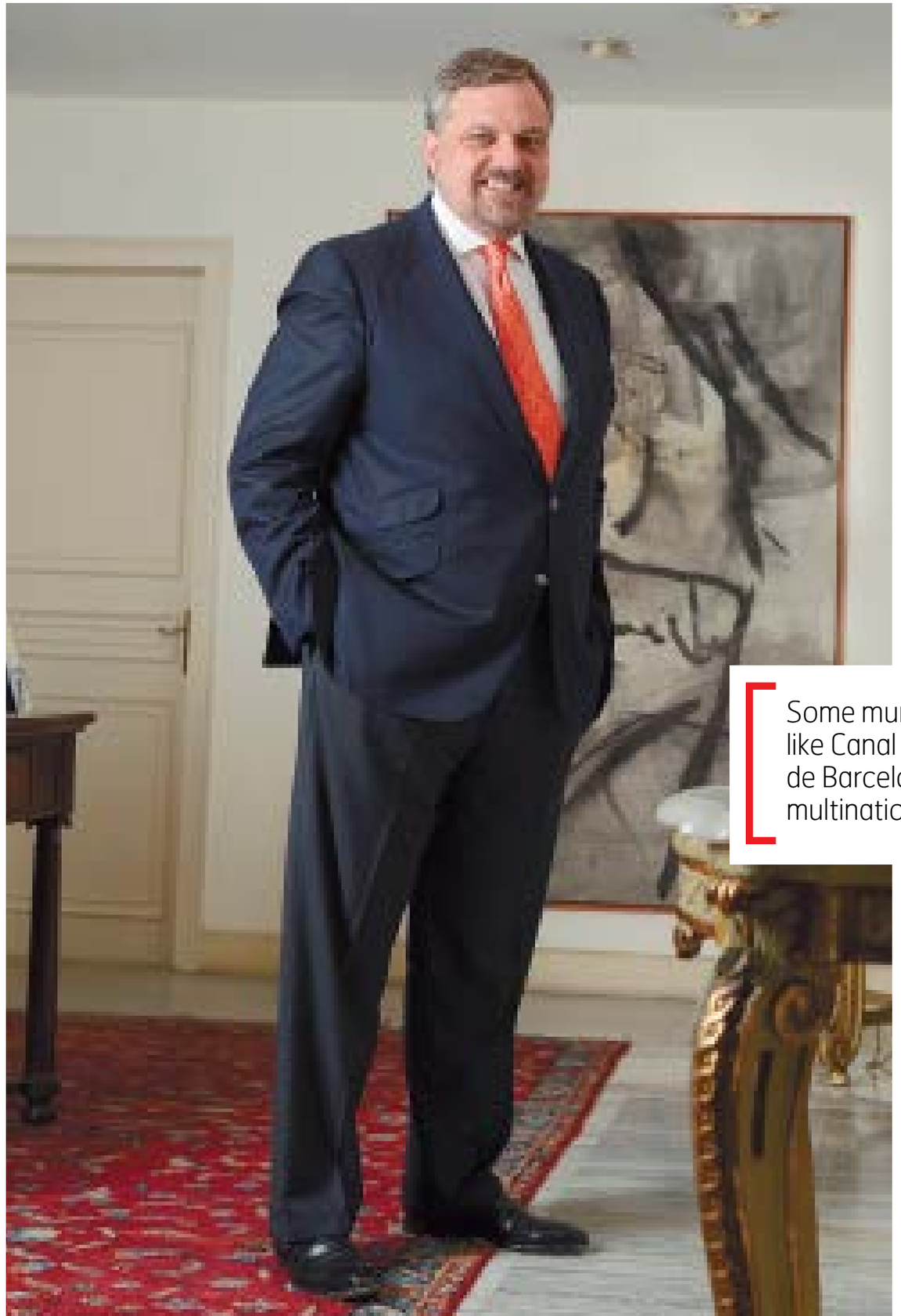
Pioneering a Smart Revolution

SPAIN can rightfully lay claim to being a gamechanger when it comes to dramatic and sustainable urban transformation. After all, it is home to nearly a quarter of the world's Top 20 cities to live in. From Bilbao in the north to Barcelona in the east, capital Madrid to Santander and Malaga, its cities are a veritable rainbow of efficiencies that put citizens first. **H.E. GUSTAVO DE ARÍSTEGUI**, Ambassador of Spain in India, spoke to **Preeti Singh** about how his country is excited to join India in its quest to revitalise cities, especially in the areas of energy efficiency, cleantech, mobility, health, heritage regeneration and tourism management.



