

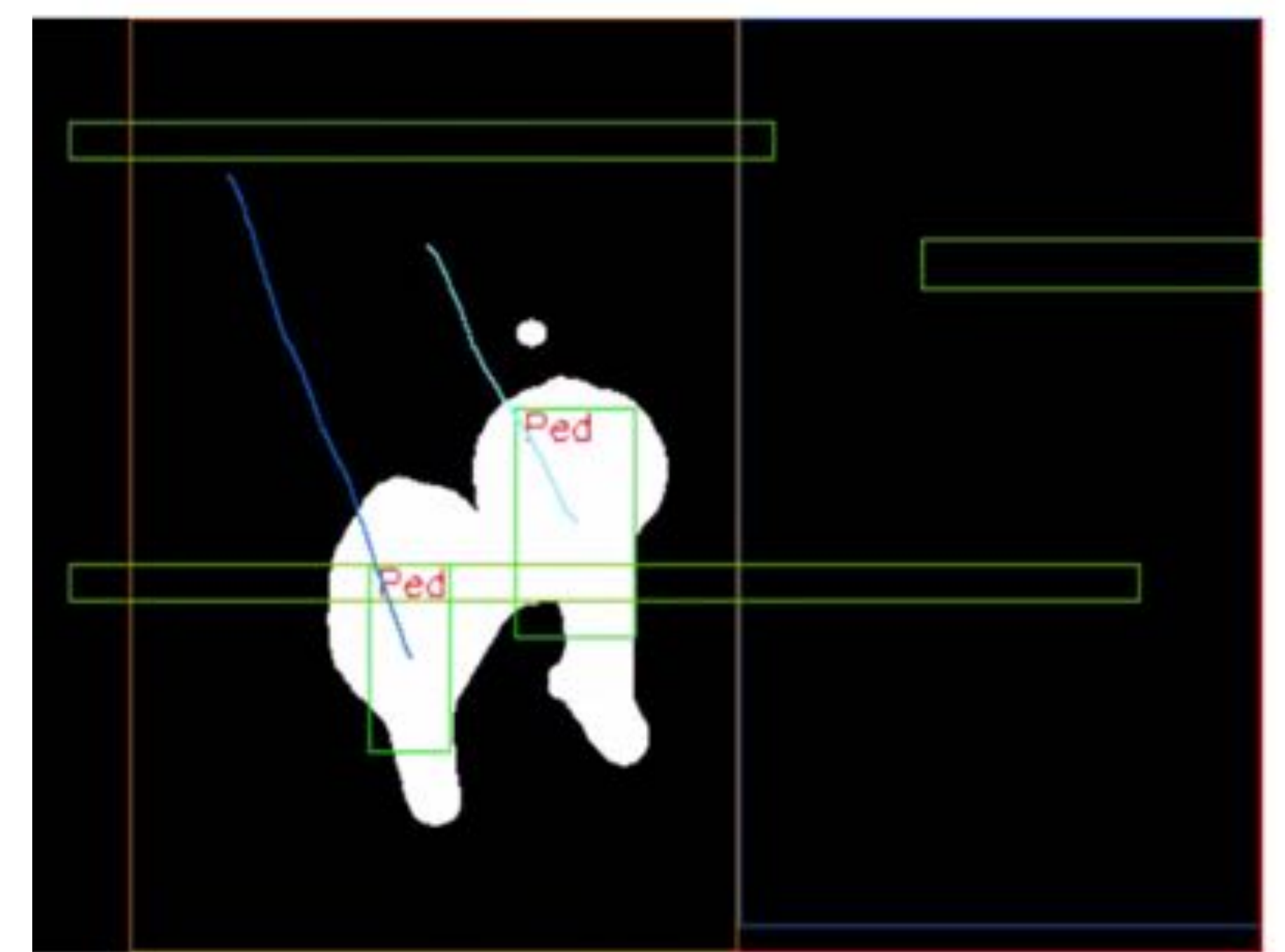
VIMOC Bike/Pedestrian Detection

In the urban environment it is becoming increasingly important to understand multi-modal means of transportation. Pedestrian and bicycle transportation are two of the oldest transportation forms, and VIMOC has implemented a solution that enables a better understanding of how we use these forms of transportation in the 21st century. With this understanding, we will enable more intelligent, seamless and stress-free design and integration of infrastructure and enable new services and applications that leverage the rich and accurate information we are producing.

