



Press Release

INDRA WILL IMPLEMENT THE TRAFFIC MANAGEMENT TECHNOLOGY FOR THE 18 TUNNELS ALONG THE BOGOTA-VILLAVICENCIO DIVIDED HIGHWAY IN COLOMBIA FOR €25 M

- **Coviandes has awarded the multinational the design, installation and intelligent traffic systems as well as the control and communications systems for the highway's 45 new kilometers**
- **An advanced control center, equipped with Indra's Horus solution, will be integrated with the two existing centers, which were also implemented by the company**
- **Indra has become a technological partner of Coviandes in this reference Latin American project, strengthening its international leadership in the area of cutting-edge technology for traffic management, and with key customers in more than 50 countries**

Coviandes has awarded Indra, the leading consulting and technology firm in Spain and one of the key players in Europe and Latin America, the design, installation and start-up of the intelligent traffic systems as well as the control and communications systems for the 45 new kilometers of the Bogota-Villavicencio divided highway in Colombia for nearly €25 M.

This new contract confirms the trust Coviandes has placed in Indra, which has become a technological partner of the Colombian concessionaire in this internationally renowned project. The multinational's most advanced solutions will control the 18 tunnels, 41 bridges and three overpasses that will allow doubling the roadway along approximately one third of the highway, making it possible to travel in two lines in each direction.

A new operations control center, located in Naranjal, will manage the traffic in the eight sectors in which the new highway is divided, and it will be integrated with the Boquerón and Buenavista control centers that are already operational and were implemented by Indra in past projects. Just like the previous centers, the Naranjal center will be equipped with Indra's Horus integrated roadway and tunnel management solution. Horus allows managing in a centralized manner the various systems installed in the new tunnels that the concessionaire designed as per European security standards in order to guarantee maximum security and operativeness, both in everyday management efforts as well as in emergency situations. This aspect is extremely important since this is a stretch that handles more than 1,200 vehicles carrying hazardous goods each day.

Thanks to Indra's technology and Coviandes' focus on ITS systems and security, operators will be able to control at all times the status of the roadway and have access to real time



information for decision making. It will also be possible to offer drivers optimal safety and service quality, which will help reduce the risk of incidents, optimize the use of resources during incidents, and display information to travelers in real time.

Intelligent Traffic Systems

The Horus solutions integrates the various intelligent traffic systems (ITS) that Indra will install along the highway, such as the closed circuit television (CCTV) systems, traffic meters, road signage, communications, SOS posts, incident detection, lighting control or loudspeakers.

At the concessionaire's request, Indra will install automatic incident detection systems throughout the entire Bogota-Villavicencio divided highway. These systems will facilitate an immediate reaction to events that could endanger user safety or traffic along the highway. A video surveillance system with automatic accident detection will be installed, along with air quality measurement, incident detection and weather station equipment, and various alarms will be activated in the event of an emergency. These are some examples of the systems that will allow the prompt implementation of the most appropriate measures. These include allowing vehicles to travel two ways in a single carriageway when necessary (one direction in each lane), without interrupting traffic circulation.

The solution implemented by Indra also includes speed meters and variable message panels that will provide drivers with real time information regarding road conditions, speed limits and incidents. Tunnels will also be equipped with visibility sensors, an artificial lighting system, an emergency and evacuation system, as well as power generators and back-up power systems to address any contingency that may arise.

The Bogota-Villavicencio road has the highest traffic growth in the country since it is the only ground connection between central Colombia, the eastern region and Venezuela. Optimizing the roadway so each carriageway of the divided highway operates in a single direction will make it possible to increase the highway's speed limit by 50 km/h and reduce travel times by more than 25 minutes. This, in turn, will result in fuel savings and lower operating costs for heavy vehicles.

Cutting-edge technology for traffic and tunnel management

Indra has implemented most of the control installations for the Coviandes road network in Colombia. As a result of this cooperation, the concessionaire currently has one of the most advanced tunnel control systems in the world, with state-of-the-art designs that meet the strictest safety standards. In fact, the tunnels equipped with Indra's control systems have received the best ratings in all the EuroTAP tests carried out since 2004.

The IT multinational has already implemented its technology for smart transport infrastructures in more than 50 countries and it is one of the leading companies in terms of the development and implementation of comprehensive solutions for traffic management and control, tunnel control systems, and toll systems. Indra has a number of key customers in this



field in the United States, Canada, Mexico, Chile, Brazil, Spain, Portugal, Ireland, Montenegro, India and China.

Indra is Spain's leading multinational consultancy and technology firm and one of the leaders in Europe and Latin America. Innovation and sustainability are the cornerstone of its business, having allocated over €570 million to R&D&i over the last three years, a figure that places it among the top European companies in its sector in terms of investment. With revenues of approximately €3 billion, 61% of its income is from the international market. It has 42,000 professionals and customers in over 138 countries.