Flight Data Analysis: Transcript

This demo is highlighting a couple of different things. OmniSci is a GPU enabled database -- an SQL database -- that runs entirely in GPU memory. That allows it to be incredibly fast and allow you to do queries and filters into really large data sets much faster than you could do on a CPU-based system.

OmniSci builds the backend of this demo -- all the data is loaded into OmniSci -- as well as the front end -- this Immerse Dashboard. The Immerse Dashboard lets you visualize your data and then build all of these sub-views through charts.

The data we're looking at here is flight telemetry from ADS-B [Automatic Dependent Surveillance - Broadcast] sensors. Planes emit their trajectories, where they are, who made them, their call sign -- all this information so that planes don't run into each other. Essentially, we've got **500 million** flights loaded up into this example and from here I can start filtering and asking questions of the data.

One kind of interesting use case to look at is the grounding of the 737 MAX. We can start poking at this. Now all of these sub-cards here -- these views -- are all based on the map. So as I move the map around, this is changing - it's reflecting my view of the world. This is all happening in real-time -- really quickly on the GPU.

So if I want to start saying show me all of the Boeing flights in the world, over this time period, I can just start to query here. So now I've got about 162 million flights showing up here. And you can see Southwest Airlines is a big customer of Boeing. And we can filter down even more and look at all the Southwest flights. There are obviously mostly in the US.

The biggest deal here is when you have hundreds of millions of records, and you need to get insight out of that quickly, you don't have time to wait hours for a query to come back. And that question can change all the time depending on what your situation is. So you want to be able to query this data quickly and get answers back and the GPU enabled database is what lets you do that.