

EDN Communication-- Bringing Smart Cities Technology to Our Communities & First Responders



at&t

Turning your city's lighting & communication footprint into digital infrastructure



What is a smart city?

Defining the next digital frontier



THE REALM OF POSSIBILITIES FOR SM CITIES:

- IMPROVE THE WAY CITIES OPERATE AND COMMUNICATE,
- PROVIDE FOR HIGHER LEVELS OF PUBLIC SAFETY, AND
- MEET THE EXPANDING DIGITAL NEEDS AND INFORMATION APPETITES OF CITIZENS,
- CREATING THE DIGITAL CITY OF TOMORROW, TODAY



Our Smart City Solution

CityIQ Technology



City leaders are turning their ubiquitous lighting footprint into digital infrastructures enabled by CityIQ™, Current's unique intelligent node embedded with multiple sensors. This node is extensible through over-the-air upgrades of analytics, connection to neighboring devices and in its ability to do multi-sensor fusion over a secure cloud connection. The node's aesthetics allow seamless integration to a variety of streetscapes and sits elegantly on any street light pole.

In short, CityIQ transforms a city's lighting infrastructure into an all-knowing, data intelligence network.



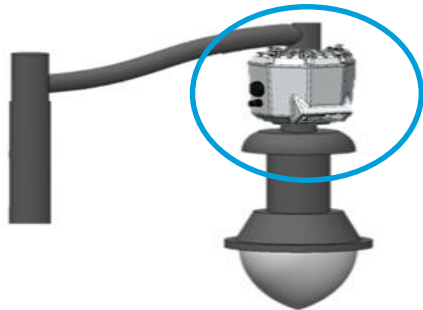
AT&T Smart Cities Digital Infrastructure



Universal vertical mount



Universal arm mount



Universal vertical mount

Pedestrian
Count, Direction

Edge Metadata
Traffic

Count, Direction, Lane, Speed, Classification

Parking
Car-In, Car-out

Sensors



Camera
1x 1080p / 2x HDR



2x microphones



Environmental
Temperature
Pressure
Humidity
Vibration
Noise

Hardware

Computer - Intel Based

Solid State Drive 512GB

Motors and heaters

Key Features

- 120-277v; 480v
- -20C to 40C
- Image/video on demand
- OTA update
- Analytics store
- Computer Vision
- Remote camera positioning
- Sensor fusion
- concurrent analytics
- Gun-shot detection

Communications

Backhaul



Ethernet
Wi-Fi

External Sensor
BLE 4.1

Certifications

RoHS
IP65

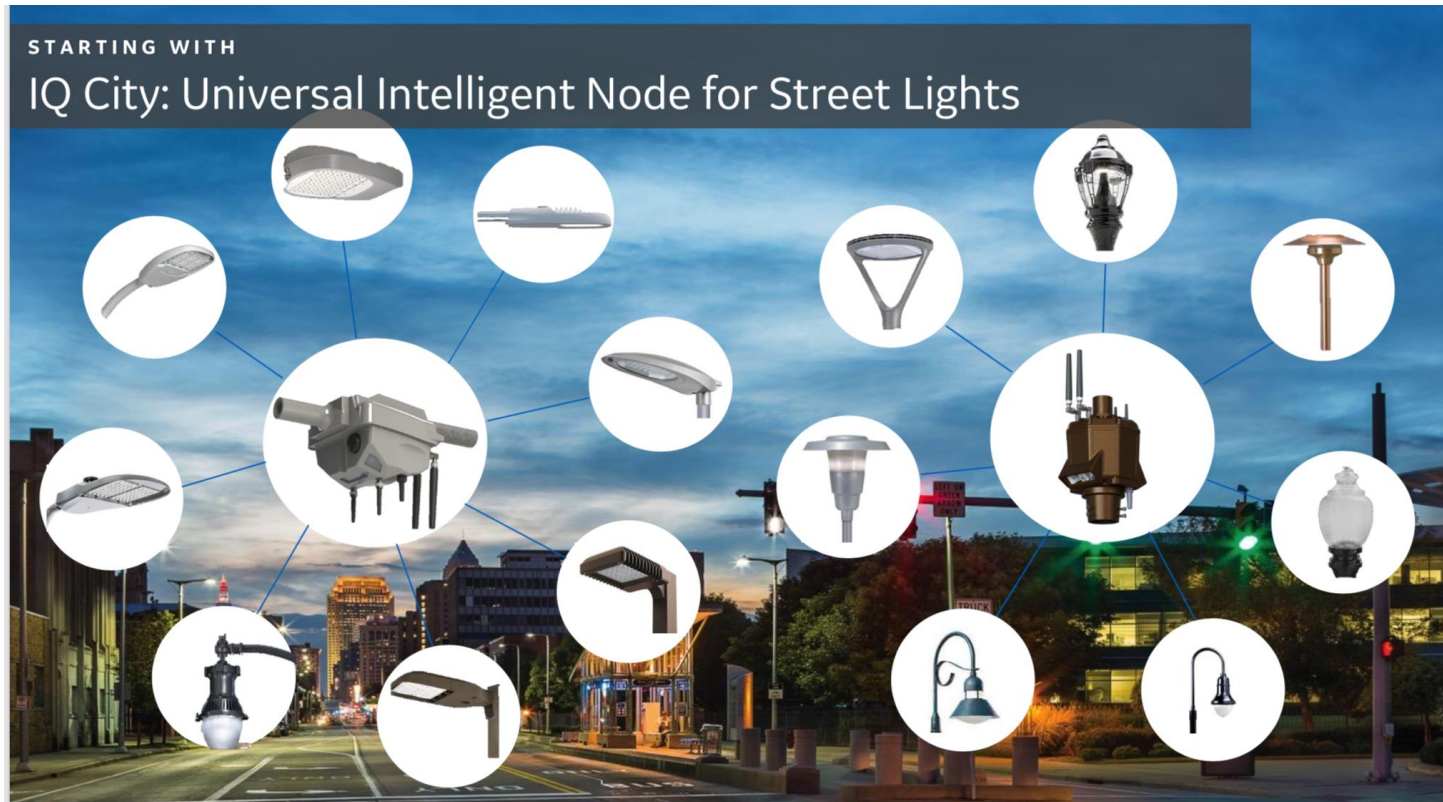
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current
powered by GE

