GEORGIA TECH FOUNDATION GAINS **REAL-TIME CLARITY** AMID HISTORIC MARKET VOLATILITY

How a $2.3 billion endowment moved from reactive spreadsheets to a live, positions-based risk platform, built and stress-tested during the COVID-19 crisis.

PORTFOLIO RISK FACTOR EXPOSURE

Ex-Ante Risk Approach	**Live** Position-Based
On Demand Scenario Analysis	**Full** Look-Through

$2.3B	2019	Weekly
AUM Managed	Partnership Began	Risk Monitoring

> *The launch of Solovis Risk Analytics brought the sophistication of what we were doing to a new level, which resulted in greater trust in the data and better overall portfolio management.*

Johnathan Crist, CFA FRM
Sr. Investment Analyst
Georgia Tech Foundation, Inc.

INTRODUCTION

When markets moved, Georgia Tech Foundation needed risk answers fast.

When COVID-19 triggered historic market volatility in early 2020, asset owners faced mounting losses across portfolios more than a decade after the Great Financial Crisis. A mere five months later, the S&P 500 had recovered its prior peak. These unprecedented conditions demanded the ability to monitor portfolio risk and factor exposures on a continuous, proactive basis.

Johnathan Crist, CFA FRM, Sr. Investment Analyst at the Georgia Tech Foundation, manages the portfolio allocation, risk, and derivative program for a $2.3 billion endowment. The reflections here are the result of a several months-long collaboration with Solovis to implement a bottoms-up, seamlessly updated ex-ante risk system, much of it built during the most volatile stretch of the pandemic.

IN THEIR WORDS

"No one is ever truly 100% prepared for the type of event that occurred in February and March of 2020. Regardless of how far along the project was, the data was vital to the circumstances. It was crucial to understand how our portfolio was positioned, both as the market sold off and in the subsequent rebound."

Johnathan Crist, CFA FRM Sr.
Investment Analyst
Georgia Tech Foundation, Inc.

THE CHALLENGE

Risk was reactive. The inputs were fragmented. Doing it regularly was unsustainable.
During stable markets, portfolio risk management is often an afterthought, a once- or twice-a-year exercise of dusting off old spreadsheets and updating assumptions. It tends to be reactive rather than proactive. Building a robust, ongoing risk process required coordination across four critical inputs:

Portfolio Weights: Investment weights across all asset classes, kept current and accurate.	Covariance Matrix: Up-to-date covariance data across all investments in the portfolio.
Risk Factor Returns: A robust, representative set to decompose portfolio risk into its drivers.	Illiquid Asset Modeling: A methodology for modeling variances and correlations of illiquid holdings.

Pulling this together even once was a significant undertaking. Doing so regularly demanded cross-functional coordination, specialized risk expertise, and large volumes of automated data.

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THE JOURNEY

Built in collaboration. Stress-tested by a global crisis.

POC BUILD BEGINS

Prototyping begins

Solovis and Georgia Tech Foundation begin iterative development, building scenario analysis, illiquid asset risk proxies, and beta-testing features together throughout the year.

DURING POC BUILD

COVID-19 hits before the product is complete

With the front-end still in development, crisis struck. Georgia Tech Foundation needed risk answers immediately. Solovis delivered regular risk reports using its risk engine and Excel, covering volatility, factor exposures, major risk contributors, and projected economic shock impacts.

LIVE STRESS SCENARIO

Live stress scenario becomes the best proof of concept

"The events in February and March of 2020 ended up pushing the project along quicker," said Crist. "We were going through a live stress scenario we could use to compare to what we were seeing in Solovis Risk Analytics. Calibrating the model to true market output allowed us to ultimately gain confidence in the data going forward."

DAY 1

Platform launches, spreadsheets retired for good

Solovis completed the front-end of Risk Analytics, fully integrated with Portfolio Analytics and accessible on-demand. Georgia Tech Foundation moved off spreadsheets permanently.

TODAY

An ongoing research partnership, not a vendor relationship

Georgia Tech Foundation uses Solovis Risk Analytics every week to monitor risk and portfolio exposures. Weekly calls with Solovis' R&D team cover best practices, modeling considerations, and current events. When Georgia Tech Foundation wanted deeper exposure to nonlinear equity volatility, Solovis developed new volatility-specific factors to augment Georgia Tech Foundation's base risk factor model.

To learn more about Solovis and our solutions, visit www.Solovis.com

VALUE PROPOSITION

- A risk system built on top of positions-level data generates risk calculations using the portfolio's actual holdings down to the individual security. A key drawback of many other risk systems is that they are returns-based rather than positions-based. Risk metrics calculated using returns capture the average positioning of the manager or portfolio over the analysis period. When conducting a risk analysis, the best predictor of ex-ante risk is the current positions.
- Solovis could see Georgia Tech Foundation's allocation to every stock and bond in its portfolio, including full look-through into the portfolios of many of its managers, throughout time.
- Fully integrated with Solovis Portfolio Analytics and accessible on-demand, Georgia Tech Foundation could finally move off spreadsheets for good.
- Weekly conference calls with Solovis' R&D team go beyond just updates on the application to cover all topics around risk management, from best practices to future implementation considerations and topical current events.

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