

INDUSTRY, MARKET AND PORTFOLIO INTELLIGENCE



Increasing Investment Performance Through News and Derived Data

Event-Driven Portfolio Impacts Hardly Managed Today

Traditional active asset management approaches generally start with the strategic asset allocation addressing first the distribution of funds across asset classes and regions. They then move on to the tactical asset allocation to over- or underweight certain stocks or bonds, for instance. Such approaches typically rely on the fundamental analysis of countries and companies, on the analysis of historical market data and on other financial indicators, or, on a combination of both.

However, the event-driven impact on investment portfolios can hardly be managed based on the analysis of historical market or fundamental data alone. To mitigate risks resulting from important—but by nature rare—events, asset managers need to constantly monitor evolving news stories around the world, related to single companies, whole industries or certain jurisdictions, for example. With more than one million news stories published on a daily basis, this is impossible to accomplish without a machine-augmented approach.

Automated Generation of Asset Management Intelligence with Dow Jones DNA

Dow Jones DNA provides standardized access via modern APIs, not only to an archive with more than one billion articles from over 8,000 sources, but also via DNA Stream to just published news articles in near real-time. All articles are delivered in machine-readable format and are tagged with comprehensive meta data based on Dow Jones Identity Identifier's (DJID) industry and region taxonomies.

The rich and vast data sources of DNA can be accessed via standard API calls from any programming language and deliver results that are already pre-processed for the efficient application of natural language processing (NLP) and machine learning algorithms. Among others, the way results for API queries are retrieved, simplifies the creation of feature and label data for such algorithms. Against this background, DNA provides the ideal basis to augment asset management processes by automated, systematic news screening efforts.

How Asset Managers Can Use DNA to Manage Event-Driven Portfolio Impacts

Consider the following scenario. The Chief Investment Officer (CIO) of an institutional, equity-focused investment manager wants to improve their risk management with regard to impacts from important, rare events. They set up an internal project team which includes a portfolio manager, a financial analyst, a risk manager and a data engineer. The project's goal is to implement an event-risk application which shows in near real-time emerging and evolving events that might impact the value of portfolio positions in certain industries or regions.

To get started, the financial analyst creates prototypes for two different dashboards—one for the relevant industries, the other for the relevant regions—based on the DNA industry and region taxonomies. Relying on market capitalization data, the focus is on the historical correlation, the short-term correlation and the correlation under historical stress scenarios, such as during the crisis of 2007 and 2008. To this end, the correlation values are displayed as a heat map and are colored according to a blue-red color map that represents -1 by dark blue, 0 as white and +1 by dark red.

Based on the two prototype dashboards from the financial analyst, the data engineer implements an application that retrieves news articles in near real-time from DNA Stream and processes these with NLP and ML algorithms. Using the results and the rich metadata attached to every article, the application categorizes events by industry and region. It also counts the

number of articles related to any single event and every article by a factor based on its source. Finally, the application calculates a sentiment score for every article and aggregates sentiment scores per event. The data engineer makes sure that the algorithms account for typical problem areas, such as “double negation.”

Together with the financial analyst, the data engineer combines the automated news processing with the prototype dashboards to arrive at the final user interface of the event-risk application. This graphical user interface, displaying the two correlation heat maps, allows switching between different correlation measures. In every cell of the two heat maps, three numbers are displayed: one for the number of events identified and tracked, one for the total number of relevant news articles and one showing an aggregate sentiment score. A click on any of these numbers allows portfolio and risk managers to drill down to single events, articles or sentiment scores.

Once the technical features are implemented, the financial analyst and the data engineer demonstrate the application to the portfolio and risk manager of the team to gather their feedback. Both of them approve the implementation and start discussing how the insights gained from the new event-risk application can be used to react appropriately to new, potentially harmful events on the tactical, as well as even on the strategic asset allocation, level. They also discuss how to implement short-term hedging measures, such as buying put options for downside protection, given both a new relevant event, as well as the three different correlation measures between industries and regions.

News data for industry, market and portfolio intelligence

Pinpoint investment opportunities, allocate assets and manage portfolio risk with news derived data. DNA's comprehensive global news database—together with fast, flexible delivery options—allows you to identify event-driven impacts on investment portfolios that represent either opportunity signals or risks. Likewise, credit investors can easily monitor and predict impact of adverse credit events on their loan portfolios.

What will you build with DNA?

To learn more, visit www.dowjones.com/dna or contact your sales representative.

If you are located in the US, you may also call **800-369-0166**.



Dow Jones DNA - Data, News & Analytics

At a time when data fuels the professional world, Dow Jones DNA gives you data for AI and allows you to seamlessly connect datasets. One of the world's most comprehensive licensed news datasets, DNA is designed to readily integrate with your organizations' advanced analytics in order to provide deep insights and automate business decisions.

DNA is a cloud based Data-as-a-Service platform to help you leverage outside insights and increase the accuracy of your data outputs. You can:

- Have confidence and reduce risk with news and data you can trust, from our 31+ year archive of proprietary and licensed news data with storage rights through contract life
- Rely on highly veracious data with 8,600+ sources in 28 languages from extensive regions, industries and topics
- Save time and increase productivity with well-structured metadata from our cleaned and labelled datasets. Features include tagged company codes on 20m+ companies and standardized formatting of timestamps across 1.3bn articles
- Scale and tailor the specifications and delivery method to best suit your data science teams. Our DNA Solutions Engineers are here to assist you integrate DNA