INDRA IDENTIFIES IN A STUDY FOR THE UNITED ARAB EMIRATES THE EMERGING TECHNOLOGIES PROJECTS OF GREATEST IMPACT FOR IMPROVING PUBLIC SECTOR SERVICES

- **The purpose of this report, drafted in collaboration with the Prime Minister's Office, is to showcase the efforts of those governments that are implementing these technologies to provide more efficient services, with proven results in creating value and transforming the lives of citizens**

- **This report highlights 14 case studies, selected after evaluating 73 initiatives in 32 countries across the five continents**

- **3D printing of body organs in preparation of transplantation, the use of autonomous vehicles for public transportation, IoT platforms for remote assistance to chronically ill people, or artificial intelligence for detecting child abuse, are some of the benchmark cases presented in the study**

- **The technologies have been classified into nine categories, like Artificial Intelligence, Blockchain, Robotics&Space and Smart Platforms, and the projects have been evaluated in terms of criteria related to sustainability, availability, scalability, innovation and impact**

Madrid, October 30, 2017.- Indra, one of the world's leading global consulting companies, has presented in a report drafted in collaboration with the Prime Minister's Office of the United Arab Emirates (UAE) a selection of 14 noteworthy global case studies, considered referents in applying emerging technologies to improve the efficiency of public services and transform the lives of citizens.

The "Best Government Emerging Technologies" study is framed within the activities comprising the agreement of the UAE with the World Economic Forum to define a plan for studying and implementing measures related with the "Fourth Industrial Revolution" sparked by the adoption of emerging technologies.

The report, based on an exhaustive analysis, has resulted in the identification of 27 emerging technologies grouped into nine categories, including: *Artificial Intelligence, Blockchain, Citizen Engagement&Analytics, Cloud and High Performance Computing, Nanotechnology, New Factoring, Robotics&Space, Smart Platforms* and *Virtual World*.

Therefore, for example, the *Artificial Intelligence* category gathers cases like the Smart Operations Center of the Department of Science and Technology of the Government of the Philippines that uses these types of technologies for disaster prevention and management; or the initiative of the Government of the Netherlands, that uses *Machine Learning* techniques to detect cases of child abuse. Also highly relevant is the "*Conversation as a Platform*" service driven by the Government of Singapore, that enables citizens to interact with public services through a *chatbot*, a robot with abilities that are quite similar to those of humans, simulating a conversation with a real person.

In addition, worth mentioning is the initiative of the Government of Estonia, based on applying *Blockchain* to different areas, and in particular for automating the exchange of healthcare information, effectively protecting the patient's identity and personal data from cyber attacks. In Healthcare as well, but in the *New Factoring* category, is a ground-breaking project led by the Mayo Clinic for printing 3D replicas of body organs and bones to better prepare surgical interventions.

In the *Citizen Engagement&Analytics* category, the report underscores initiatives like that promoted by the Government of Denmark, deploying several pilot projects in different regions to provide comprehensive,

remote services to patients and exploiting personal information using devices like *Smart Watches*, to offer patients customized guidelines on healthy habits.

Furthermore, in *Robotics&Space*, the study collects experiences like the pilot project launched by the Government of Singapore to promote the use of autonomous vehicles in public transportation and to foster a culture of collaborative economy; or the project of the Government of Rwanda to use drones to transport blood from blood banks for transfusions in patients located in remote areas. Another prominent case is from India, which has created an industry not only for manufacture, but also for the launch, of inexpensive *Cubesats* (miniature satellites), enabling governments to provide services that to date were not feasible due to the costs of acquiring, constructing and launching satellites into space.

In healthcare as well, but in the *Smart Platforms* category, the Telea project is notable, propelled by the healthcare system of Galicia and based on the Internet of Things platform to render remote assistance for chronically ill patients. The platform facilitates the interaction among many healthcare systems and different technology devices to act in real time, depending on the information received about each patient and the analysis of that person's clinical history, thanks to Big Data capabilities.

Other initiatives of this category include the real-time drinking water leak detection system implemented by the Metropolitan Government of Seoul; the creation of an open access infrastructure to Internet of Things in London to improve the lives of citizens and offer *start-ups* the advantages and opportunities inherent to this technology*;* and the Amsterdam Smart City platform that, to date, has facilitated the development of 140 projects and pilots in different areas to improve citizens' quality of life.

Finally, in the *Virtual World* category, it presents the platform developed by the Stanford University Department of Neurosurgery for the virtual recreation of a patient's anatomy and pathology by combining flight simulation technologies with digital medical imaging. The patient benefits from immersive technology to visit, guided by the surgeon, the inside of the body and discover the scope of the intervention.

The success stories have been chosen as highlights in the use of these technologies by Public Administrations and governments, after analyzing 73 initiatives in this field, carried out in 32 countries across the five continents.

A group of Indra experts specialized in diverse fields and digital solutions has collaborated with specialists from the Prime Minister's Office of the UAE in identifying emerging technologies. Likewise, all of the initiatives and innovation programs under the auspice of the European Commission, like Emerging Technology Flagships, EIT Digital, European Technology Platforms, or Knowledge and Innovation Communities, among others, have also been considered.

Five criteria have been used for evaluating the case studies: sustainability, from the social, economic and environmental perspectives; preparation, including the maturity level and availability of the solution; replicability and scalability, referring to the possibility for other public administrations to apply the solution; Innovation, measuring the solution's degree of disruption and novelty; and, finally, impact, measuring the solution's problem-solving capacity for the public sector.

For further information:

http://www.indracompany.com/sites/default/files/best_government_emerging_technologies_.pdf

About Indra

Indra is one of the world's top consulting and technology companies, the leader in IT in Spain, and the advanced technology partner for core business operations of its customers everywhere. It offers a comprehensive range of proprietary solutions and cutting-edge services with a high added value in technology, which adds to a unique culture that is reliable, flexible and adaptable to its clients' needs. 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 revenues of €2,709m and had a workforce of 34,000

professionals, a local presence in 46 countries, and sales operations in more than 140 countries. Following its acquisition of Tecnocom, Indra's combined revenues amounted to more than €3,200m in 2016 with a team of nearly 40,000 professionals