



Fixed income at Vanguard

Research-driven, time-tested
and cost-effective

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Kunal Mehta

Head of Fixed Income
Specialist Team

"Fixed income has a critical role in a portfolio, offering an essential source of diversification, returns and stability. That's why our approach to active and index fixed income funds is uncompromising. Everything we do is about creating consistency for investors, whether it's tracking an index or delivering long-term alpha.

For our active funds, this means creating consistent performance through a long-term, sophisticated approach, intelligent risk-taking and our commitment to remaining transparent and true-to-label.

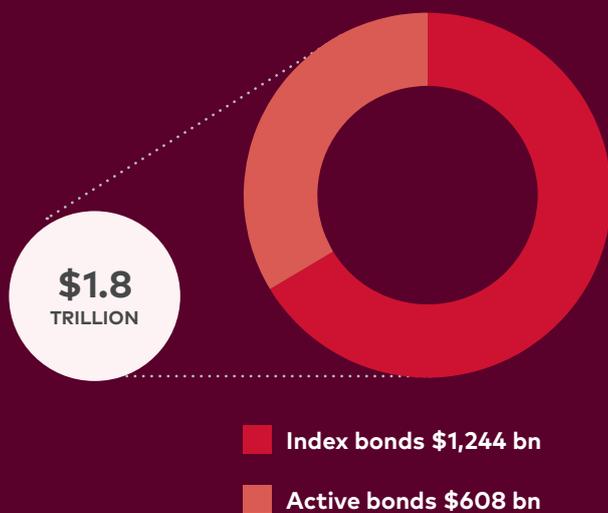
When it comes to index tracking, our specialist team of researchers, portfolio managers and traders collaborate to find the right balance between tracking efficiency, cost and risk management.

And with some of the lowest-cost fixed income funds in the world, we help give investors the best chance for investment success."

A fixed income pioneer – managing over \$1.8tn in assets globally

Vanguard bond funds are managed by the Vanguard Fixed Income Group. We are fixed income pioneers, with more than 35 years of experience in managing bond portfolios for investors across a variety of market environments. We established the first retail bond index fund in the US in 1986, and are one of the largest fixed income fund managers in the world. We have the scale, experience and expertise to deliver value to investors by focusing on time-tested, performance.

Our philosophy emphasises rigorous **portfolio construction**, driven by **analysis**, to achieve **highly controlled** and **cost-effective** investment results. Whether you need exposure to a **broad** market or **narrow** segment of the **fixed income market**, **Vanguard** can help drive **value to investors**.



As at 31 December 2021

Our capabilities span both active and indexed funds, covering the entire fixed income universe, from government securities to corporate bonds and emerging market debt, enabling us to meet your clients' diverse risk and return needs in both active and index investment strategies.

A deep and credentialed global team of fixed income specialists

With over 190 fixed income professionals, including over 50 global credit research analysts, Vanguard's Fixed Income Group is one of the largest fixed income teams in the market.

We adopt a specialised – and collaborative – approach to fixed income asset management. Our researchers, portfolio managers and traders work together to ensure that bonds are analysed, selected and traded in a way that's consistent with each fund's long-term objectives and risk profile.

Collaborative

- Global investment platform allows for 24-hour market access and benefits from local expertise
- Every mandate results from the collective expertise of our entire organisation
- Sector and country-focused credit analysts, portfolio managers and traders

Risk-controlled

- Risk management is embedded in our entire investment process
- Because of our generally lower charges, we don't have to take high levels of risk to stay competitive
- Instead, we increase risk strategically to capitalise on opportunities in the marketplace