Our Smart City Solution

CityIQ Technology



Our Smart City Solution

CityIQ Technology





Our Smart City Solution


CityIQ Technology

INSTANT ABILITY TO
See, Hear, Feel, Talk on Every Block





Sensors

-  Camera
3x 1080p Color
-  2x microphones
-  Environmental
 - Temperature
 - Pressure
 - Humidity
 - Vibration
 - Noise
 - Lightning
 - Compass

Hardware

-  State Drive (512GB)
Motors and heaters
- Key Features
 - 120-277v; 480v
 - -20C to 40C
 - Image/video on demand
 - OTA update
 - Analytics store
 - Computer Vision
 - Remote camera positioning
 - Sensor fusion
 - concurrent analytics
 - Gun-shot detection

Communications

- Backhaul**
 -  LTE
 -  Ethernet
 -  Wi-Fi
- External Sensor**
 -  BLE 4.1

Certifications

- FCC
- UL
- RoHS
- IP65

Improving City Operations and Communications

Defining the next digital frontier

CAPTURING DATA
On the Move.

Street lights enabled by Current's CityIQ intelligent nodes can see, hear and sense the environment around them, helping to improve:

- Transportation, traffic and parking
- Urban planning
- Crime prevention
- Asset management
- Public safety

Traffic Optimization

Crosswalk Utilization

Parking Optimization

9

Improving City Operations and Communications

Defining the next digital frontier



 **Weather and Environmental Analytics Out in Front**

Environmental Monitoring & Analysis

Street-level data helps create more naturally livable surroundings with real-time monitoring of air quality and ground conditions.

 Deploy snowplows more strategically to clear roads to schools, businesses and homes.

 Know of potential flooding, issue warnings, close streets and prepare for recovery.

 Identify sources of air pollution and plan courses to help mitigate it.



Improving City Operations and Communications

Defining the next digital frontier



 Environmental Monitoring & Analysis

Data to Help Improve Public Quality of Life

The cost of air pollution in the world's most advanced economies, plus India and China, is estimated to be **US \$3.5 trillion** per year in lives lost and ill health.*

Potential Benefits

- Improve data access and quality
- Access data to make pollution management decisions
- Reduce medical costs
- Adopt strategies to comply with regulatory bodies
- Facilitate improved scientific research
- Predict future environmental issues

Improving City Operations and Communications

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Improving City Operations and Communications

Defining the next digital frontier



P
Parking
Optimization

Parking Impact on Your City

According to the International Parking Institute, **30% of the cars** circling a city are the result of drivers searching for a parking spot.*

Potential Benefits

- Decrease time to find a parking spot
- Improve parking asset utilization
- Optimize parking enforcement resources
- Revitalize downtown areas
- Reduce carbon emissions



Provide for Higher Levels of Public Safety

Defining the next digital frontier

SST™
Gunshot
Detection

Technology that Improves the Well-Being of Citizens

Integration of ShotSpotter Technology (SST™) into each Intelligent LED can transform data into responsive and preventive action, making streets safer for families, at a fraction of standard costs.*

ShotSpotter™ sensors in intelligent GE LED fixtures deliver real-time gunfire information to cities.

