

**Next Generation Technologies brings together world leading insights and solutions to help customers succeed. Working with strategic partner gridComm, we transform street lighting infrastructure into energy-aware, remotely monitored and managed networks, saving on power consumption, labour costs and delivering an improved carbon footprint.**

### About gridComm

Headquartered in Singapore, gridComm provides hybrid power line communications (PLC)-radio frequency (RF) devices and systems which enable the transformation of the electricity grid into a smart city network.

gridComm's hybrid PLC-RF solution aggregates meters, streetlights, industrial systems, buildings and other appliances, transforming them into energy-aware, real-time reactive, "smart devices", creating an intelligent and amalgamated communications network for the Internet of Things (IoT).

### Solutions

gridComm provides a complete smart lighting solution which creates a network over a city's power lines, when coupled with its street light control software, saves millions of dollars in electricity and maintenance costs per year. It also creates a smart city backbone upon which gridComm then connects thousands of sensors to measure weather, pollution, and traffic among others.

Intelligent lighting operations alone can shrink a city's annual electricity consumption by as much as 40 per cent. Granting unprecedented control, a smart city network enables hundreds of thousands of IoT sensors to communicate and deliver detailed data in real-time.

### Making smart cities smarter

In combination with Downer and gridComm's sensor partners, a city-wide central nervous system can be formed from the aggregation of weather, pollution, parking, traffic and environmental sensors. These third-party technologies help cities to become significantly more cost and resource efficient.

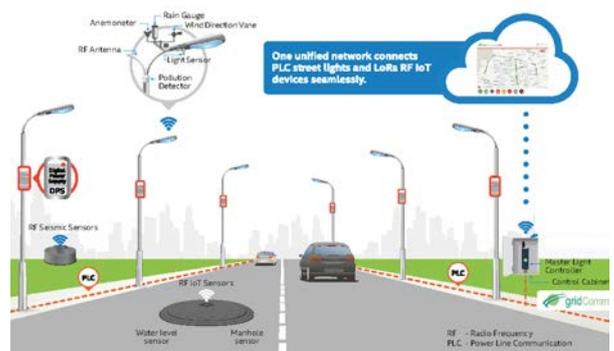
### Reducing energy costs

Inefficiencies arise when systems are not interconnected. Being able to monitor a city's pulse with real-time data means that hardware failures and faults can be immediately detected and even anticipated in advance. gridComm's network visibility removes the need for routine inspections greatly reducing a city's repair and maintenance costs. Greater control over the network elements means that cities can run them at their highest efficiency, optimising the lifespan of the hardware.

### The most reliable poweline network

gridComm removes the need for prohibitively expensive new infrastructure by 'piggy-backing' onto the city's existing powerlines. Its patented 18 channel chip design provides a redundancy for noisy powerlines. In addition to Smart Street Lighting, gridComm's hybrid PLC+RF solution lays the foundation for a **city-wide sensory network** to be implemented via street light and power line infrastructure. The addition of the 19th channel for sensor connectivity creates the world's most reliable smart city network solution with end-to end technology delivery from sensors to gateway to software.

### Plug-and-Play Smart Street Light Sensory Network-Phase B



# INTELLIGENT TRANSPORT SOLUTIONS

## Smart Street Lighting

### Security and Data Analytics

gridComm's network is completely **secured and protected** from the hybrid power line communications/RF network nodes, which are AES-128 protected, to the cellular TCP network, which is backed by the Intel gateway platform and Intel's Wind River McAfee software, which includes OpenSS, IPSEC VPN, or Cisco's gateway and security services. Web hosting for the Street Light Management Software is via IBM Softlayer. Detailed security measures ensure full protection against potential hacking.



### Greater Insight into the City

Analytics are used to monitor deviations from baseline data on the lamp voltage and current to more accurately predict impending fault conditions. Predictive maintenance can now be used to circumvent outages or to increase time before failure rates by analysing and then acting on the data obtained.

gridComm's unique Smart Street Light Sensory Network system attained from the deployment of the hybrid PLC+RF technology, presents the opportunity to aggregate massive amounts of independent data from numerous sensors in to more meaningful information for city-wide analysis.

As an example, gridComm is working with the Indonesian Government to predict earthquake activity via the deployment of seismic sensors across active locations. In conjunction with IBM's Watson, and it's analytical capabilities to crunch large volumes of data, the solution is assisting in savings lives.

### Complete End-to-End Turnkey Smart Street Lighting Solution

gridComm is the **only complete end-to-end solution provider (except the luminaire and lamp post) in the world for smart street lighting systems.**

**THE GRIDCOMM SOLUTION**  
Providing the world's most reliable smart city network solution with complete technology ownership from sensors to gateway and analytics.

**THE TECHNOLOGY**

- Individual streetlights can be automatically controlled and dimmed to save costs. Maintenance crews become more responsive and cost-efficient.
- The gridComm system creates an intelligent network across the city that saves millions of dollars in monthly electricity and maintenance costs.

This includes the Street Light Management Software (server or cloud-based), the Master Light Controller (concentrator), the Digital Power Supply/Smart Light Controller and the fundamental communication enabler, gridComm GC2200 PLC chip. Having a complete end-to-end system ensures one party is responsible for the vertically intergrated system.

### For more information

Call us today on **1800 DOWNER**

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[www.ngtdowner.com](http://www.ngtdowner.com)

[www.gridComm-plc.com](http://www.gridComm-plc.com)