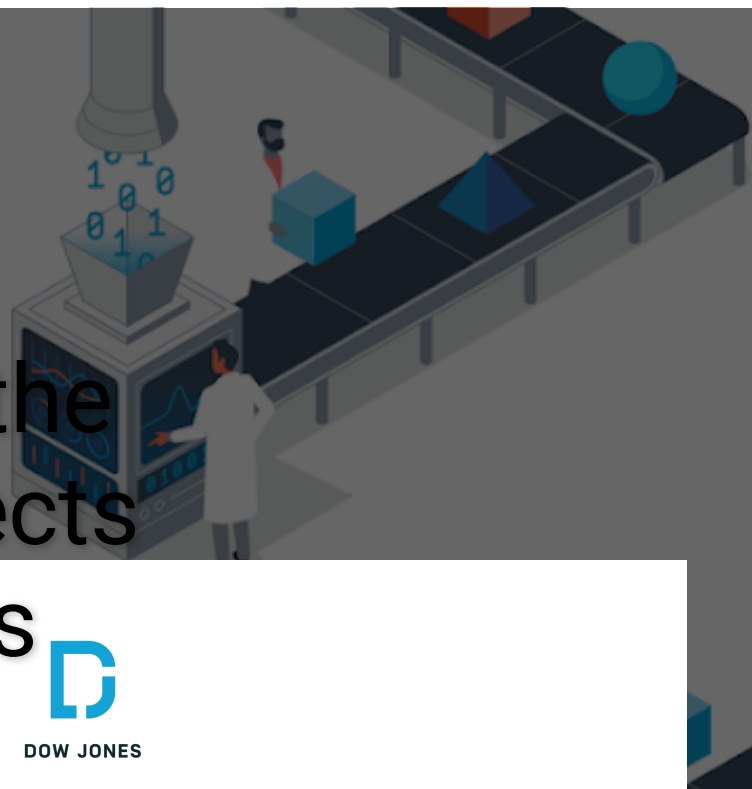


# Dow Jones DNA and Quantiphi: Uncovering the network effects of key events



DOW JONES

## About Dow Jones

Dow Jones DNA, an award-winning Google Cloud Technology Partner, is a global provider of premium news content and business information, to consumers and organizations around the world. DNA provides flexible access and delivery of premium news data through its integration platform built on robust APIs to power enterprise advanced analytics and workflow initiatives.

Visit the [Dow Jones DNA](https://www.dowjones.com/dna/)

(<https://www.dowjones.com/dna/>) Platform website to learn more.

Industries: Financial Services & Insurance, Healthcare

Dow Jones DNA partnered with Quantiphi and Google Cloud to develop a Knowledge Graph for fast, robust and accurate insights into the network effects of key events documented in 30 years of news content.

**Google  
Cloud  
Results**

Unlocking insights in 1.3 billion documents

# articles

- Synthesized 30+ years of unstructured news data to assess qualitative business impact of key events
- Defined complex network efforts to uncover hidden relationships and insights
- Exemplifies ease of using Google Cloud Platform with prototype Knowledge Graph, delivered in 10 weeks

Location: United States

Quantiphi is a category-defining Applied AI and Machine Learning software and services company focused on helping organizations translate the big promise of artificial intelligence and machine learning technologies into quantifiable business impact.



## About Quantiphi

Quantiphi, an award-winning Google Cloud Services Partner with a Google designated specialization in Machine Learning, is a category-defining Applied AI and Machine Learning software and services company focused on helping organizations translate the big promise of artificial intelligence and machine learning technologies into quantifiable business impact.

BigQuery (<https://cloud.google.com/bigquery/>)

Cloud Bigtable (<https://cloud.google.com/bigtable/>)

Cloud Dataflow  
(<https://cloud.google.com/dataflow/>)

Cloud Dataproc  
(<https://cloud.google.com/dataproc/>)

Compute Engine  
(<https://cloud.google.com/compute/>)

Dialogflow Enterprise Edition  
(<https://cloud.google.com/dialogflow-enterprise/>)

the big promise of artificial intelligence and

Dow Jones (<https://www.dowjones.com>) provides business and news content for more than 150 years and is one of the world's largest news organizations. Its publications and the flagship *The Wall Street Journal*, the largest newspaper by paid circulation in the United States; *Factiva*, *Barron's*, and *MarketWatch*. As Dow Jones looked to support the digital transformation of its enterprise customers, the organization wanted to continue to provide scalable, flexible access to its 1.3 billion document premium news archive, which is among the world's largest, via its new DNA platform (<https://www.dowjones.com/dna/>).

