CRIME PREVENTION, & INCREASING PUBLIC SAFETY USING MACHINE LEARNING & ARTIFICIAL INTELLIGENCE

Bayside Council has invested in innovative technology to help curb anti-social behaviour in the suburbs surrounding Botany Bay as it focuses on improving public safety along the foreshore.

The project addressed a number of challenges:

In response to community concerns, the council implemented a range of measures to address the public outcry over the safety of residents and visitors. Bayside Council turned to AFN Solutions to deter the following concerns: antisocial behaviour, illegal parking, hooning, and loitering.
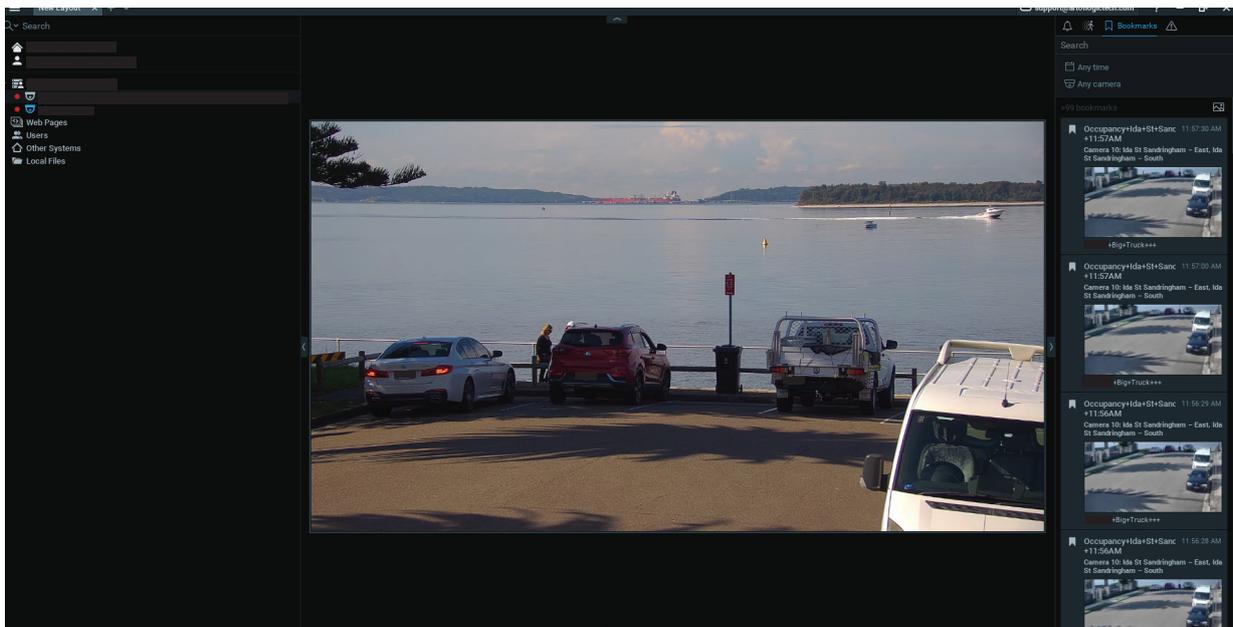
A technological solution was deemed best fit for the issues experienced in Bayside as it would allow Council to enforce offences that occurred outside normal operating hours, provide CCTV Surveillance and evidence for Local Area Command (LAC) to investigate and prosecute anti-social behaviour.

The first of its kind in the country, the deployment has already proven to be successful with up to a 90% reduction in anti-social vehicle behaviour which has led to positive community sentiment.

The project delivered a range of smart technologies:

AFN Solutions worked with Machine Learning & AI Specialists, Art of Logic, to build a customised solution. The integration incorporated both object recognition and vehicle recognition into a single Nx Witness VMS Platform where we used a single stream from a camera to do Object Recognition, Vehicle Recognition and License Plate Recognition using a Machine Learning platform to identify vehicle, make, model, colour, licence plate and identifying occupancy vehicle location.

The objective of the deployment was to increase public safety by targeting anti-social behaviour. The system is designed to provide real time alerts to Council and the LAC allowing council to gather data points and analyse trends around when and where incidents were occurring.

