Spotfire™

Autostrade per l'Italia creates safer roads with highway analytics

97.5%
ACCURACY IN ESTIMATING TRAFFIC BACKUPS

Challenge

With a sprawling enterprise comprising complicated infrastructure and multiple business lines, Autostrade per l'Italia needed a better way to access complete and accurate data. It needed a more robust view of construction and maintenance data to optimize its highway and business operations and minimize the impact of road construction on everyday drivers.

Additionally, a complete view of data would empower key stakeholders with access to the most important key performance indicators (KPIs), sparking a cultural change toward an agile, digital future—and helping the company grow from a highway operator into a data-driven transportation leader.

According to Ruben Ganzaroli, group chief data officer, "We wanted to protect whoever is traveling on our highways, and we wanted to manage data in a safe and secure way. We wanted to execute decisions faster— be agile and fluid. We not only wanted to react immediately to what is happening around us but also to anticipate potential dangers or issues and take action before they occur."

autostrade per l'Italia

Autostrade per l'Italia is one of Europe's leading concessionaires for the construction and management of toll motorways. The investor-owned company includes five other motorway businesses and seven ancillary organizations serving around 3,000 km of motorway, more than 4,000 bridges and tunnels, and around 2.5 million vehicles a day.

~300

KPIs MEASURED THROUGH SPOTFIRE

<1 MIN

TRAFFIC CHART CREATION, DOWN FROM HOURS

Transformation

The company turned to Spotfire® visual data science because of its easy-to-build dashboards. To get started, the team uploaded all traffic data—including data going back 20 years—into its data lake. This data would be the foundation for maintenance analysis with artificial intelligence algorithms to prevent large road interruptions such as maintenance activity during peak traffic times. The Spotfire system first ingests data and then proposes analysis based on reference indicators.

While the enterprise-wide transformation is still underway, Autostrade per l'Italia notes that its data lake and integrative Spotfire dashboards are essential tools to democratize data and enforce data governance. The new platform helped create integral tools, including digital twins for every tunnel and bridge, a risk index for all traffic and highways, and snapshots for every 250 meters of road.

Ganzaroli explains, "Drivers don't want to meet traffic or have car crashes. So, we correlate information to help estimate the level of risk on the road with our accident ratio. We are investigating the key factors that grow the ratio, like the degree of highway curves. Basic information is now made scientific and ready for the company to use to drive decisions."

Benefits

The new platform also holistically manages all the data collected from every single highway event, such as car crashes, unexpected traffic jams, and changing volumes. Spotfire analysis replaces manual traffic tracking and the need to draw volume charts on paper, which took roughly 12 to 18 hours, and now takes mere seconds.

Spotfire solutions allow for greater levels of data accuracy. One weekend, the company precisely estimated a traffic queue was 12 km long within an error estimate of only 300 meters, accuracy that was quite unexpected. Accurate dashboards help minimize the impact drivers face, keeping everyone improving safety on the roads.

Ganzaroli concludes, "In full transformation, Autostrade focuses on digital positioning and standardizing and simplifying platforms. It has required reflection on what the pillars of a scalable and more sustainable ecosystem actually are."

Autostrade per l'Italia envisions a future of safer roads for all, backed by data-driven insights and decisions. In 2021, it moved up 22 points on its maturity model target due to its clear vision, roadmap, and governance. Transforming from an expert in road construction to a leader in integrated mobility was made possible by Spotfire.

Ready to get smarter with Spotfire visual data science? Talk to an expert today at spotfire.com/contact-us.

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