

# Case Study

## AIRPORTS

Airports, whether civilian or military, are highly specialized logistics hubs. Airports can be the size of small cities featuring regular vehicle traffic, terminal building operations generating wastewater, and a collection of fuel tanks storing expensive jet A-1 fuel. The airports function as self-contained companies that discharge wastewater into the local municipal networks.

## PROBLEM

Guanacaste International Airport in Liberia, Costa Rica, maybe small at 243 hectares compared to the 3230 hectare megahub of Charles de Gaulle Airport in Paris, France, but they both feature water management systems. The fuel storage tank farms are surrounded by bunds that strategically channel rainwater, along with all the surface and building discharge water into the municipal wastewater networks. Given an international airport's prestigious recognition and global importance, the costs of an oil spill not only risk losing valuable product, but garnering negative PR.

Stormwater runoff from the runways, taxiways and aprons pick up contaminants from aircraft ground activities. This is in addition to activities at the airport terminals impacting water quality. Proper spill response plans triggered by early detection and appropriate personnel action can reduce the possibility of water contamination leaving the airport, therefore demonstrating that every reasonable effort is made to prevent an offsite release.



## Recommendations

DETECTION SENSITIVITY  
BEST IN CLASS



REAL TIME ALERTS OVER  
SMS & EMAIL



IP68 PROTECTION  
AGAINST ALL WEATHER



WIRELESS, OFF-GRID  
INSTALLATION



REAL TIME, ONLINE  
DATALOGGING



## SOLUTION

The first airports to install the ROW oil spill sensors were actually military airbases in Norway and Italy. The bases house jet-A fuel in an array of tank farms surrounded by rainwater collector bunds. The effluent water is discharged into the local tributaries of the adjacent city, which is a sensitive marine environmental area. In these cases, the customers used LDI's Light Fraction ROW sensor, model O-4501 series, an optimized instrument specially tailored to detect lighter oils including kerosene and jet fuel. Given the inherent volatility of jet fuel, having a sensor with up to 10x higher sensitivity compared to LDI's standard ROW series was important for minute, early detection.

Subsequent installations at Costa Rica's LIR and SJO airports, along with CDG and YUL, show that airports, similar to the shipping ports, do implement oil spill detection systems for enhanced environmental water monitoring. With increasing global demand for air travel, and ever larger airports being built, implementing advanced oil spill detection systems has become crucial to managing environmental impact and ensuring the safety of surrounding ecosystems and communities.