⇒ This detection creates accurate location of shooting, type of weapon, number of shooters and other critical data.

⇒ Gunshot data is given to first responders to help them make critical decisions.

⇒ Use historical gunshot data to mitigate gun violence, reduce crime and lower administrative costs.

*As compared to procuring ShotSpotter technology directly

Provide for Higher Levels of Public Safety

Defining the next digital frontier



SST™
Gunshot
Detection

Help Reduce Gunfire Rates and Costs

According to SST,
75% of shootings go unreported.

Potential Benefits

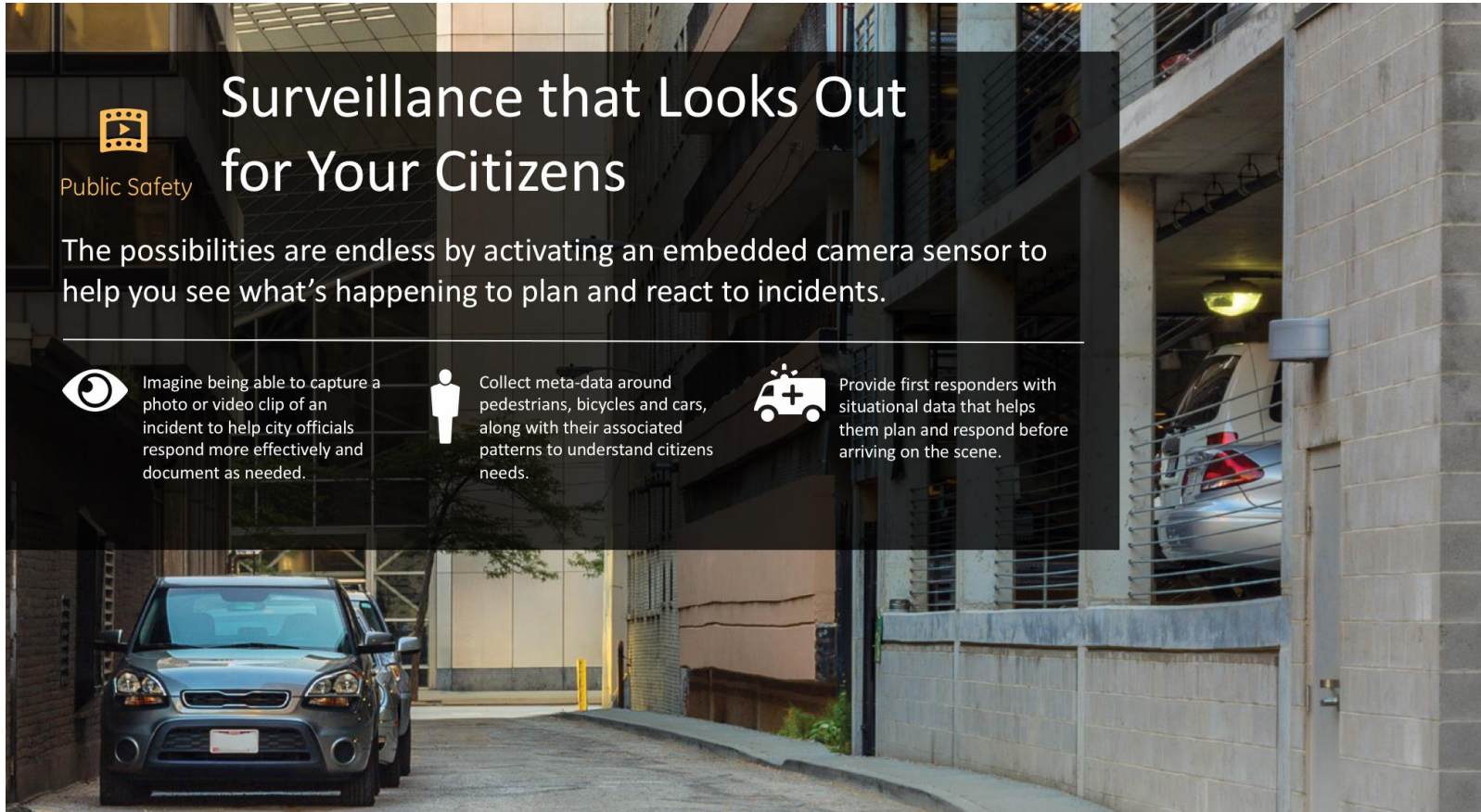
- Improve economic benefits
- Intelligence-based policing
- Increased reporting of gunshots
- Help ensure public safety
- Detailed reports and insights to first responders


With ShotSpotter™ sensors embedded into existing lighting fixtures throughout a city—rather than deploying them on their own mesh network—much broader coverage areas will be available on a cost-affordable basis, creating value for emergency responders and communities alike.