A global investment platform

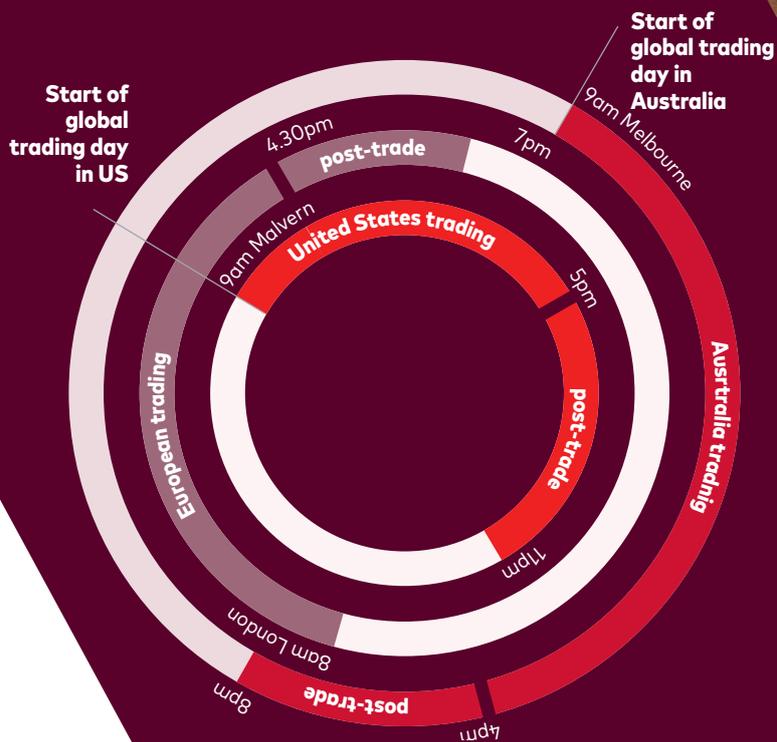
Vanguard has a global investment platform that **employs** the same **daily, disciplined** and tightly **risk-controlled approach**, combining **portfolio management, trading** and **operations tools**. Trading desks in the US, UK and Australia allow Vanguard to 'pass the book' **globally** as needed, and our portfolio managers are also traders, the trading and portfolio management functions being integrated into one holistic team.

Regardless of location, the portfolio management teams use the same investment philosophy and approach. One of the many benefits of this global integration is the ability to provide contingency trading/coverage for different desks located around the globe.

We pass the book globally ...



... to provide a 24-hour trading day





Driving value with credit research

Vanguard has a dedicated team of credit research specialists within the Fixed Income Group evaluating the creditworthiness and relative value of corporate, sovereign, securitised and municipal issuers. As we typically track broad fixed income indices containing thousands of securities using a sampling approach, the objective, thorough and independent work of our analysts plays a critical role in selecting the bonds we really need to hold to track each index effectively.



For our active fixed income funds, our credit research capabilities enable us to focus on security selection to identify diversified sources of alpha, without relying on large directional views to deliver returns.

We conduct comprehensive, in-depth macro- and micro-level analyses to form independent views on the credits in which we invest:

- bottom-up approach to issuer selection, with a
- top-down approach to sector outlook
- analysts work with traders to determine sizing

Rigorous sector analysis

50+
analysts

Each responsible for
50-60 issuers in
assigned sectors

The research process may include:

- analysis of the issuer's recent and historical financial statements
- sensitivity testing on projected cash flows
- discussions with management and/or rating agency analysts
- site visits and roadshow presentations

Integrating ESG into credit research

Environmental, social and governance (ESG) risk is one of the core elements that make up our bottom-up, fundamental view of a company, alongside other factors that can impact our view on credit trend and event risk. Our internal credit research group assesses these risks at the sector and individual issuer level, and combines them with a risk-adjusted relative value opinion to determine the investment recommendation.

Comprehensive market coverage



Source: Vanguard. Data as at 31 December, 2021.

Fixed income indexing

Low-cost index funds and ETFs can serve as the foundation for any investment strategy. As an ideal way to achieve broad diversification, they can be easily positioned and constructed to help meet clients' risk and return requirements. Vanguard has over 45 years' experience in managing index changes and rebalances. When it comes to index tracking, we believe in the human touch. We rely on a specialist team of researchers, portfolio managers and traders to find the right balance between tracking efficiency, cost and risk management.

Vanguard's bond index funds all adhere to our analysis-driven, rigorous and consistent portfolio construction philosophy. This allows us to deliver highly controlled and cost-effective investment results to our investors. Moreover, we take an uncomplicated approach, with our funds being designed for simplicity: we track broad, diversified indices using physical replication and we don't lend securities.

Our Fixed Income Group has a formalised framework within which we analyse market relationships and individual credits, and we continuously seek to enhance our quantitative analysis capabilities. This includes forecasting individual issuer credit trends, as well as analysing credit spread changes, yield curve reshaping and market volatility changes. The group also closely monitors global economic activity and monetary policy.

