



Northfield Portfolio and Risk Analytics in Charles River IMS

Charles River clients can now access Northfield Portfolio and Risk Analytics from the Charles River Investment Management Solution ([Charles River IMS](#)). In combination with Charles River's portfolio management, risk and attribution capabilities, Northfield's equity, fixed income, REIT, private equity/debt, real estate, infrastructure, and multi-asset factor models enable firms to identify, measure and model risk across the front and middle office on one platform.

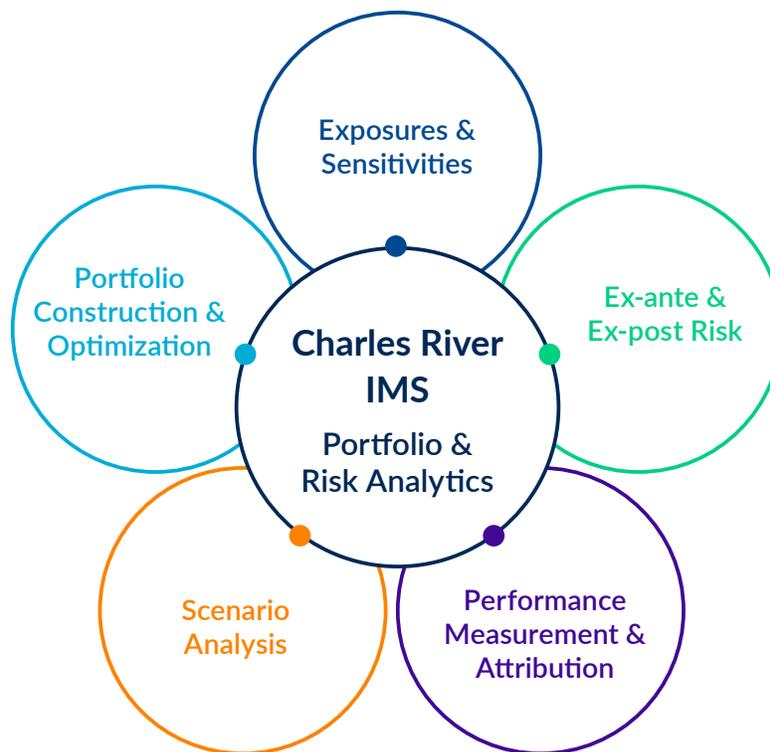
The models support both absolute and relative return strategies and cover all traded securities and illiquid assets globally. The Northfield Portfolio Optimizer enables managers to construct portfolios that deliver more return for each level of risk while incorporating manager preferences and market outlook. Additionally, Northfield's optimizer and risk models can explicitly account for non-normal return distributions that arise in many portfolios, including credit risk, counterparty risk, options and emerging markets.

Clients can also access Northfield's Risk Systems That Read (RSTR). These models blend news flows, implied volatility, cross-sectional dispersion, and historical relationships to provide traders and quants with novel and differentiated near-horizon risk forecasts.

Leveraging Charles River's single data model and portfolio manager workbench, Northfield Portfolio & Risk Analytics help Investment firms, asset owners, insurers and wealth managers construct and manage portfolios tailored to the asset classes and geographies they trade in.

Sector	Benefit
Institutional Asset Manager	Access broad range of factor models for public and private assets
Monitor and analyse portfolio impact of transaction costs	Manage all funds, strategies and accounts on a single enterprise platform
Plan Sponsors & Asset Owners	Provide an enterprise view of the overall risk across all public and private assets
Wealth Managers & Family Offices	Enables tax efficient portfolio optimization and house holding

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Risk Modeling	Northfield Equity Models	<ul style="list-style-type: none"> Global Hybrid Equity Risk Single Country and Regional Hybrid Equity US Fundamental and Macroeconomic Equity US Short Term Equity XRD Global Double Hybrid Equity Risk
	Northfield Adaptive Near Horizon Risk Models	<ul style="list-style-type: none"> Daily quantified news conditioning of both factor risk and security specific risk Custom forecast horizon blending
	Fixed Income & Multi-Asset Class Risk Models	<ul style="list-style-type: none"> Gain more granular and accurate views of entity-specific risk Measure and monitor risk budgets Validate risk assumptions for exposures across similar sectors/ratings Model all corporate and non-corporate credit risk across portfolios Deconstruct portfolio risk at any required level of granularity
	Northfield Real Asset Models	<ul style="list-style-type: none"> US and Global REIT Real Estate, Infrastructure, Private Debt and Equity
Portfolio Construction	Northfield Portfolio Optimizer	<ul style="list-style-type: none"> Incorporate transaction costs, taxes, and wide range of user specified constraints Performant and scalable mass customization and automation
Trading Analytics	Liquidity & Trading Cost Estimation	<ul style="list-style-type: none"> Analyze how liquidity imbalances impact trading costs and market prices Can be extended to any market around the world



About Northfield

Northfield is a market leader in providing investment professionals analytical and operating efficiency tools to enhance individual portfolio and firm-wide performance. Founded in 1985, Northfield has developed open, analytical models to identify, measure and manage risk. These risk models cover most marketable securities traded world-wide. Based upon sound investment theory, Northfield's products and services have stood the test of time from users within the global institutional investment community. With over 200 clients worldwide with offices in Boston, Chicago, London and Tokyo, Northfield strives to be a preferred partner for institutional investors and asset managers. For more information, please visit www.northinfo.com.

Charles River Development, A State Street Company

Investment, wealth and alternative managers, asset owners and insurers in 30 countries rely on Charles River IMS to manage USD \$36 Trillion in assets. Together with State Street's middle and back office services, Charles River's cloud-deployed front [and middle] office technology forms the foundation of State Street AlphaSM. Charles River helps automate and simplify the investment process across asset classes, from portfolio management and risk analytics through trading and post-trade settlement, with integrated compliance and managed data throughout. Charles River's partner ecosystem enables clients to access the data, analytics, application and liquidity providers that support their product and asset class mix. We serve clients globally with more than 1,200 employees in 11 regional offices. Learn more at www.crd.com

(Statistics as of Q4 2021)

State Street Corporation

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