Tigre City

Case Study

Introduction

Tigre is a city in Argentina, located in the Greater Buenos Aires. It is a friendly city that has tourism as one of its main pillars of economic development. During weekends and holidays, it is famous for offering a number of attractions, including the traditional “Tren de la Costa” (Tourist Train), in addition to museums, boat rides and an intense gastronomic life.

Tigre is proud of its culture and variety of entertainment for families, and thus, it has dedicated efforts to create a safe environment, both for residents and visitors.

Challenges

Building a safe environment for residents and tourists

Due to the increasing population and tourism, the city was facing problems related to theft, drug trafficking, car accidents and episodes of violence. In 2011, the city of Tigre decided to deploy NEC public safety platform in order to make the city safer and enhance the quality of life of citizens. The challenge was centralizing, integrating and consolidating the safety operations in a single place, by coordinating and optimizing the resources of several public security officers.

The public safety platform, named Tigre Operations Center (COT), was implemented and improved along the years in partnership with NEC. The whole city is monitored from this Operations Center 24 hours a day.

Citizen Collaboration for Security.

License Plate Analyzer.

Face Recognition System.

Behavior Detection.

Crime Map and Evidence.

Machine Learning Technologies.

Service Level Agreement for analyzing and improving the images.

Results

Substantial and sustainable improvement has been achieved for the general well-being of the city.

The vehicle theft rates have decreased by 80%.

More than 400 requests from video images by the Legal System are met on a monthly basis. That ensures the evidences needed to solve more than 35% of the cases.

The signs for passers indicating the areas under surveillance have had a massive deterrent effect.

Implementing safety forces efficiently has strengthened the security at sensitive sites.

Customer

Municipal Government of Tigre

Challenges

Building a safe environment for residents and tourists and becoming a model of safe and vital city.

Protecting the victims of violence, monitoring safety at schools and public transport, detecting and blocking stolen cars, creating crime maps, identifying suspicious or missing people and detecting non-standard behaviors.

Centralizing, integrating and consolidating the safety operations in a single place, optimizing the resources of several public security officers.
Solutions

The “Tigre Operations Center” is the brain of Tigre, from where the whole city is monitored 24 hours a day. This public safety platform was implemented and improved along these years in partnership with NEC.

“NEC has implemented an integrated platform for urban safety in order to collect and analyze various information coming from multiple sources such as videos, panic buttons, emergency calls and social networks”, explains Jorge Vargas – Latin America Regional Competence Center and Global Leader for Surveillance Solutions at NEC. “This technology allows operators to make decisions quickly following SOP (standard and operations procedures), giving a quick answer to the citizens and registering every case in the system to create a crime map for the city.”

Some of the most relevant solutions developed by NEC are:

Citizen Collaboration for Security, which allows citizens to become active participants in improving the city security and also to request services (ambulance, police and firefighter) or to report events such as accidents or situations requiring response from the city. This platform is able to receive alerts not only from the dedicated antipanic devices, but also from other channels, such as mobile applications, POS terminals, SMS, social networks, among others.

License Plate Analyzer is one of the world’s leading Automatic Number Plate Recognition systems, which uses a high speed and highly accurate GLVQ (Generalized Learning Vector Quantization) algorithm. Once an image is captured, it is enhanced and the system immediately warns the operators when the wanted vehicle listed in a “black list” is captured by the camera.

Face Recognition System, as one of the best algorithms in the world recognized by NIST, National Institute of Standards and Technology in US contributes to the justice identifying missing people in long-distance transport terminals.

Behavior Detection, which was implemented to improve the protection of specific areas, warning the operator when the camera registers abnormal situations such as tripwire trespassing, loitering or fallen people.

Crime Map and Evidence, which is the automation of process requests implemented for greater control, decision making and planning for sending forces to the city.

Machine Learning Technologies, which is the technology integrated by NEC as part of a specific requirement from the Municipality of Tigre to learn certain behaviors and then send an alert to the operators. “People riding a motorcycle without helmet” and “two people on the same motorcycle” were the behaviors implemented in the COT.

Moreover, the COT has a forensic laboratory where they can analyze and improve the images before sending them to the court or the police. The COT must store the recordings of every single camera for 30 days. At the moment, the COT has a low rate of cameras out of service, due to the high standard of Service Level Agreement provided by NEC. The whole solution is implemented in “as-a-service” model, what means that the municipality just pays a fixed fee for each working camera, which ensures the continuous operation of the system.

Results

Tigre is becoming a model of Safe City in Latin America.

“By analyzing the data in real time and detecting suspicious movements automatically, vehicle theft statistics have decreased. Tigre has had the vehicle theft rates decreased by 80%.”, says Maria Eugenia Ferrari, Secretary of Citizen Protection – Tigre.

Other benefits have been observed. For example, more than 400 requests from video images by the Legal System are met on a monthly basis. That ensures the evidences needed to solve more than 35% of the cases.

The simple visibility of surveillance cameras and signs indicating the areas under surveillance for passers has had a massive deterrent effect.

The continuous improvement through the analysis of the “Crime Map” allows the city of Tigre to implement safety forces efficiently, strengthening security at sensitive sites.

This history of success is the result of the vision and determination of the Tigre town council that, by making technology and people work together, has achieved a substantial and sustainable improvement for the general well-being of the city.