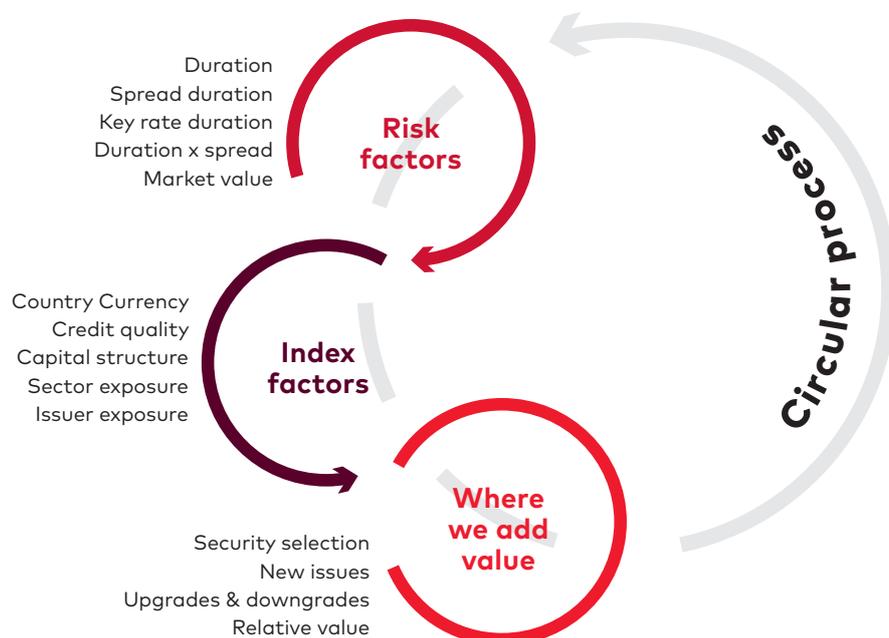
Since inception, the team has sought to refine techniques for reducing tracking error, delivering consistent performance, tightening risk control and maintaining transparency whilst reducing cost. We continuously seek to strengthen our risk management process to ensure we are capturing the critical drivers of performance. Moreover, our Fixed Income Group strives to expand our electronic trading and liquidity management capabilities to as many markets as possible, recognising that electronic trading increases our efficiency, which, in turn, benefits our investors.

A proactive, research-driven approach

Managing a bond index portfolio is not simply a case of buying every bond in the index – it involves a host of active decisions. Given the dynamics of the bond market structure, full replication is usually not practical or cost-effective for broad, well-diversified fixed income indices (such as aggregate or credit benchmarks), and so our fixed income index fund managers strive to reach the optimal trade-off between cost and tracking error. We use a stratified sampling approach, holding a representative sample of the bonds that match the essential characteristics of the index.

This allows our bond index funds to condense an index made up of tens of thousands of individual securities into a portfolio of a few thousand bonds, whilst accurately tracking the performance and other key features of the benchmark. The sampling process lowers portfolio turnover and, as a result, transaction costs; at the same time, it allows the fund to achieve a similar risk (and return) as the index, without holding every bond.

Fixed income index portfolio construction



We aim to match the benchmark return and risk after fees.

We match the benchmark for all primary and secondary factors.

All positions and risk factors are reviewed on a daily basis.

Whilst a sampled portfolio has slightly higher average monthly tracking differences in comparison with a fully replicated portfolio, its implementation and maintenance costs are much lower, resulting in net performance which closely matches that of the index.

Sampling

- Physically holding a representative sample of securities that replicate the risk and return characteristics of the target benchmark
- Better suited to benchmarks that hold an unmanageable number of issues or contain illiquid securities
- Manager's skill in matching risk characteristics of benchmark is important

Myths and misconceptions

There are a number of widespread industry myths regarding fixed income indexing, which we have attempted to dispel by providing the Vanguard view below.

| Myths and misconceptions | The Vanguard response |
|--|--|
| Use complex quantitative/computer models to pick the correct bonds | We believe fundamental credit research is a better guide to the risk of a company. Risk models cannot question management teams on the strategic vision of the business. |

| Myths and misconceptions | The Vanguard response |
|---|---|
| Sampling involves generating alpha | Vanguard does not intend to generate alpha but tries to subsidise the management fee by optimising index funds relative to their index and offsetting the trading cost. |
| All fund rebalancing takes place at month end | New issues, upgrades, downgrades can occur at any time during the month; as such, adding value can occur at any time. |

