ITRON

Smart Lighting CMS

Itron Smart Streetlight Leadership

Transforming Cities Around The World

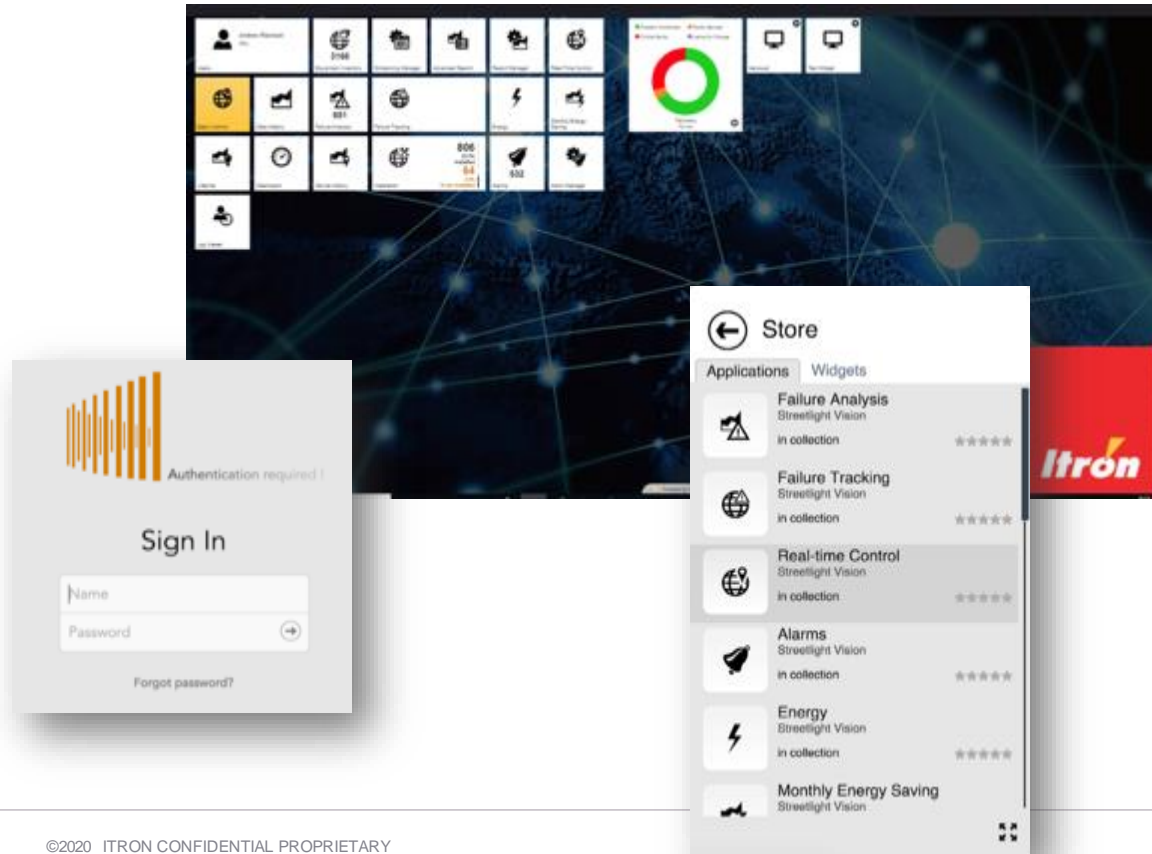| Global Awarded Streetlights	Global Managed Streetlights	World Largest Streetlight Deployment	Registered Ecosystem Developers
#1	3M	500K	700+

Advanced CMS Functionality

Agile Cloud based development

» User management and access rights
» Flexible desktop configuration
» Customizable skin
» Cloud Server
» Itron monitored and upgraded

