



Bringing the smart city to life

George Galica

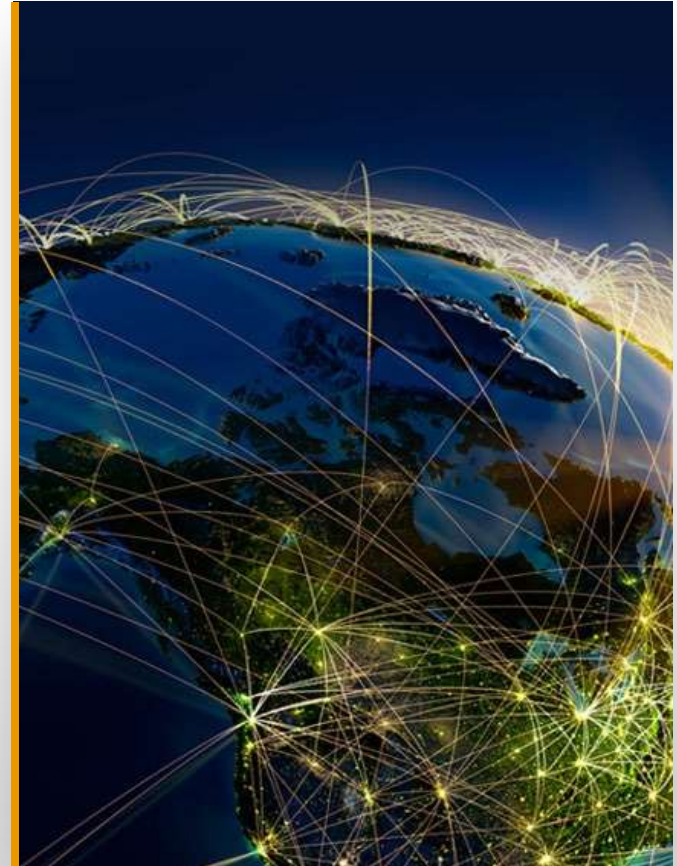
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Head of Business Solutions, Vodafone Qatar

Where do the opportunities lie?

IDC: **70%** of worldwide spending on M2M city projects in 2013 will be on:

- **Sustainability** — reducing energy usage and the cost of public services
- **Transportation** — improving traffic flow and public transport
- **Public safety** — protecting lone workers, public sites and the vulnerable





Sustainability

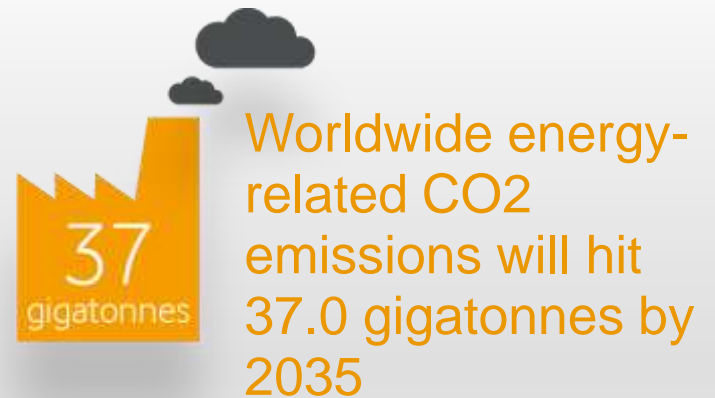
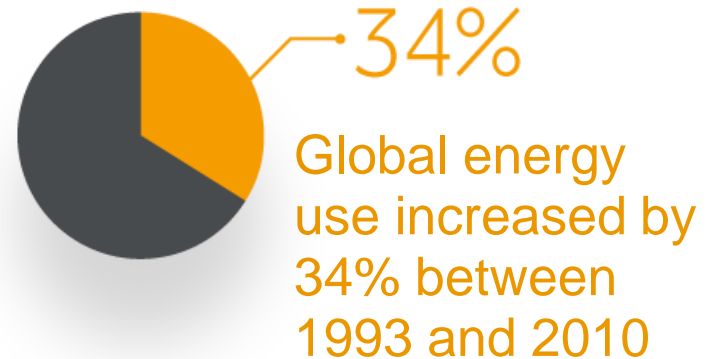


Improve sustainability with M2M

You're under pressure to lead the way in sustainability.