How the Technology works

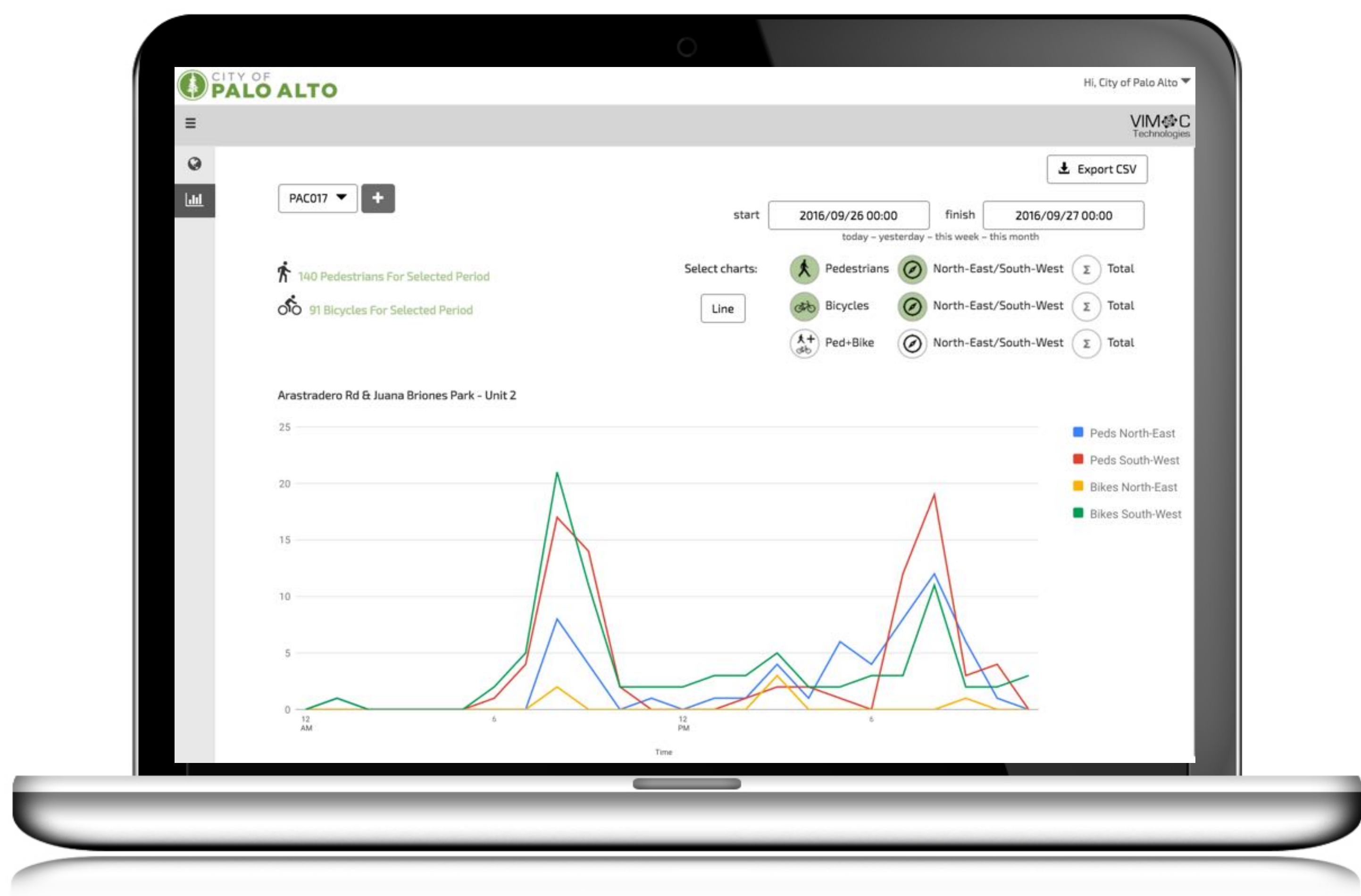
VIMOC has implemented a bicycle and pedestrian counting system using image sensors that leverage Landscape Computing's powerful software architecture.

Image sensors are positioned in view pedestrian zones and bicycle paths, and the feeds are sent to the neuBox installed on site. The neuBox processes the live feed, applying advanced computer vision and classification algorithms which detect bicycles and pedestrian numbers and direction of travel, after which the raw images are thrown out. The live results of these algorithms are sent to the cloud and available via VIMOC's API, which can be used by any apps that are granted access to the data stream.



Application-Enabling API

VIMOC has a developer API based on industry standard technologies, which allows third party vendors to integrate live information from VIMOC's Landscape Computing network in order to enrich and enable new applications.

