Indra contributes to improving the mobility and traffic infrastructure planning in kuwait

- **An innovative traffic monitoring system based on Indra's Horus platform that integrates and processes data retrieved from different technologies, presenting them in a real-time graphic format useful for operators and citizens to make mobility decisions**

- **In addition to improving the management and maintenance of the current traffic infrastructures, the analysis of the generated data will help Kuwait lay the foundation for planning the necessary infrastructures of the future and even drafting the new mobility laws and legislation**

Madrid, 13 December 2017.- Indra has implemented an innovative system for the Kuwait Municipality to integrate different technologies for not only monitoring traffic in real time but also collecting, processing, analyzing and presenting the collected data graphically. This will thus contribute to improving management regarding mobility and traffic infrastructure planning in the city and throughout Kuwait, given the country's size.

Indra has created a new traffic control center in the city that is equipped with its smart traffic and tunnel management platform, Horus, a proprietary development considered to be the most advanced in its class for integrating and monitoring Intelligent Transportation Systems (ITS). The platform combines and integrates real-time information from over 200 permanent traffic sensors deployed by Indra and 3,000 mobile sensors, which the company installed in different locations across the country.

Through the use of Geographic Information Systems (GIS), an Indra-developed web-based platform displays all the traffic information gleaned and validated by the control center on an interactive map. This website is accessible to all citizens and can provide the different agencies responsible for mobility or other public entities with over 2,000 types of different traffic reports. This information enables improved decision-making and optimized route planning.

The platform also benefits driver safety, since Kuwait emergency and law enforcement services can use the available information to respond to incidents in a more operational and coordinated manner.

Citizens can also access a website from their mobile devices where they can check the status of the traffic along the two main arteries to enter and exit downtown Kuwait City, and even view highly precise estimated travel times.

Among the numerous benefits, the implemented technologies enable the analysis of, for instance, service levels on road networks, traffic flows at intersections (circles, crossings, junctions and even transport hubs) or points where traffic is particularly backed up, thus providing operators and planners with valuable information to achieve optimum mobility. Weighing systems help monitor the transport of goods to gain a greater oversight regarding vehicle weights and their effects, primarily on roadbed wear and tear. These solutions provide authorities with the means to optimize the scheduling of maintenance and resurfacing, and the creation of domestic legislation for roadbed design. Wi-Fi and Bluetooth sensor technologies will in turn set the stage for studies on average speeds and travel times, and even pilot testing regarding the best origin-destination routes.

A commitment to the future

With Indra's solution, Kuwait will be able to not only improve its short-term mobility but also lay the foundations for traffic planning and the necessary infrastructures of the future. The monitoring of variables, including but not limited to instantaneous and average speeds, volume or vehicle weight, will become a powerful and highly useful source of data in the medium and long terms. The analysis of these data will be useful for regulating traffic lights, ascertaining commuting patterns or traffic growth in different areas of the country to be able to plan new traffic infrastructures, manage and schedule maintenance on the existing ones, and even developing new mobility laws and legislation.

This project is the first part of an ambitious strategic plan drawn up by the Kuwait Municipality that contemplates future phases to expand the current network of sensors or implement additional technologies such as variable signaling panels, smart video-surveillance systems and other Intelligent Transportation Systems (ITS), constituting an exciting opportunity for Indra. The country also expects to invest over $100,000 million in its Infrastructure Development Plan, which entails projects for roads, ports, railroad running to other Persian Gulf countries, and the Kuwaiti metro transit system.

Leading technology for smart and sustainable mobility

With this project, Kuwait joins London, Madrid, Dublin, Medellin, Curitiba, Manila and a list of over 100 more cities worldwide who have entrusted their urban mobility improvement to Indra solutions. When applied to traffic management and urban transportation, this technology enables safer, more efficient and sustainable mobility, contributing to the reduction of traffic jams and their corresponding costs, minimizing pollution, and promoting the use of (intermodal) integrated urban transport services.

Indra has already implemented its technology to incorporate intelligence into transportation infrastructures in over 50 countries and is one of the leading companies in the development and implementation of comprehensive traffic management and control solutions, tunnel control systems and toll systems. Indra has numerous key customers in this field in numerous countries including the United Kingdom, the United States, Canada, Mexico, Colombia, Chile, Brazil, Spain, Portugal, Ireland, Montenegro, the Philippines, India and China.

Major projects on the Arabian Peninsula

Indra has other important references on the Arabian Peninsula thanks to the major infrastructure modernization projects in the region.

Also in Kuwait, the company has modernized the automated air traffic management systems for the Kuwait City Airport's control center and tower and implemented an advanced controller-pilot data link communications system.

In Saudi Arabia, Indra is the technology partner of the Spanish consortium working on the Mecca-Medina high-speed railway, and will implement its ticketing and access control systems at six metro transit lines and over 1,000 buses in Riyadh. In Oman, the company is modernizing the country's entire air traffic management infrastructure. Indra has also been awarded air traffic control contracts in Jordan and provided technology solutions to improve the processes of Public Administrations and utilities companies in Saudi Arabia and Bahrain.

About Indra

Indra is one of the world's top consulting and technology companies and a technology partner for the key operations of its customers' businesses worldwide. It is a leading worldwide provider of proprietary solutions in niche areas in Transport and Defense Markets and the absolute leader in IT in Spain and Latin America. It offers a comprehensive range of proprietary solutions and cutting edge services with a high added value in technology based on a unique culture of reliability, flexibility and adaptability to the needs of its customers. Indra is a world leader in the development of end-to-end technology solutions in fields such as Defense and Security, Transport and Traffic, Energy and Industry, Telecommunications and Media, Financial Services, Electoral Processes, and Public Administrations and Healthcare. Through its Minsait unit, it addresses the challenges of digital transformation. In 2016 Indra posted a revenue of €2,709m, employed 34,000 professionals, and had a local presence in 46 countries plus sales operations in more than 140 countries. Following its acquisition of Tecnocom, Indra's combined revenue amounted to more than €3,200m in 2016 with a team of nearly 40,000 professionals.