Press Release

INDRA DEVELOPS A SMART MOBILITY SOLUTION TO SPEED UP MAINTENANCE OF THE EDP GAS NETWORK

- **Its integration in the energy company's corporate GIS will make it possible to address, from any location and regardless of the coverage, the management, maintenance and planning needs of the network elements and the connected supply points, while optimising resources**

- **Indra continues to make progress in the development of solutions aimed at the smart, efficient and sustainable management of all the areas that comprise cities of the future**

The management and maintenance tasks of EDP Naturgas Energía's infrastructures will become much more agile and sustainable, and also less costly, thanks to the mobility solution Indra has just implemented in the energy company's corporate GIS (geographic information system). EDP Naturgas Energía's corporate GIS, which was also developed by the multinational consulting and technology firm, enables viewing all of the organisation's information in an integrated manner, graphically as well as alphanumerically, using georeferenced maps. It currently supports the management of more than one million supply points, over 9,600 kilometres of distribution network, half a million network elements and 90 maintenance teams.

The new project has made it possible to provide all the EDP Naturgas Energía maintenance teams with *on-line* as well as *off-line* access to network elements through the use of mobile devices equipped with Android and Windows 8 technology, as well as to offer additional innovations such as network digitalisation, geographic queries, SMS text messages for malfunction alerts, and vehicle fleet management. As of now, this can all be done from any geographic location and without the quality of mobile coverage affecting the work to be carried out.

For example, when maintenance technicians receive a malfunction notification in their tablet or smartphone, the application will guide them via GPS to the exact location of the incident. Once there, they are able to view the maps and the gas network of the area in order to commence the repairs and work on the network elements involved in the incident. All the necessary information can be obtained by accessing the corporate GIS web services when an Internet connection is available. If the maintenance teams must work in areas with poor coverage--which is frequently the case in isolated towns or in the countryside--users may

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access the alphanumeric search and location service in off-line mode after downloading all the information about the network elements onto the device.

Another important innovation is the mobile application's connection with the corporate fleet tracking system, which offers current and past positions on a map, as well as information about all the vehicles that comprise the company's mobile fleet. This way, in the event of a malfunction, it is possible to know which maintenance team is closest to the incident so it can be resolved as soon as possible, thereby optimising resources and using less fuel.

Indra is currently working on the mobility application's interconnectivity with other corporate systems, such as emergency management and the business expansion application, which is a tool that provides the sales department with a direct interconnection between the gas supply points from the GIS, land registry information and customer details, and it also speeds up the process of obtaining market analysis reports for queried areas.

Seeing through the ground using a mobile device

In addition, as a result of research performed within the framework of this mobility project, Indra has developed an innovative prototype that uses the camera of a mobile device to view underground pipes and valves in 3D, and to obtain information about each one. To do this, in a subsequent development the mobile application will use data from the corporate GIS and display it, using the mobile device's sensors (camera, GPS position, compass and accelerometer) as a point of reference.

Aside from facilitating the identification and 3D perspective of manoeuvre and operation elements that are not visible, it will make it possible to prevent weak points in the network, optimise maintenance tasks with a detailed view of the elements, and offer a more global vision of all the elements that comprise the network in real time. The prototype is currently undergoing testing.

Also in the field of innovation, Indra is working on another tool that enables the "virtual breakdown" of parts in order to support the study of complex components, compare operational parts with anomalous ones, and analyse each of the network elements in detail.

EDP Group

In Spain, the EDP Group is present in the business of generating, distributing and commercialising electricity and natural gas. With a portfolio of more than twelve million customers throughout the country, it has its own energy infrastructures in eleven autonomous communities.

In the gas sector, EDP is the second distributor of the Spanish market and it is the leader in Asturias, Cantabria, Murcia and the Basque Country. It operates nearly 10,000 km of gas networks, in which it has more than one million supply points.

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Indra

Indra is the number one multinational consulting and technology firm in Spain and a leader in Europe and Latin America. Innovation is the cornerstone of its business and sustainability. The company has allocated more than €550 million to R&D&i in the last three years, making it one of the top companies in Europe in its sector in terms of investment. With sales approaching €3,000 million, nearly 60% of its income is from the international market. The company employs 42,000 professionals and has customers in 128 countries.

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