M2M technology can help you:

- Cut your energy use
- Track and reduce pollution
- Optimise waste collection

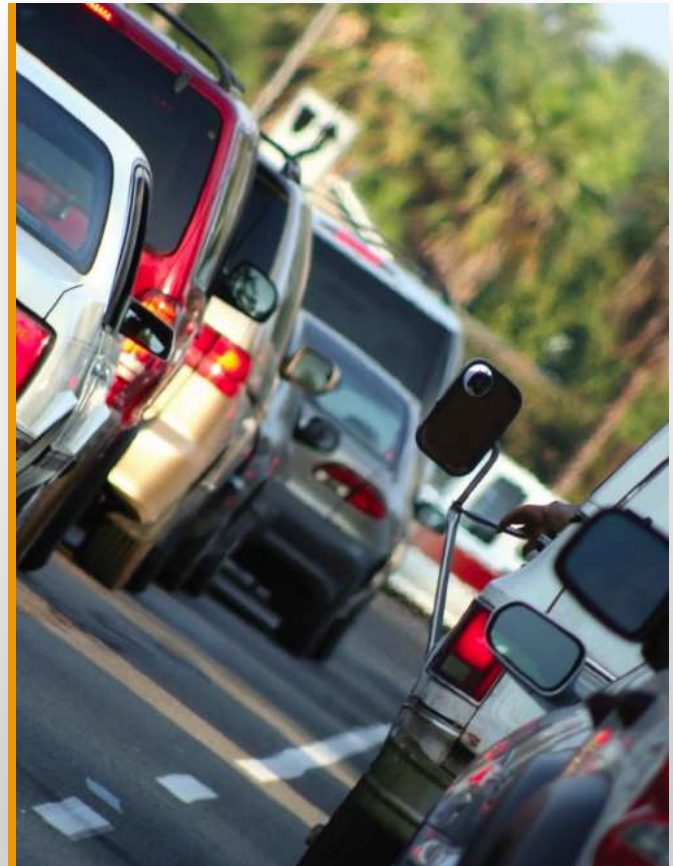


Air quality monitoring

Air pollution can affect healthcare costs, tourism and productivity.

M2M sensors installed around a city can gather data on local humidity, harmful chemicals, pressure, and other factors. You can use the data to:

- **Restrict traffic or industry** in highly polluted areas on a day-by-day basis
- **Make a case for funding** to improve air quality
- **Report accurately on the progress** towards improving air quality

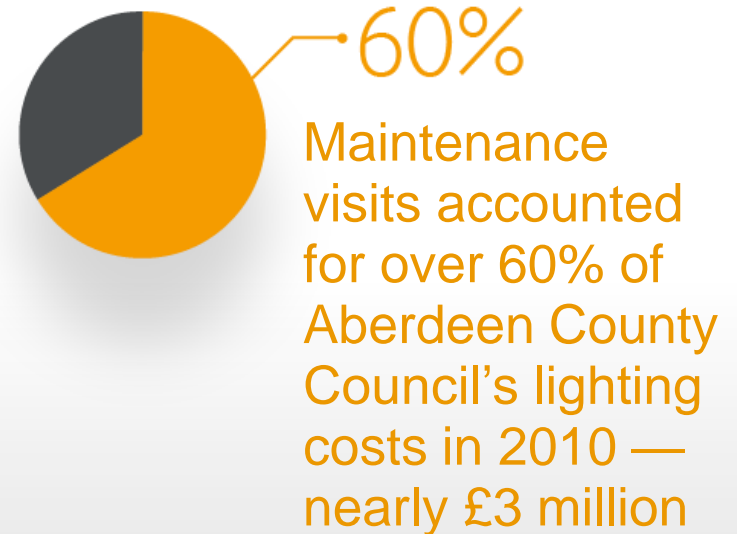


Connected street lighting

Effective street lighting deters crime and improves safety for drivers and pedestrians — but lights are **expensive to run and maintain.**

