

Gravity Investments: Diversification Science Used to Deliver Better Portfolios



Site	gravityinvestments.com www.gsphere.net
Founded	2000
Clients	Wealth managers, registered representatives, financial planners, financial advisors, bank trusts, investment managers, family offices, hedge funds, broker-dealers, plan fiduciaries, financial institutions
Value Proposition	Sophisticated, systematic, and automated portfolio solutions; powerful portfolio analysis based on patented diversification visualization and measurement technologies
Top Executive	James Damschroder , Founder & CEO

Gravity Investments is a white-label robo-advisor that enables registered investment advisors (RIAs), broker-dealers, and institutional investors to optimize and automate custom portfolio solutions.



I went to Denver, Colorado to meet with founder and CEO **James Damschroder**.

Prior to setting up Gravity Investments, James worked at Chicago Mercantile Exchange and AXA Advisors. It was at AXA that the idea for a technology company for financial advisors appeared.

“I had one of these inventor’s moments, literally like a bolt of lightning. I was the front and center person in this classroom of 200 or 300 new advisors, and I just had this idea, and with all the energy that attached to that idea, I ended up chasing it down, engineering it; and that became Gravity Investments.”

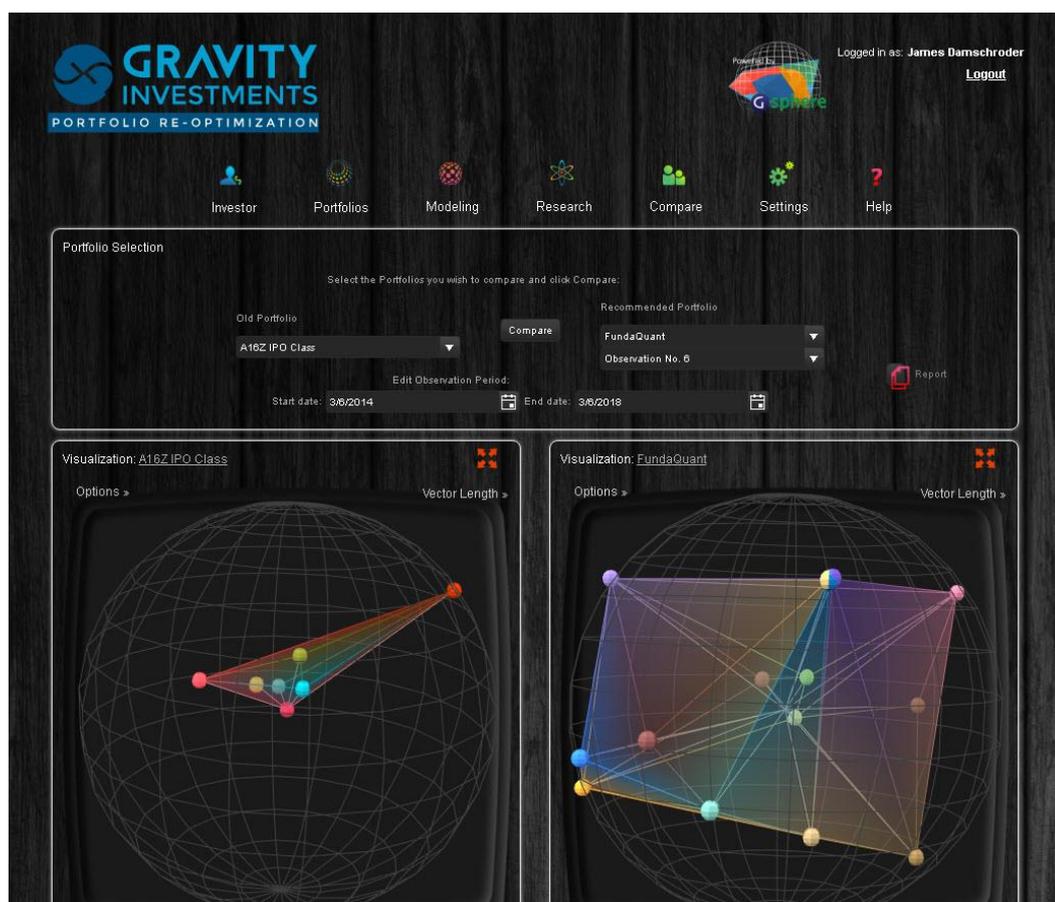
Science around diversification

Gravity Investments was conceived to provide B2B robo-solutions that would combine machine learning techniques with asset allocation, and security forecasting with advisor or client input.

According to James, what they have done is more than just automate the process.

“We develop the full history of the strategy, and that is probably the industry's strongest portfolio-level backtesting engine, because it accounts for all these different rules that govern the whole lifecycle of the portfolio management process.”

The company has built a rules engine with optimization capabilities. It can diagnose, optimize, backtest, and automate any investment strategy. The system also has additional features, such as investor engagement, that can be white-labeled and embedded into an advisor’s site to help them serve their clients and acquire new ones.



