

New Constructs: The Most Precise Valuation Based on AI-Powered Fundamental Analysis



Site: www.newconstructs.com

Established: 2002

Value proposition: Provider of AI-based stock, ETF and mutual fund research platform providing advanced fundamental research based on forensic accounting analysis and reverse DCF valuations.

The executive team: [David Trainer](#), Chief Executive Officer
[Lee Moneta-Koehler](#), Chief Operating Officer

New Constructs offers a technology platform that uses machine learning to analyze the fine print in corporate filings and make numerous adjustments to close accounting loopholes. This Robo Analyst technology makes it possible for every investor to have the sophisticated fundamental research that Wall Street insiders use. It empowers investors to make more informed decisions with high fidelity apples-to-apples comparisons across thousands of stocks, ETFs and mutual funds. With over 150,000 expert-parsed financial filings from which to learn, the Robo Analyst leverages one of the best training data sets in the world for financial modeling. Forensic accounting experts work directly with programmers to teach machines how model 30+ accounting loopholes and thousands of disclosures. **E&Y, Harvard Business School & MIT Sloan** are users and advocates of New Constructs/ Robo Analyst.

To discuss this extraordinary solution, I went to the Greater Nashville area and met with the CEO of New Construct, David Trainer. Before starting his business in 2002, he worked in audit and consultancy.

“I remember, on my first audit job, finding an error on an income statement and taking it to my manager. She said, ‘Don’t worry about that. We’ll fix it later in the footnotes.’ She made a big show about all the things that she was going to bury in the footnotes later, and I thought: okay, these footnote things must be really important.”



His further career path also gave him insights into the importance of rigorous fundamental research that focused on economic earnings as opposed to accounting earnings. We had a good discussion about the prospects of the focus on rigorous fundamentals in wealth management, the accomplishments of New Constructs, and the company’s organization.



The concept

Analyzing footnotes not only allows analysts to close accounting loopholes, but it also reveals mistakes by auditors. Most importantly, New Constructs deep analysis of financial filings is critical to high integrity analysis, e.g. return on invested capital (ROIC). Most ROIC analytics come from bespoke calculations that won’t tie to peer comparisons or any other research. It’s not as detailed as it should be to reflect the real situation at the company. New Constructs provides a solution that processes a really huge number of documents, recognizes the text and figures automatically, and leverages expert analysts to model ROIC and any other metric based on proprietary data found only in the footnotes and the Management Discussion & Analysis sections of filings.

“Noise trading is a very risky proposition, because the noise traders pay not attention to fundamental details. If your investment decision-making process has no grounding in fundamentals, you could be left without a chair when the music stops.”

The big problem with competitors such as Compustat, Worldscope, Bloomberg, and FactSet, David says, is that there’s little to no connection between the original filing and the normalized output.

“It’s hard to go back and find how or why they arrive at many of their calculations. Often, they do not know. Our technology was built with auditability and transparency at its core. We show every number and every calculation behind every metrics in our models. That’s super helpful, but also the technology was designed to ensure that I could keep expert analysts around long enough to justify training them.”

David and his team built the system around human weaknesses. Humans are not good at reading long documents, as their attention dwindles quickly. Thus, New Constructs implemented a machine to make the boring parts of the process automatic so that humans could focus on the more sophisticated, challenging, and interesting parts of going through filings.

Product and implementation

New Constructs provides sophisticated reverse DCF valuation models to look at different future cash-flow scenarios and how they affect valuation. All of their models are fully auditable so users can trace all data and adjustments back to original filings, which go back to 1998. All models are also customizable so users can modify an adjustment or calculation. The models provide time-series analyses on all custom and standard metrics such as NOPAT (net operating profit after-tax), economic book value, invested capital, and return on invested capital based on any modifications the uses choose to make.

Also, it’s worth mentioning that the system operates with data collected over 15 years that contains information from both public and private services. It can take in any financial statement, which empowers machine training and rating.

“The focus on having deep subject-matter expertise on the front lines of data collection is the key to powering real machine learning and artificial intelligence.”

The only way to build smart machine learning around data collection, according to David, is to have subject matter expertise on the front line of attack. Ensuring you have the best data ensures you have the best models for deriving high integrity investment ratings for stocks, ETFs, and mutual funds.

This approach attracted the attention of Ernst & Young. They published [a white paper](#) demonstrating the material superiority of New Constructs’ data, and it clearly shows that the results of their approach are better than those of other companies. [Harvard Business School wrote a case study](#) featuring New Constructs’ Robo Analyst technology and now plans to publish further research, along with MIT Sloan, that proves the superiority of their data and analytics over Compustat and Street Earnings.

According to David, New Constructs unrivaled training data helps attract programming from around the world.

“We have people contacting us and willing to work for free in order to help further their PhDs in data science, because they know that we understand this problem.”

Large high quality training data sets are critical to testing theories and new technologies. Like any other model, the output of machine learning or AI is only as good as the inputs. With New Constructs, they get to learn more about how well these techniques work, because they have a robust and proven data set.

Tech stack and integrations

David says they use **Amazon AWS** shop to run New Constructs, and some SQL in their data analysis. He admits it's still better to keep the data on **Amazon** servers than in-house: it's still cheaper and has better security.

“**[Amazon]** can afford to pay more for security than anyone else, because they're scaling across their thousands of customers as opposed to us having to have our own security for just us.”

New Constructs has a very robust Excel Add-in and API that are used by their customers—for example, to build models in Excel format or run their quant strategies. Among the integrations are **Thomson One**, **Scottrade**, **TD Ameritrade**, **ETrade**, **Interactive Brokers**, **Market Digital**, etc.

Sales and partnerships: Leveraged Distribution

When asked about the company's structure, David mentions that they employ analysts and engineers. It's interesting how they run marketing strategy within New Constructs. In the investing business, the sales and distribution channels are owned by the main players—the establishment. That's why they're focused on partnerships with such companies as **Bloomberg** and **Morgan Stanley**, who are in the business of generating original proprietary content. New Constructs provide them with unique content, and they provide a sales force in return.

Knowledge transfer

The developers work very closely with the analysts at New Constructs to combine the expertise of those looking at the data and building models with those who are building the technology to automate the process. They have internal wikis that explain how to do things.

“People who really do well are people who just dive in and work hard. There's no knowledge that's trapped or hidden with one individual. When one of us figures something out, that's the new standard. It's the new step on the staircase to greater functionality and greater technological capability.”

The company also practices role exchange. David says this is about empowering people to do things that have never been done before.

Challenges and future plans

The biggest challenge for New Constructs, David says, is that the tech is changing. This forces companies to constantly search for professionals in such fields as data science,

machine learning, and natural language processing. They have to constantly try new technologies to see which ones work best.

“We’ve probably thrown out, in the last month, 200 different technologies. We’re doing that all the time, because it’s a rapidly changing field.”

The big shift in their business today is in the data business. Many quant firms are beating down New Constructs’ door. David says they’re on their way to restructuring the business to be able to service more of those clients efficiently. Also, they’re striving to do more work on packaging their API in different offerings.

“The big focus here through the rest of 2018 is really becoming more of a full-service [...] provider for the alternative data, the quant world, and also for every fundamental investor who is looking for access to better data.”

As part of this, David plans to make their solution accessible to more folks by democratizing prices. In this case, people will be able to get full access to New Constructs for \$50 per month or even cheaper.

Takeaways

It takes a lot of work to get fundamental analysis right. New Constructs has managed to create the technology to do it right with unrivaled scale and integrity. This tool opens up great opportunities for customers, partners, and scientists, and that’s great. Thank you, David, for a captivating discussion!



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