Provide for Higher Levels of Public Safety

Defining the next digital frontier





 **Surveillance that Looks Out for Your Citizens**

Public Safety

The possibilities are endless by activating an embedded camera sensor to help you see what's happening to plan and react to incidents.

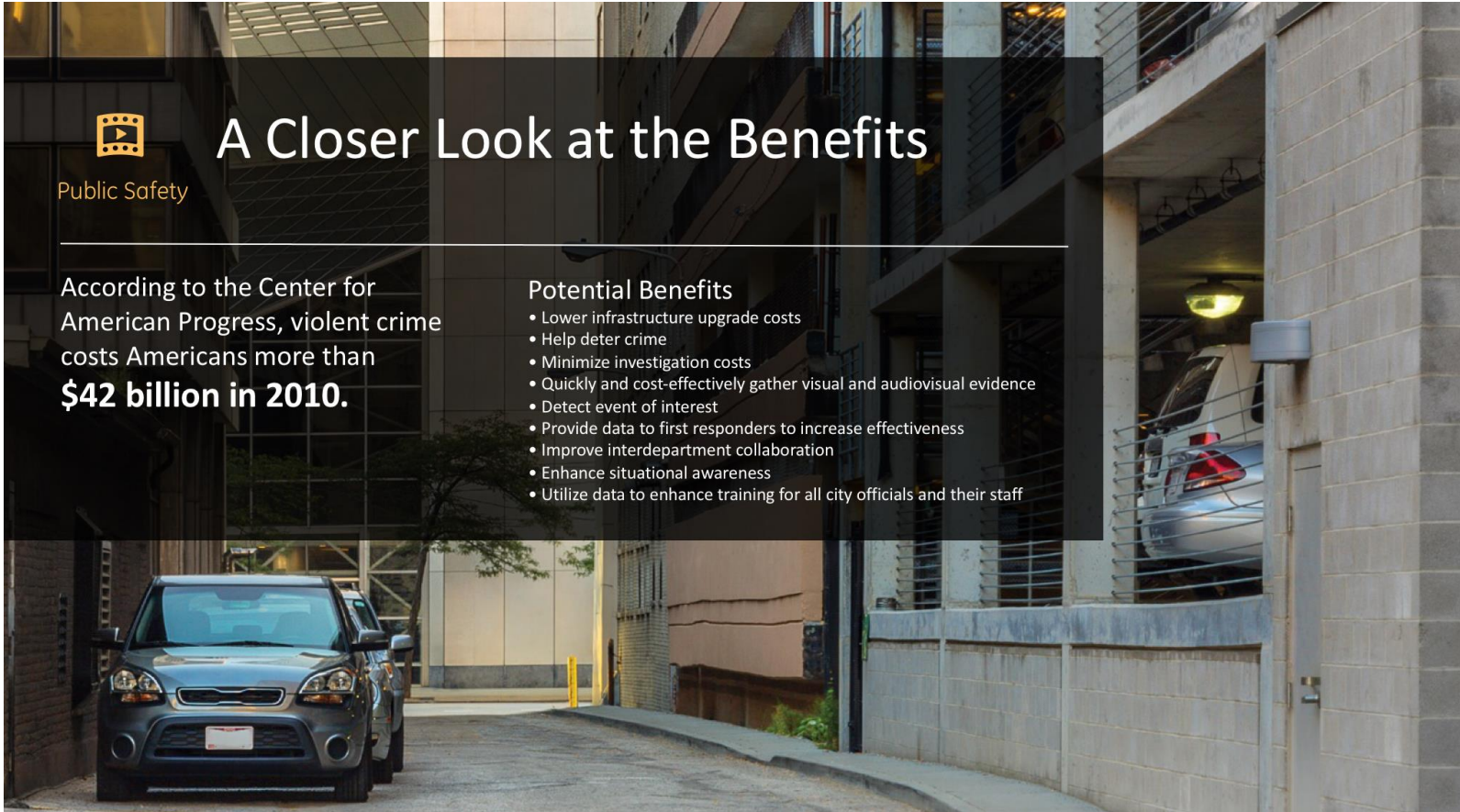
 Imagine being able to capture a photo or video clip of an incident to help city officials respond more effectively and document as needed.