M2M sensors installed on lights can:

- **Alert maintenance workers when a fault occurs** — removing the need for expensive routine check ups
- **Detect when there's no traffic or people nearby** — and dim the lights to cut energy use and light pollution



ASB — saved €1.8M with EDM

With more than **160 branches** across New Zealand, Auckland Savings Bank found that energy was a large portion of its costs

Within three years of using our EDM solution, ASB:



Saved **€1.8 million**
in energy bills



Saved **2,232 tonnes**
of CO₂ — a
reduction of 27%



Won the **2012 EECA**
Awards, Large
Business Award for
energy savings

“ We knew our power use had been rising and we had been trying to tackle this, but we weren’t getting anywhere. With the smart meters we could see the profile of every branch immediately.” Leo de Graaf, Senior Services Engineer, ASB Bank





Traffic and transport

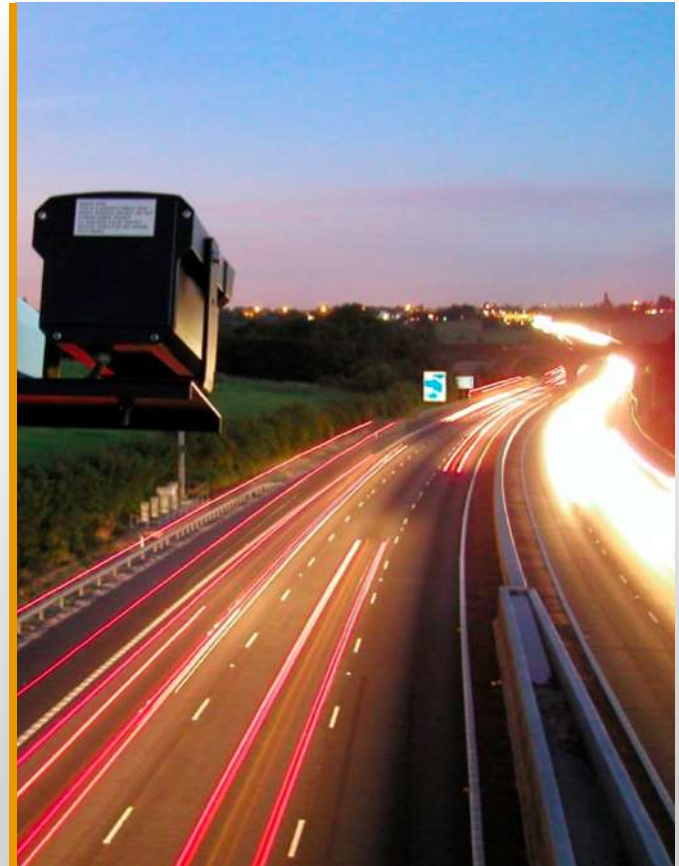


Improve traffic and transport with M2M

Traffic congestion and limited parking availability are pressing issues for towns and cities.

Our M2M solutions can help you:

- **Optimise** traffic flow and parking
- **Enhance** public transport service levels



Traffic and parking management

Our M2M traffic and parking solutions can improve traffic flow and parking availability. M2M-enabled cameras collect data on traffic volume and use it to:

- **Update digital signs** notifying drivers of busy areas and parking spaces
- **Adapt the timings of traffic signals** to optimise the flow of vehicles
- **Monitor road safety** and alert emergency services to problems

Councils in the [UK](#) and **parking companies** in [the Netherlands](#) are already benefitting from M2M traffic and parking solutions.



Public transport management

Providing a high-quality and reliable service with accurate information is the best way to encourage citizens to use public transport.