Advanced CMS Functionality

Robust Northbound API's Support third party integration

Asset Management

GIS

Workforce Management

Meter Data Management

311/411 system

North Bound Web Services API

Advanced CMS Functionality

Standard Southbound TALQ 2.0 and OSCP

Asset Management
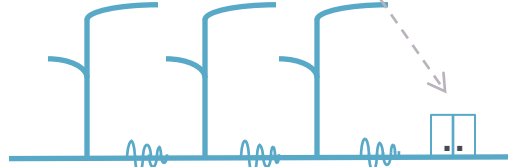
GIS

Workforce Management

Meter Data Management

CHI ✱ 311

North Bound Web Services API

South Bound Web Services API
Including TALQ and OSCP

Advanced CMS Functionality

Reliable Command and Control

DATA HISTORY

REAL-TIME CONTROL

FAILURE TRACKING

» Streetlight real time control/command
» Dynamic lighting scenario
» Configuration / commissioning services
» Streetlight Alarm services
» Streetlight Reporting services

Advanced CMS Functionality

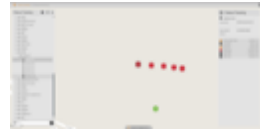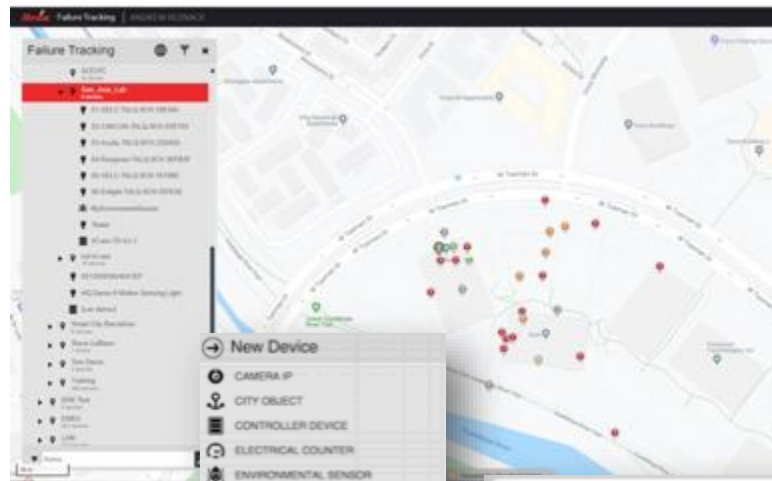Flexible Scheduling and dimming services

GROUP SCHEDULING

» Internal astronomical clock
» Scheduling services
» Back up photosensor
» Flexible control programs
» 365-day calendar of control

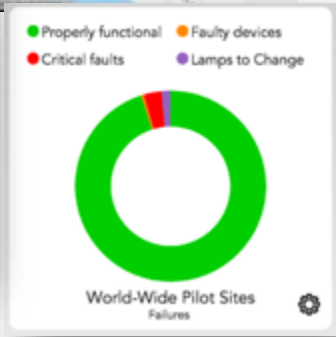# Advanced CMS Functionality

Asset Tracking/ Health

Asset Tracking/Health

» Multiple map-sources/ GIS
» Ability to track multiple device types
» Add attributes of your choosing to devices
» Tracks and monitors 21 failure modes
» Localized failures

Multi-tenant SᴀᴀS Architecture

Enabling new services

Customer Access

Network Mgmt.

WAN

Internet

Customer 1

Customer 2

Customer 3

Customer 1
(San Francisco)

Customer 1
(San Jose)

Customer 2
(Chicago)

Customer 3
(Australia)