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Forward Projection:

Bayside Council is able to build models around what behaviour were present at certain times during the day and correlate them with other factors including weather conditions and traffic patterns to predict future behaviour based on past events. The information is used by Bayside Council who are then able to deploy staff ahead of time in areas that they knew would be problematic due to either increased traffic or specific License plate recognition, camera surveillance and automatic management of parking infringements providing councils with a streamlined process for dealing with parking offences, ultimately increasing safety in the area and providing greater parking supply to the community.
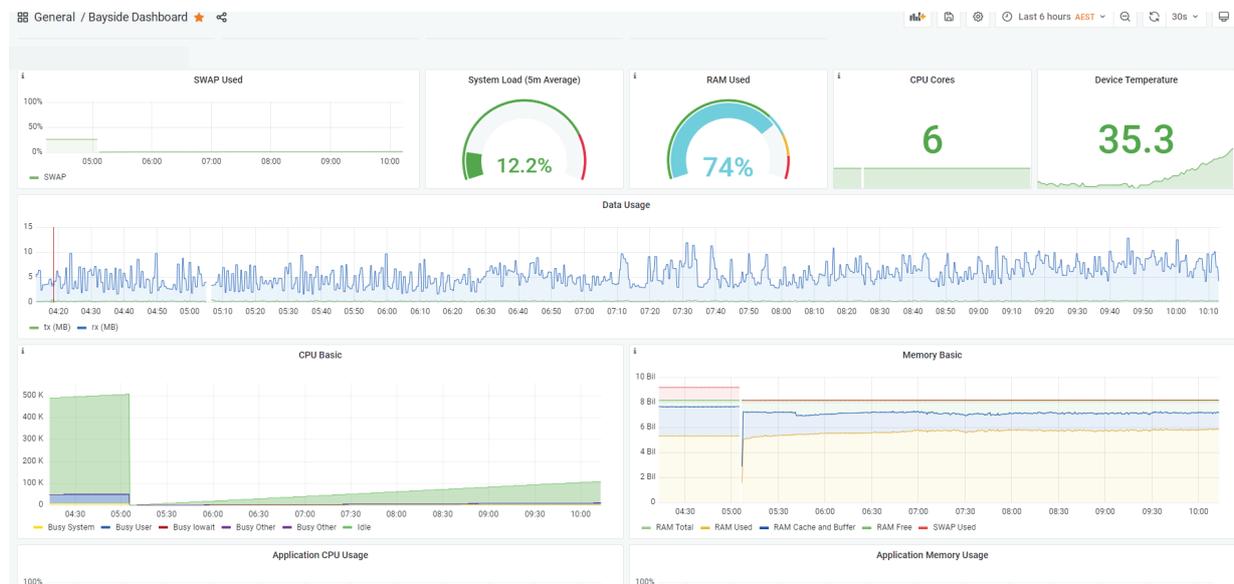
Parking Enforcement:

Identify offences within hotspot areas, alerting Council Officers of any incidents. This can reduce response times for more serious offences and provide faster feedback on less serious matters. The system also allows LAC officers to review footage remotely before action is taken. This has resulted in safer neighbourhoods leading to happier residents, better informed locals and greater police resources for improved public safety.

Community Safe:

Crime is inevitable. The solution is designed to reduce the opportunity for crime, making it difficult for anti-social behaviour to occur in these areas of deployment. A target-hardened environment has fewer opportunities to commit crime by increasing the number of security measures, including increased CCTV security, Object Detection, Licence Plate Recognition and Parking Infringement.

Dashboard Monitoring

Art of Logic developed a full Health Monitoring Platform that monitors every aspect of the deployment to ensure the system is never down. The platform provides real-time data, log analysis and server health alerts, detailed analytics and more, allowing you to monitor and maintain your deployment proactively, ensuring your system is never down while tracking its performance over time.

In the following months after the implementation of the combined solution, Bayside Council have seen a 90% reduction in anti-social vehicle behaviour and have aided police investigations into dangerous driving, graffiti and illegal activity. The feedback from police is that the cameras are also greatly assisting them in their investigations and have led to successful prosecutions for dangerous driving.

Bayside Council is continuing to work with the local police to continue building on this technology to ensure the community and visitors feel safe in enjoying the beautiful Bayside area.