However, James believes that their diversification approach is what makes Gravity different from other robo-advisors.

“Probably our biggest differentiator is our science around diversification. Instead of talking about eggs and baskets, we've made it really objective. You can see it, measure it, visualize it, with our 3D graphics. You really learn a lot by seeing what that portfolio looks like from a diversification perspective.”



The company has patented their diversification measurement and analysis system, as well as their visualization methodology. The patented methods allow the company to optimize diversification and determine efficient asset allocation.

James says that their diversification approach is quite distinct from Markovitz's Modern Portfolio Theory, which is based on mean-variance analysis, and that those distinctions give them powerful insights into how and where the optimizations can be applied.

Building customized portfolios

Unlike many investment platforms, Gravity Investments doesn't have predefined portfolios. James Damschroder believes that everyone should have a custom portfolio instead of choosing the model that fits better than others.

James describes how this works on Gravity's platform. First, an investor may make some trade-off decisions that clarify their objectives. Then, a rather simple algorithm matches those priorities to better assets or models.

"It just matches your priorities to well those individual assets meet those priorities. Then you sum them all up, and you have a custom utility function for that investor."

The custom utility function then combines with diversification to create the optimized portfolio. There, the investor can figure out what not to invest in and what to invest in, and in what proportions.

Then the portfolio undergoes a backtest, which shows whether it meets the standards for a number of indicators, such as returns. If the result is unsatisfactory, the investor can update investment policies and retest the portfolio until they get good results. Then the fully-customized and optimized portfolio can be executed.

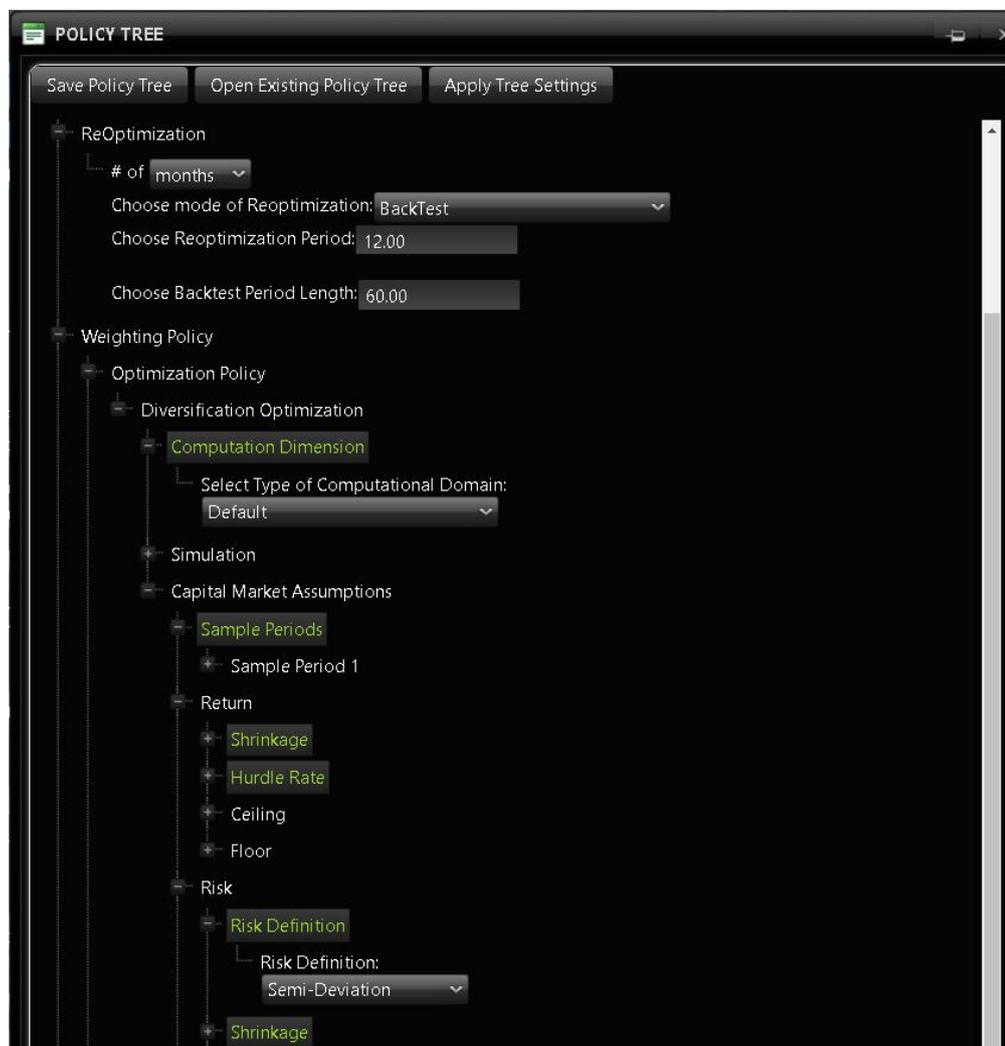
"We push that allocation information to a trading system or OMS or portfolio-management system that'll reconcile it to the custodian data and generate the orders to trade it."