Software Hosted in Itron Data Centers
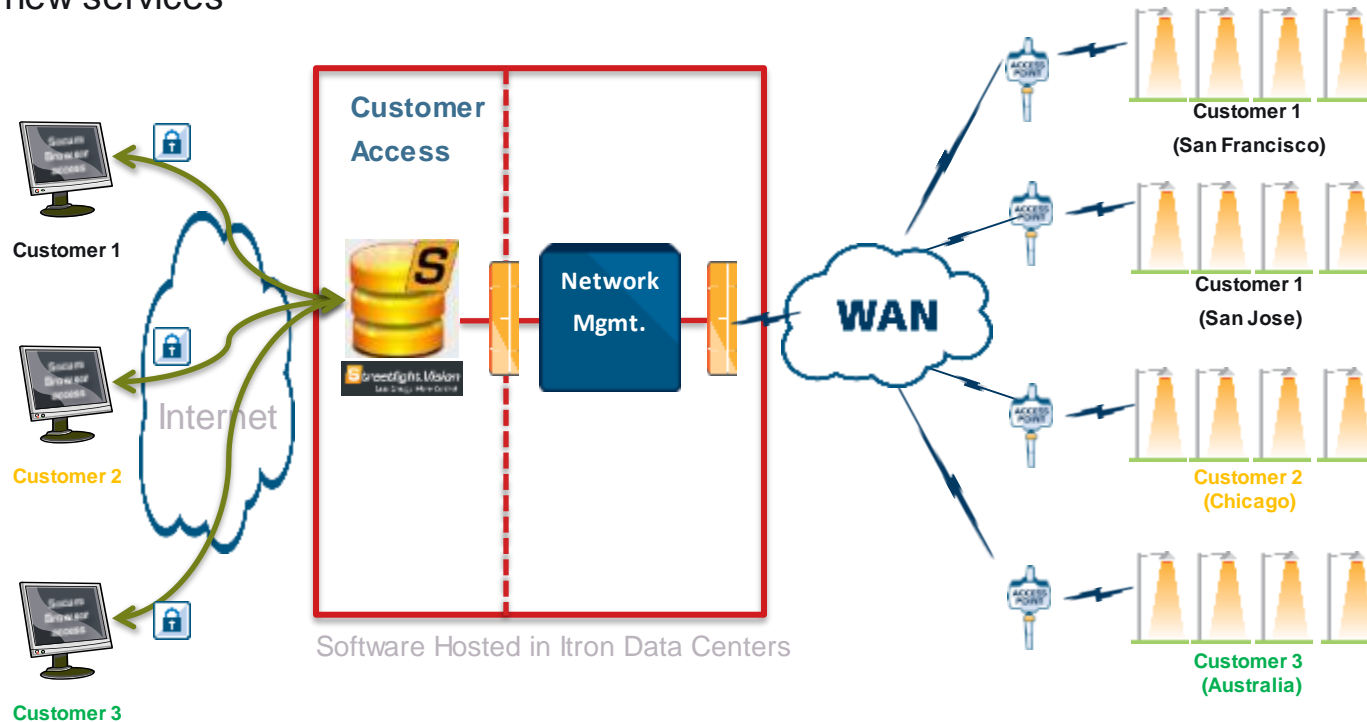
Secure HTTP w/ user authentication

Streetlight.Vision Security

- Customer 1 Geozone
  - San Francisco
    - Light1
    - Light2
    - Etc.
  - San Jose
    - Light1
    - Light2
    - Etc.
- Customer 2 Geozone
  - Chicago
    - Light1
    - Light2
    - Etc.
- Customer 3 Geozone
  - Melbourne, Australia
    - Light1
    - Light2
    - Etc.