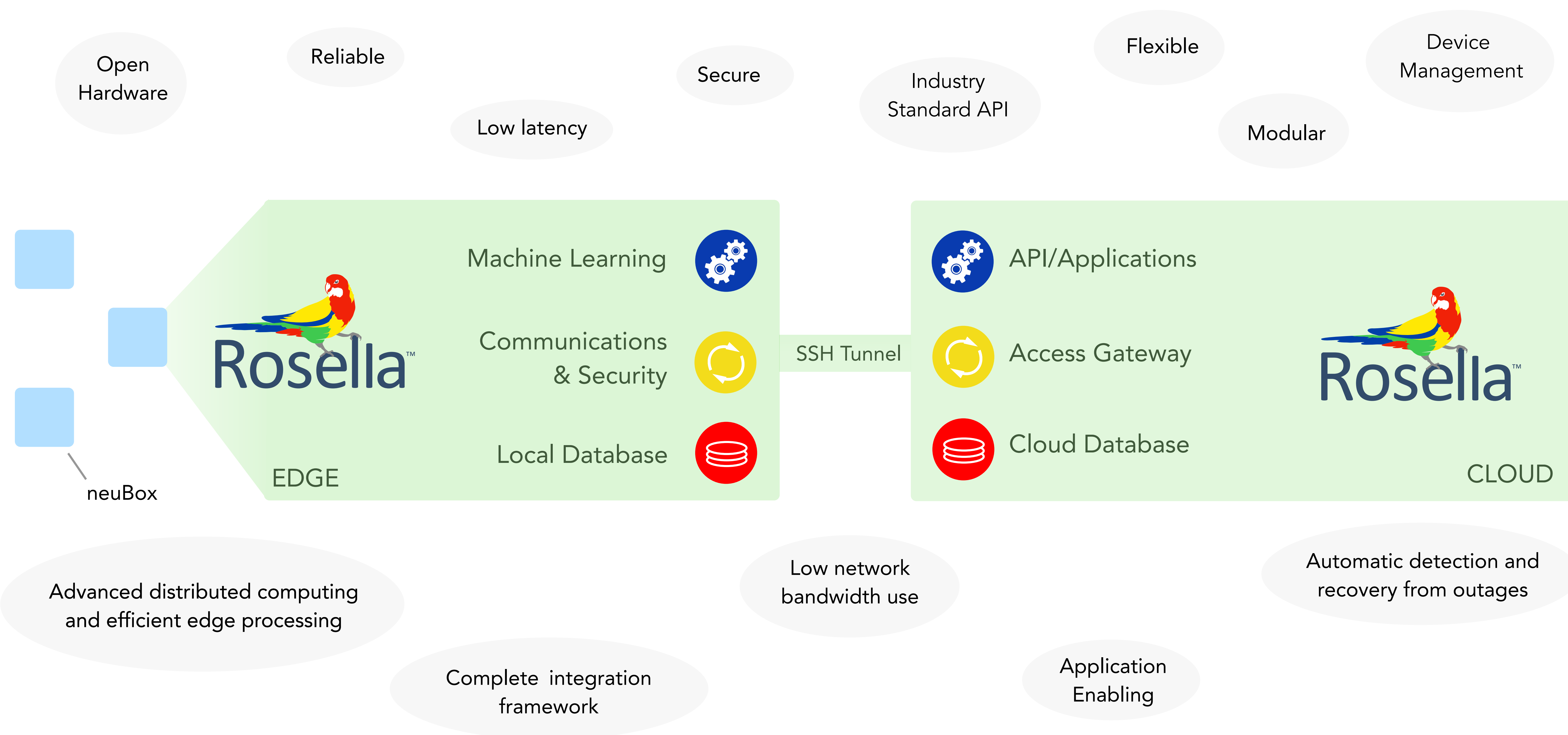


Rosella™ Landscape Computing Software

VIMOC's Rosella™ IoT software stack is an end-to-end solution from the edge of the network to the cloud. This solution creates a seamless and robust link that allows intelligent infrastructure to drive intelligent applications.

Rosella Embedded is a distributed software solution performing sensory data capture and processing at the edge of the network, while efficiently cooperating with other Rosella Embedded computing nodes and the Rosella Cloud. Each embedded software node performs data normalization, message parsing, edge processing pipeline and storage, with an extended framework for machine learning, vision processing etc.

Rosella Cloud is the software component which communicates with the Rosella Embedded computing nodes to authenticate and collect the intelligence produced by this network. This intelligence is presented via the Rosella API to enable advanced applications and services, including visualization, data mining/ analytics etc.



Enabling a new generation of services & applications

The Rosella platform will enable a new generation of applications to enhance customer convenience, lower labor costs, improve cash management and increase overall productivity. This is thanks to the Rosella Embedded machine learning framework, consisting of a library of deep learning machine vision algorithms for detection and classification tasks. The Rosella Embedded software can also connect to a variety of sensors that are commonly used in the ITS environment. This feature enriches the data available to Rosella API developers to design new applications and enhance existing services.