 Collect meta-data around pedestrians, bicycles and cars, along with their associated patterns to understand citizens needs.

 Provide first responders with situational data that helps them plan and respond before arriving on the scene.

Provide for Higher Levels of Public Safety

Defining the next digital frontier



 **A Closer Look at the Benefits**

Public Safety

According to the Center for American Progress, violent crime costs Americans more than **\$42 billion in 2010.**

Potential Benefits

- Lower infrastructure upgrade costs
- Help deter crime
- Minimize investigation costs
- Quickly and cost-effectively gather visual and audiovisual evidence
- Detect event of interest
- Provide data to first responders to increase effectiveness
- Improve interdepartment collaboration
- Enhance situational awareness
- Utilize data to enhance training for all city officials and their staff

Provide for Higher Levels of Public Safety

Defining the next digital frontier

Safer Cities Begin with Current Evolve™ IQ LED Intelligent Street Lights and ShotSpotter™ Technology

A connected, safer city begins with the right lighting. That's why, with Current, powered by GE, street lights are transformed into a network of intelligent devices. With ShotSpotter™ sensors embedded into new or existing Current lighting fixtures throughout a city, first responders and city authorities receive alerts and data in real time, as gun fire happens. Plus, integrating ShotSpotter sensors directly into street lights creates a much broader coverage area on a cost-effective basis. Rather than deploying sensors on their own mesh network, integrated ShotSpotter sensors create value—and effective responsiveness—for emergency responders and communities.

WHAT IS SHOTSPOTTER TECHNOLOGY?

ShotSpotter uses collaborative acoustic sensors that activate when gun fire occurs, providing comprehensive outdoor coverage over complex city environments. Industry-proven ShotSpotter emergency response sensors can be integrated into Current Evolve IQ LED Intelligent Street Lights to detect gun fire and deliver real-time information directly to authorities and first responders, including precise location of shooting, number of shots fired and number of active shooters.



Provide for Higher Levels of Public Safety

Defining the next digital frontier

GENETEC

Genetec began in 1997 by pioneering the first-ever IP video management software, giving customers at the time never-seen-before system flexibility, hardware freedom and ease of system growth through a powerful, open solution.

Today, Genetec is a global provider of IP video surveillance, access control and license plate recognition solutions unified in a single platform called Security Center. The inclusion of data streamed from Current, powered by GE, solutions allows for the delivery of video on-demand footage so that city officials respond more efficiently and first responders are provided with situational data to help before they even arrive on-scene.

3 STEPS TO SAFER CITIES

Video Surveillance: See what's happening in your city at any time to help effectively handle incidents and increase situational awareness as your city evolves. Stream data from Current, powered by GE, street lights to enhance coverage and lower infrastructure upgrade costs.

Access Control: Safeguard access to municipal facilities such as waste and water facilities, fire departments, city hall, libraries, and more.

License Plate Recognition: The AutoVu™ ALPR system helps cities track criminals on national hotlists, including stolen vehicles, wanted felons, Amber Alert suspects and scofflaws.



EDN Communication - 21st Century 2nd Responders Community Policing Initiative™

What is Community Policing?

The US Department of Justice COPS division defines community policing as a philosophy that promotes organizational strategies that support the systematic use of partnerships and problem-solving techniques to proactively address the immediate conditions that give rise to public safety issues such as crime, social disorder, and fear of crime. They go on to break down community policing in three components:

Community Partnerships:

- Collaborative partnerships between the law enforcement agency and the individuals and organizations they serve to develop solutions to problems and increase trust in police

Organizational Transformation:

- The alignment of organizational management, structure, personnel, and information systems to support community partnerships and proactive problem solving

Problem Solving:

- The process of engaging in the proactive and systematic examination of identified problems to develop and evaluate effective responses

Hon. Joseph R. Biden, Jr., Vice President of the United States defines community policing as, “When there’s criminal activity, the older lady living on the corner knows what’s going on but may be afraid to call the cops because she may become the victim if the offenders find out she called them. But if she knows the cop and has his name, she can call and say, “Johnny, they’re outside my door.” And Officer Johnny can take care of it without exposing her. That’s what community policing was supposed to be about.”