PHOTOGRAPH: RITESH SHARMA

Preeti Singh: What are your impressions of a 'smart city'?

Ambassador de Arístegui: Cities are finding ways to become smart, and sustainable development is one of the most discussed and relevant issues in modern society. The concept of 'Smart City' is evolving and redefining itself, being far more complex, integrative and inclusive than digital or connected cities. There is no doubt that information and communications technologies (ICT) are a central enabler in meeting the challenges of cities within a global knowledge economy but a city cannot be called smart just because it is fully equipped with broadband networks supporting digital applications and offering e-services. Cities and urban areas are no longer the mere object of innovation but – through the engagement of social and economic stakeholders – are privileged sources of ideas and innovation ecosystems in themselves.

Smart cities are an intelligent way of managing urban spaces by leveraging technology, innovation and cooperation between economic and social stakeholders – with the ultimate goal of sustainable development, improved infrastructure efficiency and the effective tackling of public issues.

PS: Spain seems well-poised to offer help to potential smart cities. What do you see as some of the key enablers for this?

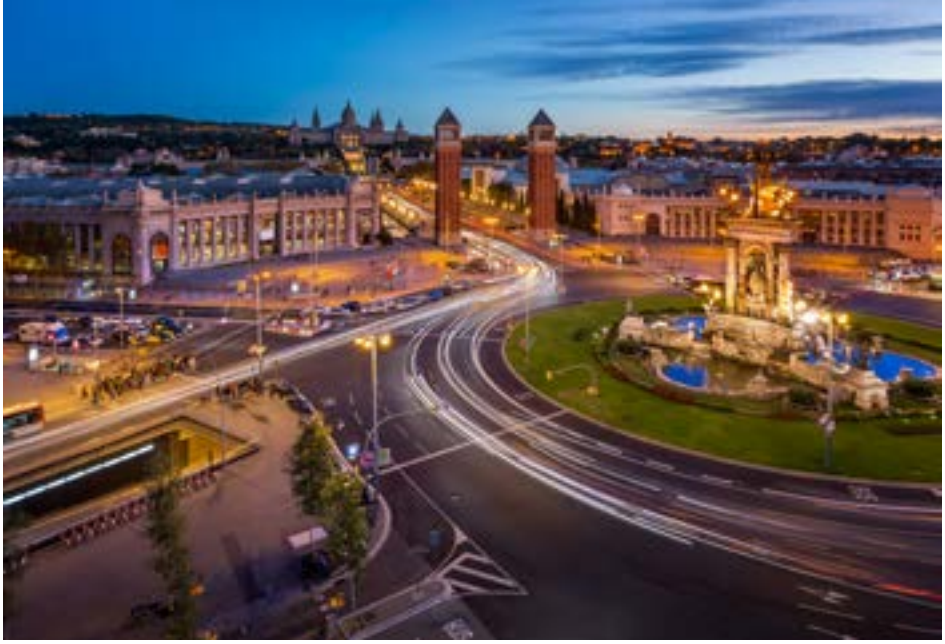
AA: Spanish cities make up nearly a quarter of the Top 20 cities to live in. Leadership of Spanish companies and researchers in the fields of ICT and clean technologies, and institutional support to the same, is helping Spain lead the way internationally in urban innovation, smart city development and city-centred technologies. According to research by the European Parliament, Spain is one of the top three countries in Europe going by the number of smart city initiatives. There are over 180 companies working in the field of smart cities, mostly start-ups that are barely five years old, that partner with larger tech-intensive companies for urban innovation predominantly in the areas of energy efficiency, cleantech, mobility and smart tourism.

50
the percentage of lighting power in Barcelona that is controlled remotely. The city also has 19,500 smart energy meters

> Some municipal water utilities like Canal de Isabel II or Aguas de Barcelona have evolved into multinational corporations

PS: In India we have a long way to go in empowering our urban local bodies. What has been Spain's experience?

