of the information set out in this material/document, nor for the failure of any persons engaged in the investment Fund in performing their duties and responsibilities.

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