Adeje: Stepping into the Future as a Smart Tourism Destination

"It is about investing so that the new digital and technological tools that we have available improve our tourist destination and the attention to visitors, but above all it is about improving people's lives, being more efficient and effective and doing everything that it is in our power to reduce the carbon footprint and emissions, and this project goes along those lines."

José Miguel Rodríguez Fraga, Mayor of Adeje.

Imagine travelling to an unknown place and being completely stumped as to where you need to go, what is the best mode of transport and how to find a place where you can relax, without hordes of people stomping around. These are some of the problems that smart tourist destinations such as Adeje are now trying to address. A popular national and international tourist destination with gorgeous beaches and stunning coastal views, Adeje is located in southwest Tenerife, one of the Canary Islands in Spain. Tourism is an important economic activity in the region. Each year, Adeje welcomes huge tourist masses from across the globe, wanting to enjoy the long sandy beaches, delicious food, nautical sports and deep-sea diving facilities.

As is for most tourist destinations, the flip side of this is that during peak season, it can be a challenge to manage the massive influx of tourists. The result is crowded beaches, water shortage, traffic snarls, disgruntled citizens, and disappointed tourists. To avoid these issues, Adeje is now being converted into a smart tourist destination. T-Systems will deploy its AERO-PULSE city platform on which 14 components of the project will be developed. With the interactive information points and intelligent management systems on the beaches, data about the influx of tourists and citizens, water consumption in showers or noise levels will be collected and utilized for enhancing the efficiency of services and making the lives of the tourists, the staff, and the citizens easier.

The aim is to create an intelligent platform for reorganizing the municipal services structure in an integrated manner, improving public services management and transparency in the information availability to citizens and tourists. By enhancing the information and communication technologies, Adeje as a destination can fulfil its own goals by providing quick and personalized responses to the needs of tourists, citizens and the government.

At a glance

- Convert Adeje (Tenerife) into a Smart Tourist Destination
- Single platform for the use and public management of assets, infrastructures, and urban services
- T-Systems created the Adeje DTI Smart Tourist Destination platform and Smart Adeje App
- Improve public services management and information availability to citizens, staff, and tourists
- Citizen capacity control and remote management of public services on the beaches

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The reference in detail

The challenge

With lovely beaches and a mild climate, Adeje is a growing tourism hub in the region. As the world gets back on its feet after the pandemic and with the influx of tourists set to increase, the municipality was looking for innovative and modern ways to cater to the new "digital tourists", the ones who are well informed and want quick access to information at the tip of their fingers. Every year, the large number of tourists in the region posed a major challenge for the administration. With a limited staff to manage, the capacity challenges during this time had to be dealt with effectively for a smooth tourist experience. This included overcrowding on the beaches as well as the sustainability demands related to water and energy. Moreover, the solution also needed to address the concerns of the citizens and provide the staff the data and transparency to manage the tourist masses.

Technology, today, plays a key role in facilitating the interaction and integration that the tourists have with the surroundings and enhancing the quality of their experiences as well as the lives of the residents. To enable this, the Smart Tourist destination project for Adeje was initially endowed with almost 6 million euros, the beneficiary of the Red.es 'Intelligent Tourist Destinations' call, with co-financing from the ERDF through the Pluriregional Operational Program of Spain (POPE).

By converting Adeje into a smart tourist destination, the goal was to improve the efficiency of resource management, maximize competitiveness and enhance sustainability using technological innovations and practices. The municipality wanted a single intelligent platform that could provide vital information to the city council staff, the tourists and citizens. The technology will also improve city services efficiency, such as capacity control on its most-crowded beaches or optimizing the use of shower water consumption during peak hours.

The solution

To enable the Adeje DTI project, T-Systems developed the Adeje DTI Smart Tourist Destination platform and Smart Adeje App creation. This project will cover 10 major beaches in Adeje and monitor the influx of people in the beach area thanks to a camera system with different counting strategies. In addition, data will also be collected on water consumption in the showers or noise levels, among other data that the Adeje City Council will be able to access through a 'Smart Beach' management dashboard.

All the sensors and Internet of Things (IoT) devices are connected and will deliver data into the central platform and this data would be available on the platform and the app for the tourists as well as the staff. Together with these systems, local citizens and tourists will also have interactive information points available. The data collected and predictive analysis can help the city council with active management such as issuing timely notifications and allow the tourists to make smarter decisions. For example, if the tourist realizes that the beach that they have chosen is too crowded due to an alert sent via the app, they might opt for a different touristic opportunity on the island instead.

Apart from the smart management of the coast, the project will also focus on smart irrigation solutions, smart lighting, smart waste management, smart parking systems with 360-degree view, Wi-Fi network for tourists and improving energy efficiencies for 37 public buildings. These will be integrated into the AERO-PULSE platform. The LoRaWAN™ communications network development will enable communication between the different elements of the project. The project also includes the development of the Smart Adeje mobile application. This app is fully configurable according to the user's preferences and will provide vital information on the tourist spots in Adeje, mobility and transport services or smart parking. Apart from the information about the smart elements integrated with the city management systems, the app will also help tourists with trip planning. The app also has a notification service for users based on their location, enabled by the installation of more than 200 Bluetooth beacons throughout the municipality.

Customer benefits

In the digital age, tourists no longer just want to visit a place, they want to enjoy unique and real experiences. By enhancing the information availability and utilizing intelligent systems there will be significant improvements in the integration and interaction of the tourists. The hyperconnectivity through the new application and platform makes the tourist experience in Adeje much easier and more flexible. The platform will connect different stakeholders and allow the information relating to tourism activities to be exchanged instantly. For the municipality of Adeje, the benefits include optimization of resources and capabilities. The platform supports public services management, monitoring, control of citizen services and improving the experience of citizens and tourists in the municipality. The project will also promote citizen participation through the CONSUL open-source participation platform and the Smart Adeje App. The citizens can also voice and seek faster redressal for their concerns. As the different phases of the project are implemented, an interconnected and intelligent system will boost resource management while maximizing both destination competitiveness and consumer satisfaction. It will also help in meeting the sustainability demands of the island, such as water conservation which is vital for the region and reducing the carbon footprint. As the project moves along, it can pave new roads for further improvement in tourist experiences and additional opportunities for all.