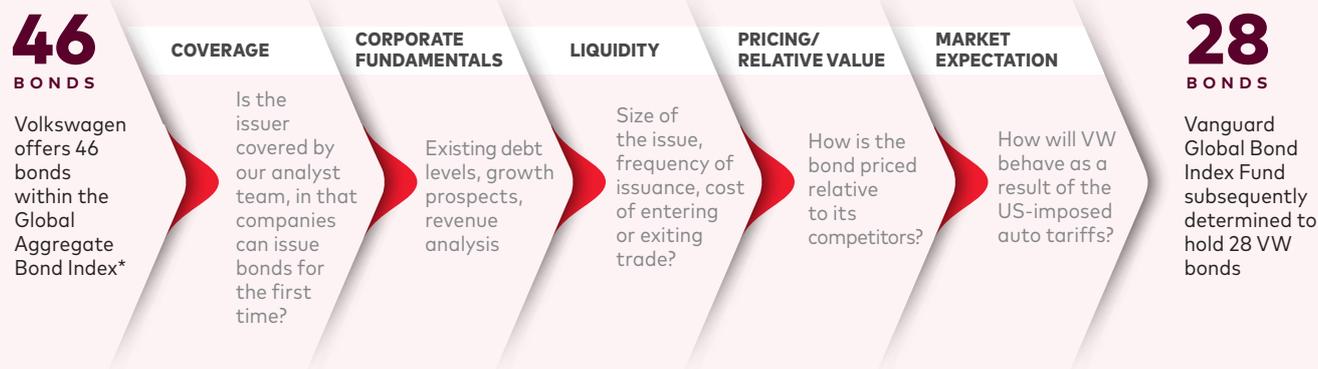
Striking a balance between tracking error and cost



Source: Vanguard, hypothetical example

Security selection case study: Volkswagen (VW)

The primary objective of the Vanguard fixed income indexing process is to match the key risks of the benchmark. This does not necessarily involve buying every bond within the index. Using Volkswagen as an example, we highlight the fundamental issues we consider when selecting bonds.



Source: Vanguard, Bloomberg. This is a historic example from 2018. *As at April 2019, the Vanguard Global Bond Index Fund now tracks the Bloomberg Global Aggregate Float Adjusted and Scaled Index.

Active fixed income

At Vanguard, we believe in active management. Actively managed funds are valuable to investors seeking to outperform benchmarks and/or looking for more of an active view on markets. Owing to market inefficiencies, skilled managers can outperform.

While firms across the industry exhibit some of these characteristics, Vanguard believes its combination of these factors differentiates the firm as an active fixed income manager and helps support our aim of delivering consistent outperformance over time.

Vanguard's approach to active fixed income can best be described as the combination of two important pillars; we seek diversified sources of alpha and we take risk in a smart way.

We're built for success

Talent, culture, process

Our deep specialisation and collaborative culture are the foundation of our investment process

True-to-label products

We seek outperformance while staying true to the character and objective of each fund

Client-aligned business model

Our scale and unique client-owned structure in the US allows us to offer lower fees so that clients keep more of their return

COMPOUNDING ALPHA

More consistent alpha generation with less downside risk

Diversified sources of alpha

Our teams seek to outperform by constructing diversified portfolios of high-information ratio strategies rather than relying on concentrated risk positions

Smart risk-taking

Risk optimisation is an integral part of our investment process, and lower fees enable us to deliver competitive net alpha without taking undue risk

We manage for outperformance

Consistently adding alpha from diversified sources



Source: Vanguard.