EDN Communication - 21st Century 2nd Responders Community Policing Initiative™



Bridging the gap between Public Safety and the Communities They Serve

Bridging the gap between first responders and the community:

EDN Communication, located in Atlanta, Georgia owned by business icon and community leader Jerome Edmondson, has partnered with the National Organization of Black Law Enforcement Executives (NOBLE) to implement the second responder community policing initiative and FirstNet/Smart City innovation. This initiative will help bring awareness, data and instant communication between community leaders and law enforcement personnel assigned to a particular community as well as local businesses in the community, and other second responders or individuals who have an impact in their respected communities. This initiative will begin to help solve the problems and reduce the fear of social disorder that plague our communities, as it relates to effective communication best practices.

EDN Communication/NOBLE Community Policing Initiative Plan for communities nationwide:

EDNC/NOBLE plan to equip every community leader and local business owner who wants to participate in this initiative with a rugged durable smartphone that is Enhanced Push to Talk enabled. This Enhanced Push to Talk feature, also known as instant chat, will allow each leader, business owner, and patrol cop to communicate instantly and effectively when there is a threat or signs of potential endangerment. This device also communicates with a dispatch console that gives pinpoint location for every device issued. By equipping our workforce, community leaders and business owners with similar tools and resources that our police use, will make communities stronger as it relates to instant communication and help police identify and catch potential suspects quickly.

Meet the Expanding Digital Needs of Citizens

Defining the next digital frontier

Public Wi-Fi® for All

Ruckus® and Current, powered by GE, utilize light fixtures as points of Wi-Fi® access for all citizens.

With their partnership with Current, powered by GE, Ruckus continues to find ways to provide pervasive, high-quality Wi-Fi in the most challenging indoor and outdoor city environments. Plus, Ruckus and Current, powered by GE, can more powerfully deliver unique network and location-based analytics for city officials, as well as complete policy management and security solutions.

How It Works



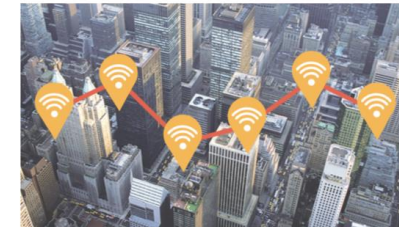
THE CONNECTION

Ruckus access points in the Current Evolve™ IQ LED Intelligent Street Light deliver high-quality user connectivity. Since lights are ubiquitous, so is the signal.



THE DETECTION

Wi-Fi usage allows city officials to collect anonymous location-based data.

