

# Less Noise Pollution, More Revenue for A Global Metropolis With Acuvate's Smart City Infrastructure & Sustainability Solutions

## About the Client

A government department of a cosmopolitan metropolis that works to reduce air, noise, and hazardous materials pollution. The mission of the department is to enrich the environment and ensure good living conditions for its citizens. Sustainability and safety form core components of the department's work ethic – and Acuvate has empowered the department to deliver on this mission with the Smart City Infrastructure and Sustainability Solutions.



## Controlling Air and Noise Pollution with Holistic AI, ML and IoT Intervention

The department actively keeps a check on the level of air and noise pollution in the city. In this process, it identified some key challenges.

### Noise pollution rectification was a completely manual process, but that changed with Acuvate

Vehicle owners in the city had been illegally modifying their vehicle mufflers, creating noise over 76 dbs, which is considered a violation of the city's laws.

With this context, the department embarked on digitalization journey for identifying vehicles with modified mufflers using AI. The department installed a camera with a microphone in specific locations and has been able to identify 200 incidents per week. Nearly 15% of these incidents have turned to be violations.

Before Acuvate's intervention, the department's inspectors had to go through a tedious manual process of verifying the incidents to identify the vehicle number and type that was violating muffler rules. When these inspectors presented their case in the court of law, they needed to show the appropriate video of the violation as proof. At this juncture, each inspector had to manually search for the recorded video and manually link it to a license plate.

### How Acuvate's Holistic AI solution made rectification of noise pollution more seamless and efficient

- ① Acuvate built a Machine Learning model. We used the existing muffler violation videos as a training data set to identify other similar violating vehicles
- ① The solution is able to identify the type of vehicle and license plate using the ML model.
- ① The solution provides an intuitive admin interface that helps with metrics on the vehicle types, accuracy, errors. This interface helps

- Identify the type of vehicles
- Display vehicle number plate information with confidence score
- Correct or verify the captured information
- View quick statistics on verified and captured incidents
- Intuitively search the portal for videos based on number plate information



## Less pollution, more revenue for the metropolis

Besides enormous time-saving, the department is now able to penalize people who resort to illegal modification of vehicle mufflers, thereby causing noise pollution. Moreover, with the citations issued regularly to violators, the department has witnessed a significant increase in its fine-based revenue.

Complete elimination  
of manual efforts on the  
part of inspectors to  
zoom in and identify  
the license plate

Overall saving of 400  
person days per year of  
effort on video review

Boosted fine revenues  
for the department

## Gaining An Edge with Acuvate

Acuvate is a global player in next-generation digital solutions & services that modernize, automate, and transform processes. With over 16 years of experience, we have been enabling our clients globally to steer their digital transformation strategy using Cloud, Data & AI. We build & develop smart & sustainable solutions to help our customers transform their conventional processes to match the next-generation technological trend. We have a strong presence in Europe, North America, and Middle East, where we serve multiple ultra-large customers as well as SMBs from various sectors such as Public Sector, CPG, Retail, Oil & Gas, Energy, Manufacturing, BFSI, Healthcare, etc. With our multi-skilled experts and packaged AI accelerators, we deliver unparalleled efficiencies and accelerate time-to-value for our customers.

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