



Staying On-Track with
Oracle Analytics Cloud:
The Rumo Logistica Story

Despite the prevalence of IoT devices in our day to day lives, many people still view IoT data as a future consideration for their organizations, or a data source that has yet to be tapped to its full potential. After all, how do you store, manage and make sense of the enormous amount of information that these devices collect, and can you really make “real time” changes with it?

This was the challenge that Brazilian transportation logistics giant Rumo Logistica faced when trying to improve the safety and efficiency of their thousands of kilometers of railway lines. Robson Schmidt, Head of IT, shared the story of how combining the power of the Oracle Analytics Cloud with their existing IoT data stores, the team at Rumo Logistica developed predictive analytics that helped them prevent service delays, improve the usage of their busiest routes, and most importantly, protect the safety of their workers through proactive repairs and management.

Building Castles in the Air - Choosing a Solution

Rumo Logistica already had a significant investment in place before they began work on their analytics project. They installed sensors across their track network, which gather information on temperature, pressure, and more - all of which helped to alert maintenance teams and logistics centers to track issues as they occurred. Combined with the information on their scheduled trains, including weight, train length and travel times, Rumo had all of the information it needed to manage and coordinate its expected shipments. But no matter how quickly workers could respond to a breakdown or issue, they still created delays and backed up future trains. Rumo needed a way to prevent issues and quickly re-route service to available tracks immediately. This kind of shift could save millions of dollars and improve overall safety, but Rumo had to find a way to mine and manage their existing data stores.

The IT architecture team decided to look for an existing analytics toolset that would meet their needs, rather than relying on custom development. Additionally the team focused on a Cloud-based solution to support the potential for future expansion and needs. Several solutions were evaluated, but the team chose the Oracle Analytics Cloud for several reasons:

One Complete Solution

After looking at several options, the Rumo team determined that the only analytics solution that could meet all of their needs out of the box was the Oracle Analytics Cloud. The depth of reporting and ability to meet Rumo's specific needs now was unmatched, and the platform also offered additional tools for future expansion. The team was also more confident in the platform's capabilities than some other options because they were able to spend time with the Oracle team actually looking at and using a live instance. This real world experience allowed Rumo Logistica to see how their reports would be set up, how access would be provisioned, and how quickly new data could be used to generate results.

Ease of Implementation

One of the biggest selling points for the Rumo Team was the short time to launch their solution in production. OAC integrated with Rumo's existing systems, both Oracle and third party. The team called out the codeless implementation for connectors as particularly helpful. One of Oracle's local CSMs also spent time onsite with the Rumo Logistica team to support implementation. Having someone with hands-on OAC experience was invaluable, and while the

launch team felt that they could have been successful on their own, the additional support and insight meant a much smoother launch with less re-work.

[Multiple \(non-Oracle\) Data Sources, No Cleanup Required](#)

Since Rumo Logistica had already had its sensor network in place for several years, they had already set up several data stores in the Amazon EC2 Cloud. While several of the solutions evaluated by the launch team would have required data to be migrated or extensively cleaned before integration, OAC was designed to support multiple streams of data without cleaning, which saved time, money and a lot of effort. It also meant that there wouldn't be any disruption to the current data collection streams during a migration, so production systems would be unaffected.

[Immediate Development Capabilities](#)

In addition to the existing OAC capabilities, Rumo had the option to immediately begin work in the Oracle Developer Cloud. This would support rapid deployment, and could be connected to OAC in minutes.

[How Accurate Is Your Crystal Ball? Measuring Success](#)

Rumo's first projects were live in less than three months after signing their initial contract, and the team focused on seven key indicators in their reporting. These indicators were used to build a predictive model for track maintenance and re-routing decisions. Based on this information and the reporting it generated, the Rumo team could spot anomalies in track performance before there was an actual mechanical issue, and schedule preventative maintenance that drastically reduced the time tracks were out of service. This same information could be used to reroute traffic that would be impacted by these outages.

OAC's Analytics could also be called into service to deal with issues caused by trains. If there was an equipment failure, or trains were running behind schedule, the reporting from OAC could be used to identify where this would impact current schedules, but also identify opportunities to change future plans so that there would be less impact. After all, if you get stuck at a train crossing every day going to work, you would find a new route!

There are a lot of metrics that Rumo Logistica measured to assess the success of its analytics efforts - the amount of cargo delivered on-time, reductions in maintenance costs, staff time for manual data management and reporting - but one statistic stands out above the rest: safety. The efforts by Rumo Logistica to proactively manage track maintenance significantly decreased the number of accidents, both for active trains and maintenance crews.

[Predicting the Future of Analytics](#)

As the first stages of this project are completed, the IT Team at Rumo Logistica is already looking at expansion, and additional metrics to help drive even greater improvements in service and safety. And, just like the Cloud itself, the possibilities are limitless.