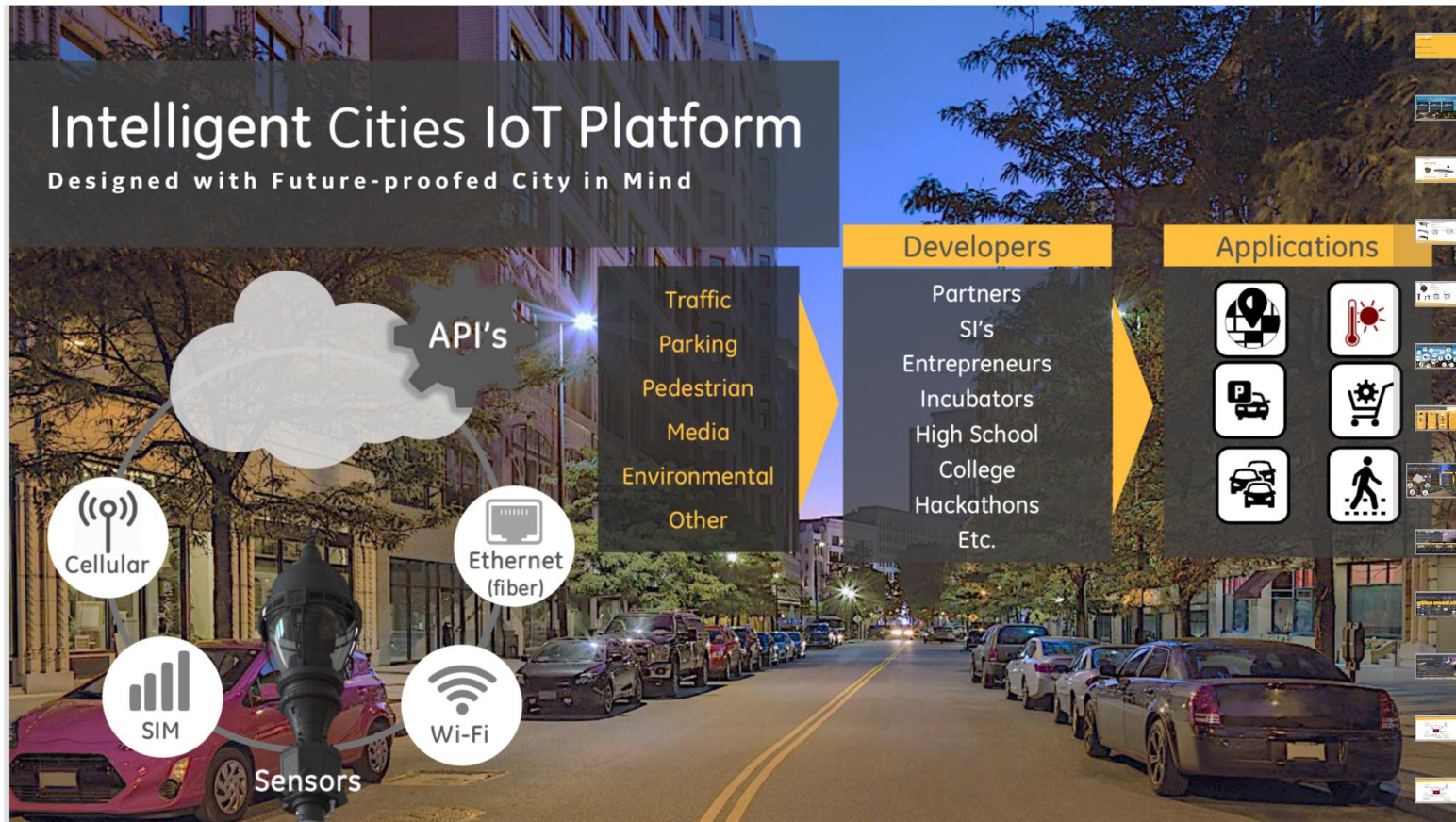


THE IMPLICATION

Citizens get Wi-Fi just as easily outside as they do in their home or office. They are able to browse more, shop more and learn more. Plus, city officials can provide more location-based services to make the city more livable for citizens.

Creating the Digital City of Tomorrow, TODAY

Defining the next digital frontier




EDN Communication - Creating the Digital City of Tomorrow, TODAY




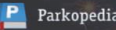

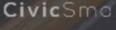


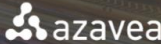







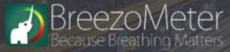

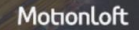
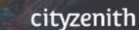




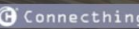
Defining the next digital frontier

OUR PARTNERS

Exponential Potential

32 signed partners | 75+ in process



Transportation	Public Safety	Networks & Infrastructure	Environmental	Urban Development
      	   	    	 	      



Creating the Digital City of Tomorrow, TODAY

Defining the next digital frontier



INVESTING IN DIGITAL INFRASTRUCTURE
Pays Back to Cities.

Cities have many reasons to take advantage of open digital infrastructure, powered by Current:

- Cost avoidance through new efficiencies
- Improved public services
- Faster emergency response
- New net value like Wi-Fi to address the digital divide
- IoT curriculum for schools
- Economic growth through new business and job creation
- Civic pride and enthusiasm
- Ability to tackle problems with unprecedented speed and scale

Together, we can make the city a better place to live, work and play.

Meet the Expanding Digital Needs of Citizens

Defining the next digital frontier



Prime-Partner in Solution Delivery

EDN Communication



EDN Communication is a veteran owned premier technology and communications company, that supports creating Smarter and Safer Cities with IOT infrastructure dedicated to bridging the technology and communications gaps between Community and Public Safety through its Public-Private sector communication, technology and utility partners. EDN Communication also provides telecommunications services for B2B, Government and Education mobility/technology customers as an AT&T Master Solution Provider and Co-Sale partner.



EDN Communication Premier Support Services:

- * EPTT and PTT over Cellular Solution Provider and Integration
- * Deliver communication and technology solutions to B2B, state, county, and local governments, as well as K-12 and higher education institutions
- * Integrating digital Smart City infrastructure and actionable data to optimize parking, traffic flow, weather analytics and the well being of citizens with our Utility, Technology and Communication partners.
- * Public Safety Technology training, education and implementation services in executive Law enforcement agencies that create safer communities and bridge the digital divide.
- * AT&T Vertical/Horizontal Universal Intelligent NODE for street lights authorized retailer.