Cloud Storage (<https://cloud.google.com/storage/>)

quantifiable business impact

Kubernetes Engine

(<https://cloud.google.com/kubernetes-engine/>)

Through DNA, Dow Jones is both a Google customer and a Google Cloud Technology Partner. To help DNA customers explore new possibilities being unlocked by cloud computing and machine learning, Dow Jones expanded the partnership to include Quantiphi (<https://www.quantiphi.com/>), a Google Cloud Services partner focused on helping organizations translate the promise of big data and machine learning technologies into quantifiable business impact. The three-way partnership represents a powerful force with Dow Jones' rich content archive, Quantiphi's strong foundation in Google Cloud Platform (<https://cloud.google.com/>) (GCP), and Google as a preeminent cloud provider with a rich heritage in data science.

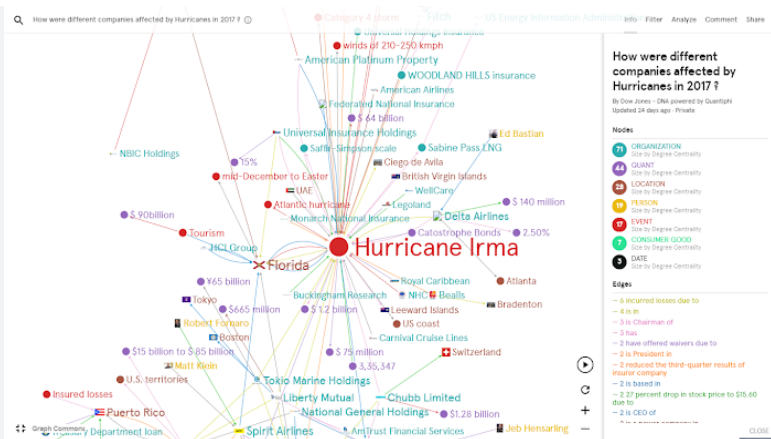
“Google Cloud Platform is hugely complementary to our DNA service because it really brings our datasets to life. Quantiphi delivers the services and expertise to tie everything together and bring the Knowledge Graph project to fruition and demonstrate the art of the possible.”

—Niranjan Thomas, General  
Manager, Platform &  
Technology Partnerships, Dow  
Jones

## Visualizing complex relationships

Recognizing the need to showcase the depth and breadth of the DNA dataset the team developed a [Knowledge Graph](https://network-effects.dowjones.com/) (<https://network-effects.dowjones.com/>) prototype to help data scientists and developers discover insights related to network effects and business impacts of global events, such as a major natural disaster. Customers can also visualize other key events, hidden relationships, or unseen opportunities that could impact their business. The tool leverages GCP, the [Dow Jones DNA - Data, News & Analytics service](https://www.dowjones.com/dna/) (<https://www.dowjones.com/dna/>), TensorFlow, and a graph database platform to perform text mining, machine learning, data integration, and visualization of findings.

The Knowledge Graph example on the Dow Jones website demonstrates the impact of several 2017 hurricanes on insurance and other industries, exhibiting how Dow Jones DNA content about global events can be structured and depicted in a network diagram visualization for advanced analytics. The prototype reveals factual and inferred relationships between entities, and follows these associations to uncover critical insights. With this mapping, a full picture of the hurricane event ecosystem can be queried at scale.



The service can be customized for customers who want to key in on other types of global events or want a more comprehensive understanding of the network effects that can result, potentially uncovering impacts that were not apparent before. Visualizing the impacts as a network diagram can interconnect effects that might have multiple degrees of separation.

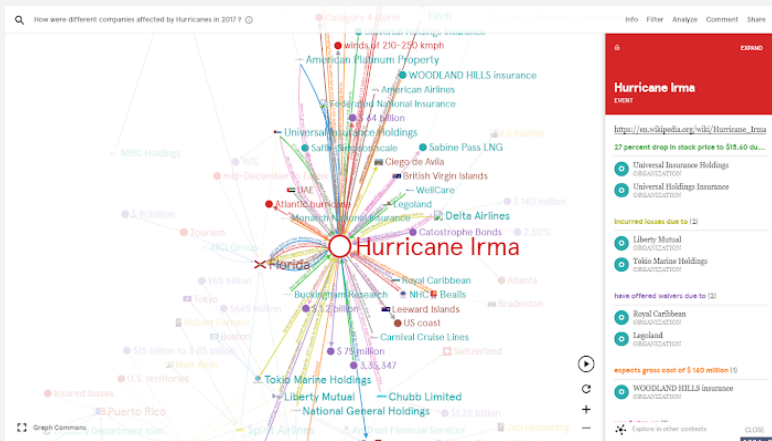
The Dow Jones and Quantifi teams developed their Knowledge Graph concept in four weeks, then produced a fully working prototype in another six weeks. The team credits the short turnaround to the power of Google Cloud Platform and the synergies of the partnership between Dow Jones, Quantifi, and Google.