Customer 1

Customer 2

Customer 3

🔒 Secure HTTP w/ user authentication
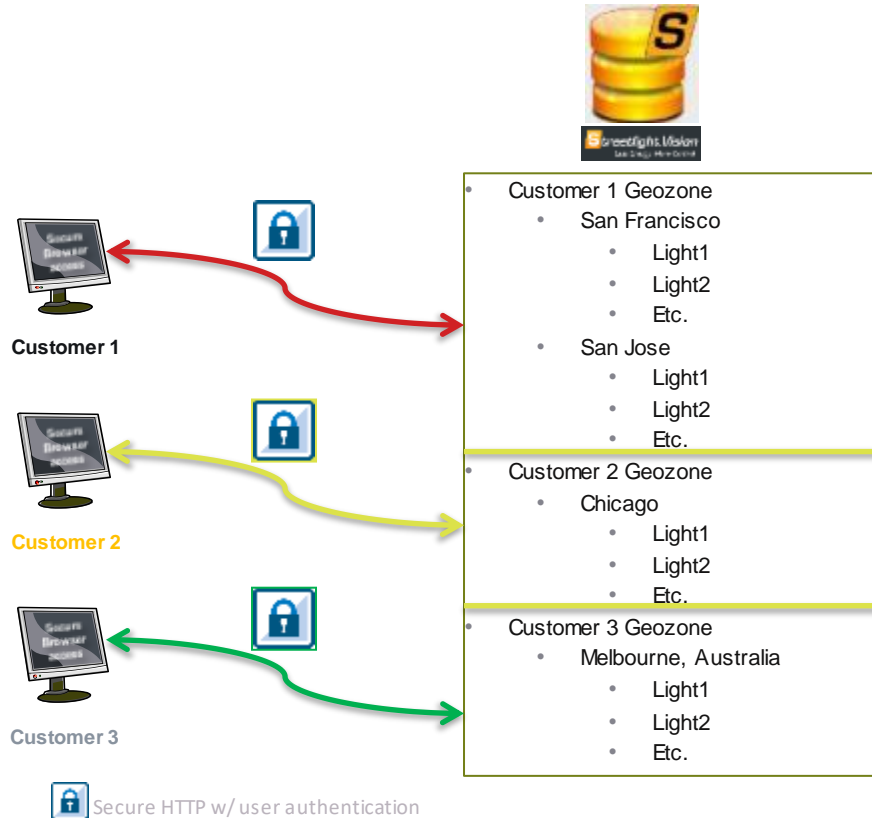
» Per Customer
  - Dedicated Geozone
  - Support for multiple sub-regions
  - Unique Authentication
  - Support for multiple sub-accounts

» No customer access to underlying servers or database

» Centrally managed by Itron Global Managed Services

» Cost effective solution

SMART CITY CASE STUDIES
Our multi-purpose platform enables a range of IoT use cases

GUANGZHOU

BUILDING AN IOT-READY CITY

PROJECT OVERVIEW

- » 80,000 intelligent streetlights
- » Multi-network streetlight deployment
- » Smart poles feature integrated air quality sensors, pedestrian counters, traffic sensors, noise sensors, and motion sensors

BENEFITS

- » 75% energy savings
- » 28%Operational savings
- » Reduced crime
- » Unified head-end for managing multiple lighting deployments
- » Minimize physical mounting infrastructure for smart devices

IMPROVING MULTIPLE CITY SERVICES

OVERVIEW: Paris has committed to reduce public lighting energy consumption by 30 percent over the next 10 years while ensuring quality lighting for residents.

APPLICATIONS & GOALS

- PROJECT PILOT: Quickly demonstrated improved lighting efficiencies by starting with a tightly scoped city initiative

- SMART STREET LIGHTING AND TRAFFIC SIGNAL CONTROL: IoT network canopy connecting 200k street and traffic lights across the city

- IPv6-BASED MULTI-APPLICATION NETWORK: Creating a platform for future services

CPS ENERGY
SAN ANTONIO, TX

MULTI-APPLICATION

CHALLENGE
» Drive greater operational efficiency and grid reliability for the nation's largest electric & gas combined municipal utility

SOLUTION
» Smart, multi-purpose network for electricity and gas AMI
» Distribution Automation
» Demand reduction
» Smart streetlighting pilot

RESULT
» 82% reduction in manual meter reads
» 53% reduction in truck rolls
» 87% increase of remote reconnects & disconnects
» Exploring additional smart city applications

IMPROVING RELIABILITY & EFFICIENCY

46% REDUCTION IN FREQUENCY OF CUSTOMER INTERRUPTIONS

" "The smart grid program is delivering on its promise to generate efficiencies and we are pleased to pass-along those savings to our customers by decreasing their electric delivery costs."

– *Anne Pramaggiore, President and CEO, Commonwealth Edison*

BRIGHTER, SAFER AND MORE EFFICIENT STREETS

$100M PROJECTED ENERGY SAVINGS OVER 10 YEARS

"By converting our streetlights to LED technology, we are modernizing Chicago's infrastructure, creating new jobs and saving taxpayers more than $100 million over the next decade. Once the new smart lighting system is operational, we will also be notified when lights go out – and this will eliminate the need for residents to call 311 to report outages."
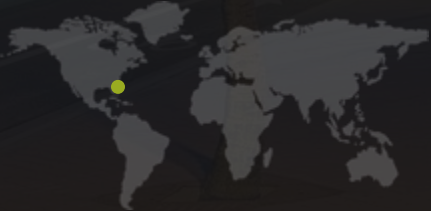
– Rahm Emanuel, Mayor, City of Chicago