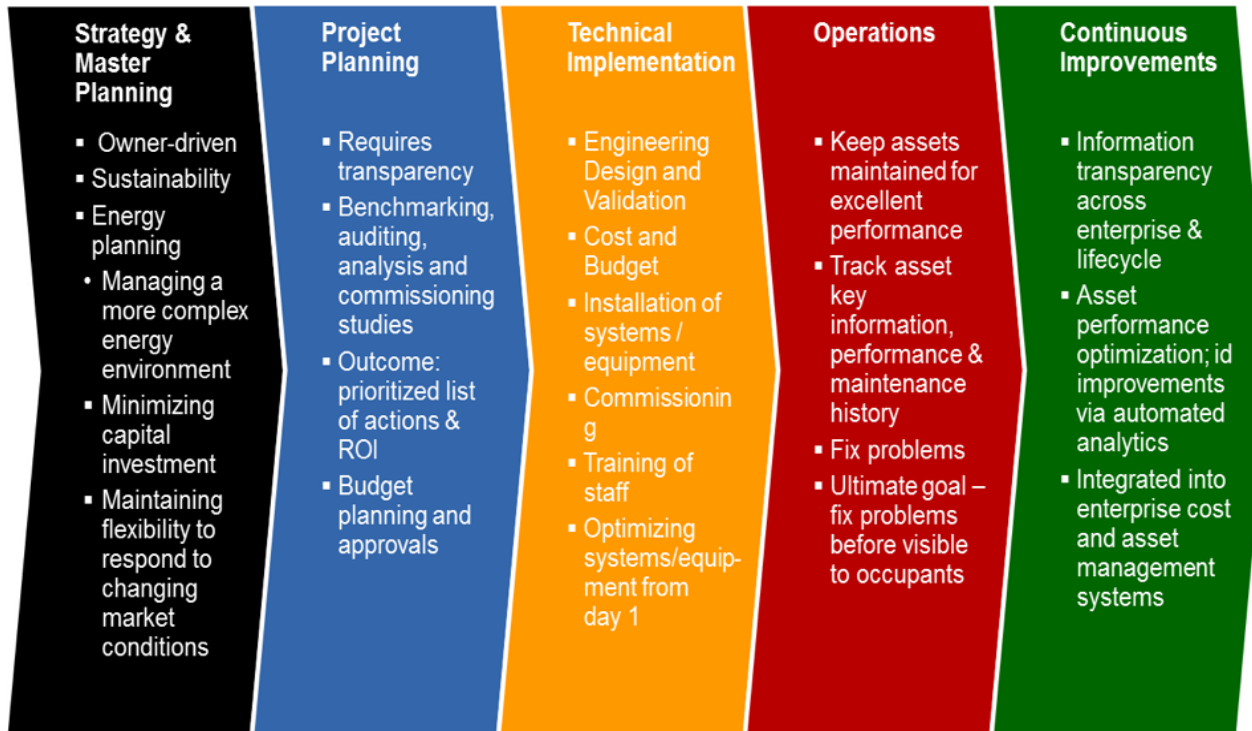


EDN Communication Smart City Partner in Solution Delivery

HP Energy



HP Energy is a project development and project management and financing firm that brings deep independent technical and management expertise to our clients.



EDN Communication Partner in Solution Delivery

S. L. King and Associates



Quality service is a key component in everything done at S. L. King and Associates, Inc. (SLKA). SLKA's reputation is built on quality, resulting in repeat client retention of 90% for additional services. Competition is extremely high in the **engineering consulting** business, and SLKA's emphasis on customer service and high quality deliverables allows us to excel in such an environment

The firm offers the following services to clients:

- Mechanical, Electrical, and Piping Design
- Industrial and Process Plant Design
- Water and Wastewater Treatment Plant Design
- Construction Management



EDN Communication Utility Partner in Solution Delivery

Bird Electric Contracting



Bird Electric Enterprises, LLC (“Bird Electric”) is the premier electrical contractor across the Permian Basin and beyond, providing the full slate of electrical services in all aspects of the oilfield electric industry. Bird Electric **constructs**

and maintains transmission and distribution (“T&D”) infrastructure for utilities, E&P companies, power generation companies, cooperatives, municipalities, and other owners of T&D assets. Bird Electric also specializes in storm restoration work, and has successfully completed storm recovery work in the aftermath of Hurricanes: Charley, Frances, Ivan, Katrina, Rita, Gustav, Isaac, Sandy, and more recently Harvey and Irma. Bird Electric holds MBE certifications through the National Minority Supplier Development Council. Bird Electric’s customers include Conoco Phillips, Oxy, Duke Energy, Oncor Electric, and Florida Power and Light.



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