**Gentle Airport & City:** interoperability between different management platforms (Airport and City) for the improvement in the provision of services to the citizens and passengers, enabling the anticipation for the best decision making of the managers

### Introduction
Cities are poles of population attraction and the stage where events take place that gather the masses (sports competitions, cultural activities, etc.). Airports are one of the main gateways to the city, and passengers who arrive in this way demand a pleasant door-to-door travel experience. This is a challenge for several agents involved, such as ground transportation planners, who have to plan the capacity of the different modes of transport (train, metro, taxi, bus, ...) without taking into account the demand in real time.

An example of this is football matches. A different agent is in charge of the crowd at all times, depending on whether you travel by public transport, or are inside the stadium, or outside the venue. It also occurs in the day to day of the city, where factors such as climatology impact on the operation of services. Therefore it is necessary to give the managing agents responsible for the provision of the services, reliable information for the best planning and quality of the service provided.

### Solution
The interoperability between different management platforms that share data for the best service provision by each party, enabling anticipation and decision making. Airports contain and process information that would be very useful for the city, in the same way that the city hosts information that could be of interest to airport managers. Each agent will manage their operational systems without being affected, but there will be a mechanism by which anonymized information is shared.

### Data of interest for the city:
- Number of passengers arriving hourly per terminal
- Number of planned operations with airplane type
- Origin of operations (national, international, schengen, ..)
- Passenger profile (infants, adult, diplomat, PRM,..)
- Flight type (business, tourism, sensitive, ..)
- Passenger patterns (usual, sporadic, ..) Data enriched by Mobile Operator.
- Origin Check-In (Intermodal Station, ..)

### Data of interest for the airport
- Security incidents in the city
- Municipal Events such as concerts, festivals, etc.
- Concentrations and demonstrations
- Waiting times at ground transportation stations
- Private vehicle flows in main entry roads to the airport
- Operations planned by public transportation operators (metro, bus, ..)
- Traffic accidents
How does it work?

The airports have systems that integrate the information contained by the operational systems and sensors deployed by the passenger terminals. This information is subject to international practices recommended in the aviation industry, such as AIDX (Aviation Information Data Exchange) in the same way that there are interfaces standardized by ITU Y.4200 for cities such as NGSI. Thus, the proposed architecture is for the airport to enable an IoT Data Node that would be the mechanism by which to publish the information, and for the city's management platform to integrate it, and for the city platform to publish information at the same time for other agents such as ground transportation operators. In the same way, the mechanism for the airport to receive relevant information about the city.

Benefits

Cities
- Promotes a more efficient coordination of all the agents in charge of the provision of urban services.
- Creation of a large citizen knowledge base in the data hub.
- Increase in the sense of security for tourists and inhabitants.
- Ability to anticipate problems
- Improvement in the resiliency of the city
- Better ground transportation planning
- Knowledge about visitor patterns and profile

Airport Operators
- Improvement in operational efficiency
- Ability to anticipate problems
- Improvement in pattern prediction thanks to the enriched data
- Approach to the TAM concept (Total Airport Management)
- Better planning with available capacity
- Knowledge about passenger patterns

Citizens and Passengers
- Improvement in the travel experience, seamless journey
- Improvement in the quality of the service
- Increase in physical security
- Reduction of queues in public transportation and security check-points