AA: Since the Middle Ages, municipalities in Spain have been endowed with a great degree of autonomy: collecting taxes, managing the local police and a range of other competencies in social services, urban planning and development – an important factor in Spain's urban transformation. In fact, some municipal water utilities, such as Canal de Isabel II or Aguas de Barcelona have transcended their municipal boundaries evolving into multinational corporations.



PHOTOGRAPH:SHUTTERSTOCK

Top of the World

Barcelona – crowned by Juniper Research as the world's number one smart city in 2015, – serves as a best practices benchmark for other global cities with its citizen-centric sustainability initiatives

> Municipalities and corporations led by the Mayor have a great deal of power and cultural responsibilities

In Spain, we have developed a fully democratic municipal system in which municipalities and municipal corporations led by the Mayor have a great deal of power and cultural responsibility. Even small townships empower municipal governments to enforce regulations and laws in a way that other countries do not.

PS: Do you have a national institutional framework in place to promote smart city initiatives?

AA: In Spain, the Digital Roadmap and the-recently launched National Smart Cities Plan set the national framework with a series of schemes and interventions for improving the efficiency and effectiveness of local entities in the delivery of ICT-based public services, progressive governance and transformation of cities into intelligent tourist destinations. Further, as per Europe 2020 Vision, EU's growth strategy for the coming decade includes impetus and support to the development of smart city initiatives to achieve targets in education, employment, energy, climate change, R&D, poverty reduction and social inclusion, combined with the growing weight of corporate social responsibility and outsourcing of certain public services have set the pace for the smart movement in Europe.

The National Smart Cities Plan, to be co-financed by the European Regional Development Fund (ERDF) and the private sector will represent an investment of €153 million to promote the transformation of municipalities into smart cities; implement ICT-enabled projects that reduce costs; improve citizens' lives and create new business models, while fostering growth and research. In this spirit, Spain's Ministry of Industry, Energy and Tourism launched a first Call for Smart Cities in 2014 and will support 13 new smart city projects in 27 cities of Spain based on intensive ICT use, representing a total investment of €13.1 million.

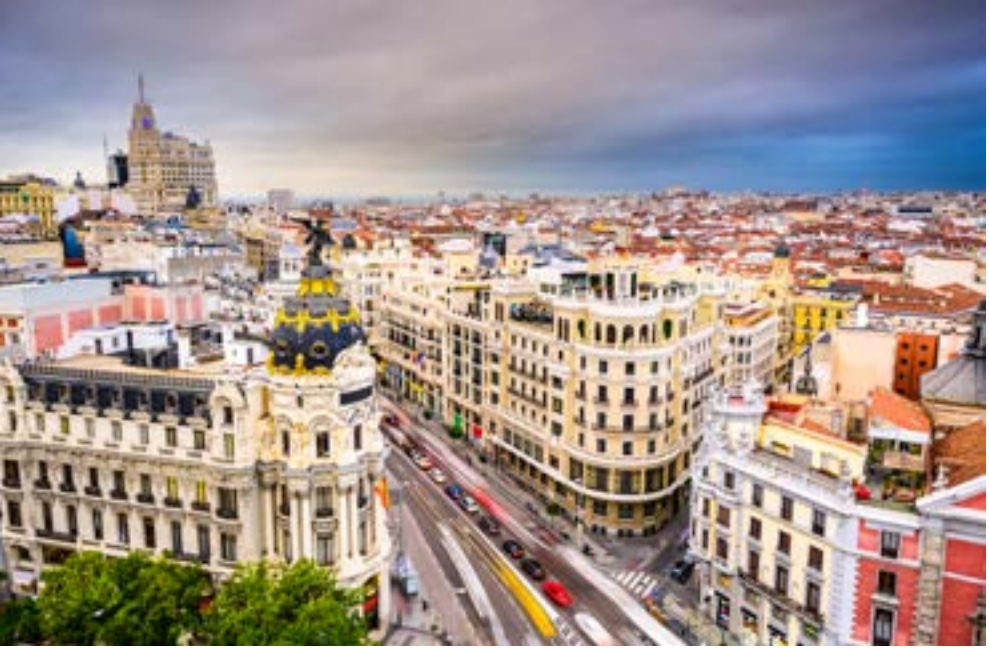
PS: What are some of the specific smart cities programmes and initiatives in Spain?