Our M2M public transport solutions can:

- **Update signage** at train stations, and bus and tram stops
- **Alert travellers** to delays or amended routes via a mobile app
- **Count the number of passengers** using services to schedule extra capacity when needed
- **Monitor vehicle performance** to pre-empt technical problems



BMW DriveNow



Personal mobility has never been easier with intelligent usage based car sharing

1,000,000 Members worldwide by 2020

\$0.29 Per minute entry level tariff

(including fuel, insurance, taxes and parking fees)





Safety and security

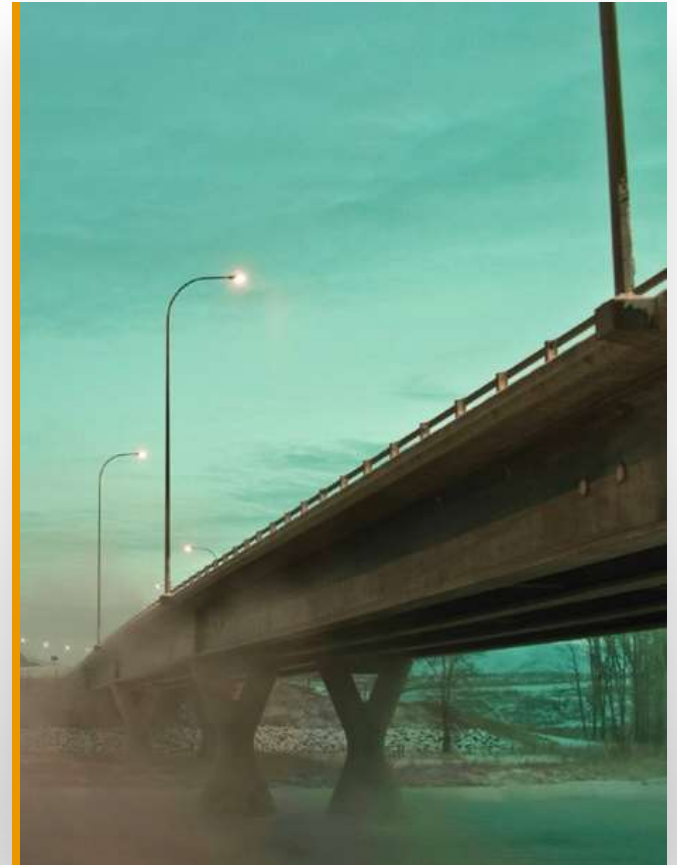


How can M2M help?

You have a duty of care to protect your own employees, the vulnerable, public sites and assets.

Our M2M solutions provide **simple** and **cost-effective** ways to:

- **Protect** lone workers
- **Protect** the vulnerable in their own homes
- **Monitor** public sites, such as parks



Improve surveillance

CCTV has dozens of uses but installing conventional systems around towns can be expensive, time-consuming and impractical.

With our **wireless** and **solar-powered** CCTV cameras, authorities can install cameras anywhere to:

- **Monitor facilities**, such as landfill sites and leisure centres
- **Measure river levels** and flood risks
- **Monitor the safety of large crowds**, for example at sporting events



Vodafone Approach

<p>Complete M2M solutions</p>	 A close-up of a white smart meter mounted on a brick wall. The digital display shows the number '25054'.	<p>Most extensive M2M footprint in the world</p>	 A globe with a network of glowing lines and nodes, representing a global communication network.
 A long-exposure photograph of a city street at night, showing colorful light trails from cars and buildings.	<p>Extensive partner networks</p>	 A glowing compact fluorescent light bulb (CFL) against a green background.	<p>Industry experience and expertise</p>
<p>Dedicated global M2M team</p>	 A long-exposure photograph of a road at night, showing light trails from cars and a truck.	<p>24x7 support</p>	 A photograph of a busy highway with many cars and trucks, illustrating a large-scale M2M application.