FLORIDA, USA

DELIVERING
SMART CITY VALUE

» Largest street light control network worldwide

» Leverages existing smart grid network consisting of >5M smart devices

» Accelerated restoration using automated failure detection

» 60% energy savings

» Improves monitoring to protect wildlife during turtle hatching season

SAN ANTONIO USA

MULTI APPLICATION NETWORK

PROJECT SCOPE:
- 3 Innovation Zones including
  - Smart Streetlight controls
  - Weather Station
  - Water level monitoring
  - Noise sensors
  - Parking sensors
  - Air Quality sensors

OUTCOMES:
- Single CPS Energy Network for:
  - Electric & Gas (CPSE)
  - Smart City applications (City)
  - Water (SAWS)
- SLV used for Smart City data

© Tom Marek

MULTIPLE LOCATIONS, USA

PUBLIC SAFETY & SECURITY

PROJECT SCOPE:
- Using IOU AMI & Streetlight Network
- Installation of gunshot detection& location sensors
- Synchronization with city / PD CCTV Cameras for crime scene forensics
- System deployed in multiple locations and multiple gunshot events detected
- System can differentiate fireworks from gunshots

OUTCOMES:
- Enhanced Public Safety with increased deterrence and shorter PD response times
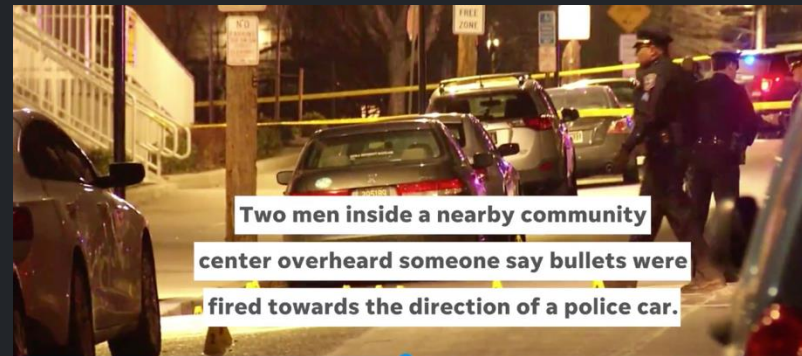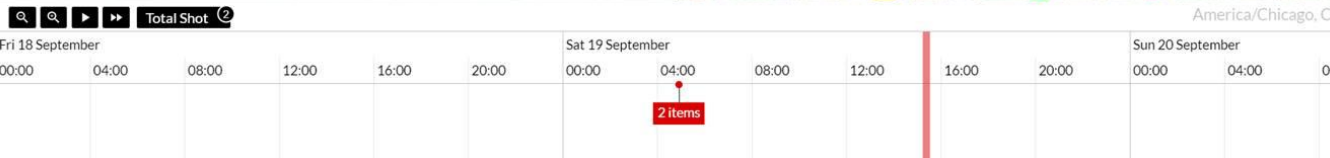
WASTEWATER FLOW MONITORING

PROJECT SCOPE:

- Mitigate sanitary sewer overflows
- Remove wastewater basins from regulatory moratorium
- Simple management of regulatory compliance data
- Integrate Water AMI data with Wastewater flow data to identify Utility's Real Infiltration & Inflow

OUTCOMES:

- Reduced truck rolls by 60%
- Eliminated the need for outsourced I&I reporting
- Established a permanent maintenance monitoring solution for the gravity sewer system

ENHANCE SUSTAINABILITY & COMMUTER SAFETY

» 76% energy savings from dynamic dimming

WASHINGTON COUNTY SERVICE AUTHORITY

OVERVIEW
- Western Part of VA
- ~23,000 water meters

CHALLENGES
- Aging infrastructure
- Rising operational costs

SOLUTION & BENEFITS
- Utilization of Network-as-a-Service
- Lower operational costs
- Lower maintenance costs
- Easy transition from AMR to AMI
- Temetra for improved meter reading
- Access to Customer Portal