Case Study

\Orchestrating a brighter world NEC

Smart city solutions

Wellington City Council

Customer
- Wellington City Council

Industry
- Government

Challenges
- Address urban issues such as maintaining traffic infrastructure and providing security
- Enhance resilience to disaster
- Reduce greenhouse gas emissions and protect biodiversity
- Promote business and enhance citizen's lives

Solution
- Multimodal Transport and Pedestrian Counting traffic flow solution for counting transport modes
- Flexible "Kite" sensing platform to create sensing hub
- Cloud City Operating Centre that integrates Smart City components into a functional dashboard
- Living Lab project to improve community wellbeing and the safety of citizens

Results
- Availability of data related to traffic infrastructure, security and the environment provides insights into community wellbeing, economic benefit, and environmental sustainability
- Integrated operating system enables big data analytics and provides an open-source data exchange between agencies
- Provision of real-time information to the right people enhances informed decision-making
- Roadmap to achieving goal of being smart, safe, and eco-friendly city

Introduction

Wellington, the world's southernmost capital, is a beautiful, compact and multicultural city located on the southern tip of New Zealand's North Island. In 2011, the Mayor of Wellington launched Wellington Towards 2040, a long-term project to transform Wellington into a smart, safe, and eco-friendly city. Requiring a partner with the experience and technological prowess to help the city achieve its vision, Wellington City Council turned to technology giant NEC.

Challenges

Addressing urban issues, protecting the environment, and improving resilience

Jenny Rains
Community Services Manager
Wellington City Council

Wellington is an attractive city with a growing economy and a high standard of living, but like all cities, it faces difficult urban issues such as maintaining traffic infrastructure and making sure the city is safe for its citizens. Moreover, being situated on a major fault line, Wellington is concerned with enhancing its resilience to disaster.

"We need a platform that will allow us to collect information in real time and coordinate with people like the police, accident and emergency departments and social organizations that assist with the vulnerable people in the city," explains Jenny Rains, Community Services Manager at the Wellington City Council.

The city has made significant commitments to reduce greenhouse gas emissions and protect its biodiversity, and requires a platform which will allow monitoring of not only emissions but also other factors, such as temperature, humidity and water quality.

"We want Wellington to be a place where people want to live, and people want to do business," says Ms. Rains. "So it is important to obtain a city-wide view—bring all the data and information together in one place—so that we can provide information to the wider public, to businesses, and also our partners for optimal urban planning and for the benefit of Wellington and its people."

Solution

Increased urban resilience, community safety and economic growth, and the creation of an advanced eco-city

NEC is providing the Wellington City Council with a range of smart city solutions, including a Multimodal Transport and Pedestrian Counting traffic flow solution for counting transport modes such as cars, trucks, motorbikes, pedestrians and bicycles in real time at any given location, thereby providing vital information on route capacity, utility and demand.

Another project being led by NEC is the Kite platform, a flexible sensing platform that enables many types of sensors to be incorporated into a sensor hub, providing ultimate flexibility and integration for sensing.

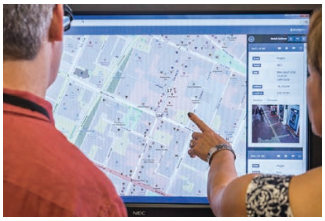
"The Kite project allows us an opportunity to be flexible in the way that we use sensors," explains Ms. Rains. "We can collect data and measure temperature, humidity, vibrations—whatever we need for the current project, largely mitigating ad hoc civil engineering and communications backhaul related costs for future sensing needs."

The third of NEC's initiatives is the Cloud City Operation Centre, a state-of-the-art tool providing city managers with a smart city operating system for real-time analysis of city information. This operating system also provides an open-source data exchange that can be used to encourage businesses and the public to build the dynamic city center of Wellington's future vision.

"NEC's Cloud City Operation Center combines information from a multitude of sensors and data sources, geotags that data and then further enriches it with metadata and analytics for use by many different vertical applications," explains Tim Packer, Head of Smart City Solutions at NEC New Zealand. "This provides the visual nerve center for the city, and in this case, the transport experience around the CBD's golden mile, which is vital information for those who run and plan the transport network as well as the citizens who use it."

NEC is also partnering Wellington in its Living Lab project, through which the city seeks to explore how smart city technology can support Inter Agency Collaboration focused on improving community wellbeing and the safety of its citizens.

"In this project, existing data sources and assets, coupled with new sensory and analytical methods and technologies, offer insights into day-to-day street level trends, patterns and hotspots," says Tim Packer, describing the concept of the Living Lab. "This provides the agencies and city partners with the real-time information they need to alert and respond to issues as they arise and to assist informed decision making around social initiatives and policy to keep Wellington safe and vibrant."



Results

"We have experienced immediate benefits from our collaboration with NEC."

Thanks to NEC's smart city solutions, the Wellington City Council is well on the way to achieving its vision of being a smart, safe, and eco-friendly city.

The projects deployed by NEC are offering invaluable information about transport experience that can guide the direction of future investments in urban space and road networks, and delivering environmental and other data at the right time, in the right format, and to the right people, who can use it to make informed decisions.

"There is no doubt in our minds that these projects will provide unique insights that will drive improved community wellbeing, fuel economic benefit, and drive environmental sustainability," says NEC New Zealand's Tim Packer. Asked about the reason for the projects' success, he added, "I would say the high level of collaboration between the Wellington City Council and NEC, acting as true partners, is the key to making these proofs of concept a reality."

"We have experienced immediate benefits from our collaboration with NEC," concurs Ms. Rains. "These smart projects are pivotal for us to deliver on our 2040 goals. Using smart technology provides us with a way to implement our strategic roadmap into that future, and NEC is our key partner in making this happen."

NEC's global reach, which extends from Japan to Asia, Europe, the Americas, and Oceania, has also given Wellington access to the global connections required to become a smart capital.

"It's absolutely important for Wellington city to be a smart city, to have a future, to think about our citizens and our businesses," says Ms. Rains. "The NEC collaboration has brought to the table a way for us to do that."

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