AA: Several Spanish cities like Barcelona, Santander, Málaga, Madrid and Bilbao are considered international benchmarks in the promotion of smart urban planning, incorporating new technologies to improve the city's products, services and environment. **Barcelona** already is, and will continue to serve as, a best practice for other global cities seeking to employ the best technologies for developing long-term, citizen-centric sustainability initiatives. Some of the city's remarkable achievements include 50 percent of lighting power controlled remotely; remote irrigation control systems for green spaces; over 19,500 smart energy meters; a significant fleet of electric vehicles and car rentals; electric charging stations; district heating and cooling systems; an Open Data Portal and 44 citizen's attention kiosks, amongst others. All this has driven the city to become the world's number one smart city in 2015 (Juniper Research, 2015). It also plays host to the premier global event for smart cities stakeholders, the Smart City Expo & World Congress.

Another good example is the city of **Santander.** Through the implementation of an EU R&D project – Smart Santander – the city has transformed itself with the deployment of 12,000 sensors into a large, open and flexible city-scale experimental research facility in support of apps and services for future Smart Cities. They monitor parameters like noise, temperature, CO2 emissions, traffic density, location of public transportation, garbage levels in bins and parking spaces.

Málaga has taken the lead in other aspects like zero emissions mobility and buildings, including real-time management of power demand, power grid automation and electric-vehicle charging points. Entire city districts have been converted into living labs for e-vehicles and self-energy-sufficient buildings.

The capital of Spain is implementing the largest Smarter Cities Envi-



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Supersonic
Madrid is implementing the largest Smarter Cities Environmental Analytics Project and will become the first European capital with comprehensive public services integration

ronmental Analytics Project and will become the first European capital with comprehensive public services integration. This new platform will provide citizens of **Madrid** with more efficient services and utilities, open spaces and new tools for citizens to interact and communicate with the city council. We have one of the most advanced public transport systems in the world and Madrid's metro – inaugurated in 1903 – has expanded from an urban to a regional network.

The northern city of **Bilbao** has also undergone an astonishing economic and urban regeneration process, knitting the city with a knowledge economy and a cultural expansion best represented by the Guggenheim museum to create a leading global example. Other good examples are cities of **Valladolid, Zaragoza, Vitoria, San Sebastián** and **Pamplona.**

> Spain's advanced high-speed train system is the second largest network in the world, after China

PS: There is much interest in Spanish smart cities in India. What kind of collaboration framework are you seeking to build?

AA: Spain is definitely willing to share good practices and partner with India on the smart cities journey it has recently embarked upon. It had pledged its interest in providing technical support last February and and MoU is presently being negotiated between the Spanish Ministry of Economy and Competitiveness and India's Ministry of Urban Development. Within the very relevant context of municipal-to-municipal cooperation, I am enthusiastically and personally involved in promoting the twinning of the two capital cities, Madrid and Delhi.

There is also an R&D and co-creation dimension in our bilateral co-operation, as Spain and India jointly manage several industry-driven R&D initiatives in promoting and financing joint projects in fields like ICT, cleantech and Smart Cities. Of particular interest is a project for efficient planning and scheduling for bus rapid transit between Spanish company GMV, S.A. and Indian company Nano Kernel Ltd., selected for funding in 2014. Other Indo-Spanish consortia have shared proposals in areas like modelling, mobility, smart grids and smart health, presently under evaluation.

We have probably the most advanced commuter and advanced high speed train systems in Europe, which is the second-largest in the world after China. Including Spain, there are only five countries in the world that make high speed train systems. Spanish trains are operating in many parts of the world and we hope that Spanish technology will reach India too.

Both countries, with their long history and tradition, need to strike a good balance between modern development and preservation of history and heritage in their urban development initiatives. As of 2014, Spain ranked second in the number of UNESCO world cultural sites. In fact, the Spanish University of Valladolid has an advanced study programme for architectural heritage restoration and has partnered with the University of Ahmedabad to provide training and degree programs in the conservation and management of cultural assets.

I firmly believe that cooperation in the domain of smart cities is going to be a gamechanger in our bilateral relations. Spanish urban local bodies, enterprises and technologies can add high performance and value to India's vision and initiatives in various areas I have mentioned and my Embassy will welcome and give full support to institutional dialogue, business and technology partnerships and collaboration between relevant stakeholders of both countries. ■