



Smart Cities

Background

Among new smart city initiatives beginning to take form are programs aimed at improving services, relieving traffic congestion, conserving water and energy, and improving quality of life by utilising the immense amounts of data generated from new low-cost sensors. Spiro Control's edge device solutions can support these initiatives by distributing data processing and analytics to the edges where sensors and data sources are located. Considering the massive amounts of data being generated, the cost of sending all of the raw data to the cloud is significant and unnecessary. Our edge solutions can analyse the real-time data and send only relevant data to the cloud for further processing.

Example: Traffic management

Adaptive traffic control uses real-time data to adjust the timing of traffic lights to improve traffic flow. Low-cost edge devices running an embedded application can collect and analyse data from traffic lights equipped with smart sensors to monitor traffic flow. Based on traffic volume, the edge devices can adjust the length of red and green lights to ensure a smooth traffic flow.

Furthermore, the edge devices can filter data so as to send only relevant information to the cloud for it to be available for more in-depth analysis. This is far more efficient than sending continuous live data to the cloud for storage and analysis, as the only truly useful data in this case is information that diverges from the norm.

Use of adaptive traffic control has been shown to speed traffic flow by between 5 and 25 percent. McKinsey estimates that adaptive traffic control and smart meters could reduce time spent in traffic jams and looking for parking spaces by 10 to 15 percent, which could be worth more than \$500 billion per year globally in 2025. Additional potential benefits include reduced CO2 emissions and postponing or avoiding investment in new roads.

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