“New technologies can often be difficult and expensive at the enterprise level, but Google Cloud Platform helps our DNA clients remove a lot of that friction. It democratizes advanced analytics by offering specialized capabilities that previously weren’t widely available, without requiring a lot of effort.”

—Niranjan Thomas, General  
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“Google Cloud Platform is hugely complementary to our DNA service because it really brings our datasets to life. Quantiphi delivers the services and expertise to tie everything together and bring the Knowledge Graph project to fruition and demonstrate the art of the possible,” says Niranjan Thomas, General Manager, Platform & Technology Partnerships for Dow Jones.

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## Fast and scalable analytics



Naturally, DNA Snapshots are very large and any solution had to be quick and highly scalable. “A combination of [Cloud Bigtable](https://cloud.google.com/bigtable/) (<https://cloud.google.com/bigtable/>) and [BigQuery](https://cloud.google.com/bigquery/) (<https://cloud.google.com/bigquery/>) delivers the fast, powerful capabilities needed to support the Knowledge Graphs,” says Asif Hasan, Co-founder & President at Quantiphi. “With the help of Cloud Bigtable, we can easily store a huge corpus of data that needs to be processed, and BigQuery allows data manipulations in split seconds, helping to curate the data very easily. In the future, we anticipate usage of real-time querying in the Knowledge Graph and catering to manual queries to answer different questions from the premium news database, which can be a game changer.”

Dow Jones appreciates the broad set of services GCP offers around machine learning, allowing it to run TensorFlow on [Compute Engine](https://cloud.google.com/compute/) (<https://cloud.google.com/compute/>), run containers with [Google Kubernetes Engine](https://cloud.google.com/kubernetes-engine/) (<https://cloud.google.com/kubernetes-engine/>), gain high performance object storage with [Cloud Storage](https://cloud.google.com/storage/) (<https://cloud.google.com/storage/>), and create an analytics pipeline with tools such as [Cloud Dataproc](https://cloud.google.com/dataproc/) (<https://cloud.google.com/dataproc/>) and [Cloud Dataflow](https://cloud.google.com/dataflow/) (<https://cloud.google.com/dataflow/>). For an upcoming Knowledge Graph the team is developing, [Dialogflow](https://cloud.google.com/dialogflow-enterprise/) (<https://cloud.google.com/dialogflow-enterprise/>) enables a natural language conversational interface for delivering efficient and accurate responses to users interacting with the system.

"With GCP, it's easier to synthesize large amounts of unstructured data and define complex network efforts. And with Dow Jones DNA fueling our Knowledge Graph, you can quickly leverage decades of knowledge in a way that makes connections more accurate. These business insights can unlock new revenue opportunities and reduce risks and costs for our customers."

—Asif Hasan, Co-founder &  
President, Quantiphi

## Customizing Knowledge Graphs

The Dow Jones and Quantiphi teams are enthusiastic about helping clients build their own Knowledge Graphs, analyzing events tailored to their specific industry and use case. For financial services firms, for example, the tool can help with signal identification for investment management and event risk modeling, by showing the financial impacts across different companies and industries when certain events occur. In healthcare, a Knowledge Graph can provide intelligence for prioritizing research and development for new pharmaceutical and life sciences products, by analyzing published medical study results along with business results from publicly traded health sector companies. For consulting firms and other companies, the tool can provide competitor and market intelligence, by mining published information related to products or industries of interest.

The future promises integration of live data feeds from social media, weather information, census data, and more.

"In the past, preparing certain types of analyses could require months of sifting through news articles, and

you still might not glean important relationships between events. With GCP, it's easier to synthesize large amounts of unstructured data and define complex network efforts. And with Dow Jones DNA fueling our Knowledge Graph, you can quickly leverage decades of knowledge in a way that makes connections more accurate. These business insights can unlock new revenue opportunities and reduce risks and costs for our customers," says Asif.