Lowering the cost

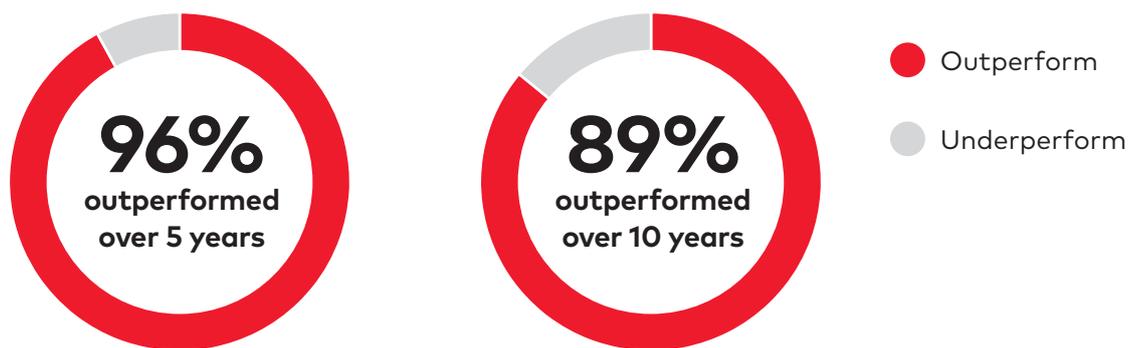
Fees matter. High fees pressure managers to assume unattractive risks and consume clients' market returns.

Our strategies are less reliant on top-down directional risk and instead can focus on high-conviction ideas. All our active bond funds invest within, and behave similarly to, the asset classes they are built to represent while adding incremental value. Ultimately, investors choose active fixed income to achieve superior long-run performance. At Vanguard, our talent, process and culture are what we believe helps our funds perform better.

Generating performance

Consistent alpha generation with lower risk of large drawdowns (due to the asymmetric return profile of fixed income) produces superior long-run performance. We aim to generate consistent outperformance through our long-term, focused approach, our culture of smart risk-taking and collaboration, and our commitment to remain true-to-label. As a result, our funds can help provide income, and improve risk-adjusted returns. It is important to note that our active strategies aim to provide the typical fixed income benefits to a diversified portfolio – in income, diversification and the provision of a degree of risk ballast to our areas of an investor's portfolio.

96% of Vanguard's active bond funds have beaten their five-year Lipper peer-group averages.¹



¹ The percentage of Vanguard funds globally in each category that outperformed the average return of their peer group of mutual funds. For the five-year period, 49 of 51 bond funds Vanguard funds outperformed their peer group averages. For the ten-year period, 39 of 44 bond funds Vanguard funds outperformed their peer group averages. Results will vary for other time periods. Only funds with a minimum five-, or ten-year history, respectively, were included in the comparison. Source: Lipper, a Thomson Reuters Company. Data as at 31st December 2021.

Note that the competitive performance data shown represent past performance, which is not a guarantee of future results, and that all investments are subject to risks, which can be found on your local Vanguard website; Investment objectives, risks, charges, expenses, and other important information about a fund are contained in the prospectus; read and consider it carefully before investing.

Our active fixed income product range

Vanguard Global Credit Bond Fund

The Vanguard Global Credit Bond Fund aims to provide a moderate and sustainable level of current income by investing in a diversified portfolio of global credit bonds.

- **Consistent returns:** the fund aims to achieve consistent returns through bottom-up stock selection, targeting a broad variety of focused opportunities with a good probability of success.
- **Effective diversifier:** the manager has a primary focus on high-quality, investment-grade holdings that should act as a diversifier relative to equities through varying market conditions.
- **Opportunity:** although the emphasis is on the investment-grade universe, the fund has a wide remit in terms of where it can seek opportunities for investor returns in a risk-controlled manner from primarily bottom-up security selection via a 'best ideas' approach from the global fixed income team.

Vanguard Emerging Markets Bond Fund

The Vanguard Emerging Markets Bond Fund seeks to provide total return while generating a moderate level of income by investing primarily in bonds of issuers in emerging market countries.

- **Consistent returns:** the fund aims to achieve consistent long-term outperformance by identifying opportunities in security selection and country allocation.
- **Risk control:** the management team focuses on maintaining a broad variety of focused opportunities, avoiding the potential for significant drawdown and having an up-in-liquidity bias.
- **Fundamental research:** the managers believe that the best opportunities are to be found through rigorous, evidence-driven research and relative value analysis.

Key attributes



Low cost

0.35% OCF/TER versus a peer group average of 0.63%².



Balanced allocation

Security selection based on a diversified set of criteria.