Re-optimization instead of rebalancing

Many WealthTech companies have rebalancing tools that allow them to make their businesses more efficient and automate mundane stuff. However, James Damschroder doubts that rebalancing is what investors really need.

“If you look at the asset allocation technologies of yesteryear, they give you this asset allocation; you take that and pick some funds for it. Then you invest and periodically rebalance back to that same old asset allocation. I don't think that's a very good system.”

James believes that asset allocation should evolve, and that capturing evolutionary dynamics should be part of the investment process. This is why Gravity is more concerned with improving the holistic portfolio strategy. James calls this “re-optimization” rather than just rebalancing.



The structure of the platform

Gravity investments started as a Windows-based desktop portfolio analytics and optimization application. Today, it's a platform with four modules, each for particular clients:

- **Gsphere Advisor** is designed to analyze portfolios and gain new knowledge of diversification. This module offers a competitive advantage for financial planners and advisors.
- **Gsphere Portfolio Manager** also has access to the rules engine and optimization. This module provides analytics and helps portfolio managers to solve problems. Users of the module are financial firms with at least \$100 million in their management, hedge funds, and family offices.
- **Gsphere Robo Advisor** is for broker dealers and financial advisors. The module enables them to support their advisors' existing strategies and ethos with a fee-based model and to choose the level of control that advisors have. Such robo

portfolio offer a unique blend of customization and automation, enabling greater scale.

- **Gsphere Enterprise** Is for larger institutions that have a more distributed decision making environment and want to offer bespoke portfolio solutions integrated to their existing business processes and create custom workflows.

“The neat thing about what we can do there is we provide enterprise-level break points that allow for the fee-based platform to become a new revenue channel, which can replace some of these other revenue channels that might be going away.”



An API for a better job

James admits that Gravity’s platform doesn’t cover all the functionality they need. Therefore, integrations are very important to the company. They have developed a private RESTful API with different endpoints, such as:

- trading systems at the output;
- security selection processes and traditional risk profile as the input.

The company is also actively growing CRM connections to have advisors’ data in sync with their customers.

“All this data now lives in the cloud. Once that data is connected through the APIs, [it’ll be] great for the advisors, because they get an integrated WealthTech stack.”

James highlights that as the systems exchange data, the data proliferates, which enables Gravity to continuously find out how to improve portfolios.

“[It’s better] not just from a performance perspective but [also] in terms of the right portfolio for you at the right time. All that data helps us do a better job of delivering that right portfolio.”

The team and development process

Gravity is a rather small company: it includes CEO James Damschroder, CFO John Schoonbrood, a few marketing and sales people, and two software developers.

For development, the team uses an Agile process with two-week sprints. To decide which tasks to develop, James provides a poll to users and asks them to vote for the most important features.

“It’s not a democracy, but that’s an important input, because at the end of the day, as software companies, we’ve got to deliver the software that people want to use, or else we won’t live. And we’ve developed a very comfortable approach by quantifying in detail the business value of those top different directions.”

This also allows the team to identify priorities for each group of clients, from financial advisors to the biggest financial institutions.

Tech stack

The platform uses a monolithic architecture based on the Microsoft stack, which is **C#** and **SQL Server** in the back-end. For the front-end, they use **HTML5**, **CSS**, **jQuery**, and some special libraries (e.g., **WebGL**) to build 3D graphics and add them to web pages and PDF reports.

Future plans

James wants more advisors to be better versed in diversification and have a holistic view of portfolios. The company plan to have integrations with account aggregation systems and gather more data for their platform.

Gravity’s rules engine already provides risk management to protect investors from losses. At this point, James sees the opportunity to create a profit-taking rules engine.

“I think a lot of this [taking profits] is underanalyzed and underdeveloped in our industry. By building out a series of rules, I can govern different ways [...] to sell a portfolio position.”

According to James, they want to automate generation of an investment policy statement in addition to those already generated by the system (e.g., a fact sheet, a detailed report, or a comparison report). This would allow advisors, together with investors, to co-create the rules that govern the investor’s portfolio as it grows and evolves.

Takeaways

Gravity Investments state that their mission is to illuminate the truths of diversification, and they have developed a really innovative approach to measuring, visualizing, and optimizing diversification strategies to help investors improve their portfolios. Their AI module analyzes portfolios—their advantages and gaps—and adds this knowledge to improve the entire system. I believe that this platform may be of great use to financial advisors and institutions.



Written by Vasyly Soloshchuk, CEO and co-owner at [INSART](#), FinTech & Java engineering company. Vasyly is also the author of [WealthTech Club](#), which conducts research into Fortune and Startup Robo-advisor and Wealth Management companies in terms of the technology ecosystem.