

Urban Anomaly Detector

Continuously monitors data gathered from multiple city sensors and detects cases deviating from the norm - indicating possible cause for concern

WHAT PROBLEM DOES THE TOOL HELP SOLVE?

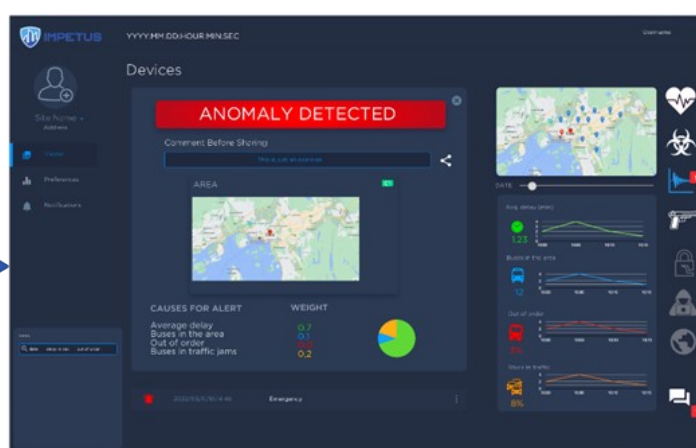
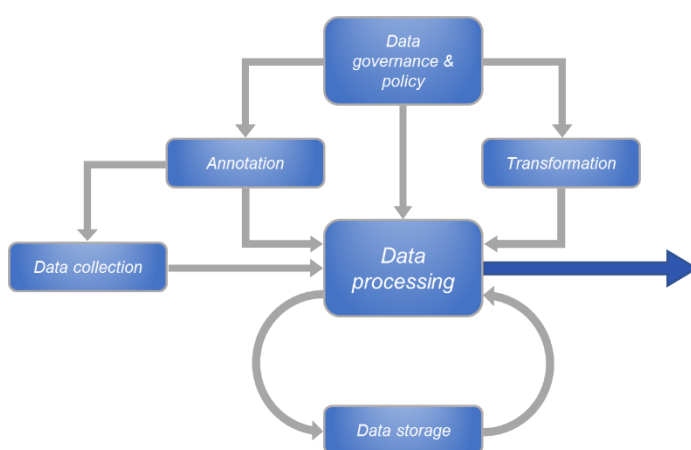
Smart cities continuously gather data from multiple sensors throughout the city. While variations in the data can be a sign of possible problems, the volumes of data are typically so huge that it is not feasible to monitor manually, or easily detect anomalies.

The tool uses AI (Artificial Intelligence) techniques to gather data from multiple sources over long time periods to recognise patterns and recognise what is "normal" at different times and places. It then uses that knowledge to detect anomalies when they occur, even if they have not been observed before. The tool can categorize anomalies and let a human operator evaluate whether they represent a real danger.

- Without the tool: abnormal events or situations can go unnoticed because humans are unable to process the amount of data needed to identify a threat when it occurs, which can lead to chaos and possibly disaster.
- With the tool: any unusual developments are quickly and automatically identified, and steps can then be taken to assess the situation and, maybe, mitigate a disaster.

HOW IS IT DEPLOYED IN IMPETUS?

- **Who are the users:** Security, transport and operational personnel monitoring impending physical threats, traffic flow and/or security infringements before and after any abnormal event; other stakeholders such as city managers, government officials, senior level official, etc.
- **What are the critical situations for deployment:** Continuous. The tool aims to provide constant situational awareness – anomalies can arise at any time.



HOW DOES IT WORK?

Large quantities of data are constantly collected from several sources, e.g., CCTV, sensors, municipal properties (details will vary from city to city). These data are processed using policy awareness, analytics and visualisation. If anomalies are detected, a visualisation – showing what is "unusual" – is sent as an alert to the IMPETUS platform, for the attention of emergency operators.