Investment talent

Vanguard Global Advisors, LLC

Key attributes



Low cost

0.60% OCF/TER versus a peer group average of 0.99%².



Balanced allocation

A blend of equities and bonds that provides exposure to global markets.



Investment talent

Managed by Vanguard Fixed Income Group

² Source: Morningstar. Peer group average OCF for IA Sector = Global Corporate Bond and Global Emerging Market Bond - Hard Currency as at 3 February, 2022. Refers to retail share class. OCF refers to the Ongoing charges figures. The TER refers to the Total Expense Ratio. The OCF/TER includes the sum of investment management fees (the fees paid to the portfolio manager to invest and manage the fund) and administrative and other expenses (which cover all costs and expenses connected with the operation of the fund, which includes administrative fees, shareholder's registration and transfer agency fees, custody fees and all other operating expenses).

Why Vanguard?

Our core purpose: To take a stand for all investors, to treat them fairly and to give them the best chance for investment success.

A different sort of investment company.

Our values mean we put investors first, always

The Vanguard Group, Inc. is owned by its US clients – this is a unique ownership structure for an asset manager and means we put clients' interests first, always. This means our goals are exactly aligned with those of our clients who invest in our funds.

Our scale delivers lower costs and transparency

The profit we generate is used for the benefit of our clients. This means that as our funds grow, we can lower the cost for investors.

Our expertise helps us get it right

The Vanguard Group, Inc. has over 45 years' continuous experience managing index portfolios.

Scale and experience together result in a highly disciplined and robust risk management processes.

Our investment principles

Successful investing hinges on many factors. Some can't be controlled – the returns of the markets, for example – but others can. Vanguard believes that following these four principles will allow you to focus on the factors within your control, which can be an effective way to achieve long-term results.

GOALS



Create clear, appropriate investment goals

BALANCE



Develop a suitable asset allocation using broadly diversified funds

COST



Minimise cost

DISCIPLINE



Maintain perspective and long-term discipline

Important risk information

The value of investments, and the income from them, may fall or rise and investors may get back less than they invested.

Past performance is not a reliable indicator of future results.

Some funds invest in emerging markets which can be more volatile than more established markets. As a result the value of your investment may rise or fall.

Investments in smaller companies may be more volatile than investments in well-established blue chip companies.

Reference in this document to specific securities should not be construed as a recommendation to buy or sell these securities, but is included for the purposes of illustration only.

Funds investing in fixed interest securities carry the risk of default on repayment and erosion of the capital value of your investment and the level of income may fluctuate. Movements in interest rates are likely to affect the capital value of fixed interest securities. Corporate bonds may provide higher yields but as such may carry greater credit risk increasing the risk of default on repayment and erosion of the capital value of your investment. The level of income may fluctuate and movements in interest rates are likely to affect the capital value of bonds.

The Vanguard Emerging Markets Bond Fund and Vanguard Global Credit Bond Fund may use derivatives, including for investment purposes, in order to reduce risk or cost and/or generate extra income or growth. For all other funds they will be used to reduce risk or cost and/or generate extra income or growth. The use of derivatives could increase or reduce exposure to underlying assets and result in greater fluctuations of the Fund's net asset value. A derivative is a financial contract whose value is based on the value of a financial asset (such as a share, bond, or currency) or a market index.

Some funds invest in securities which are denominated in different currencies. Movements in currency exchange rates can affect the return of investments.

For further information on risks please see the "Risk Factors" section of the prospectus on our website at <https://global.vanguard.com>.

Important information

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For further information on the fund's investment policies and risks, please refer to the prospectus of the UCITS and to the KIID before making any final investment decisions. The KIID for this fund is available in local languages, alongside the prospectus via Vanguard's website <https://global.vanguard.com/>

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For investors in Ireland domiciled funds, a summary of investor rights can be obtained via <https://global.vanguard.com/portal/site/portal/ucits-investing-with-us> and is available in English, German, French, Spanish, Dutch and Italian.

For Dutch investors only: The fund(s) referred to in this document are listed in the AFM register as defined in section 1:107 Dutch Financial Supervision Act (Wet op het financieel toezicht). For details of the Risk indicator for each fund listed in this document, please see the fact sheet(s) which are available from Vanguard via our website <https://www.vanguard.nl/portal/instl/nl/en/product.html>.

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