LET'S BUILD TOMORROW TODAY
Transforming to a Digital City, State, or Country to Deliver Citizen Services with IoE

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Session ID: PSOGEN-2003
Agenda

• Introductions
• The Internet of Everything (IoE) and the Digital Community
• Smart+Connected City Solutions: Focus on Lighting and Parking
• Outcomes, Deployments, and Case Studies
• Closing Remarks
The Internet of Everything (IoE) and the Digital Community
How many **people** are moving into cities around the globe...hourly?
How many **people** are moving into cities around the globe…**hourly**?

A  10 ppl/hr  
B  100 ppl/hr  
C  1,000 ppl/hr  
D  10,000 ppl/hr
Cities worldwide are urbanizing at the rate of… **10,000** people per hour!

Equivalent to one new **LONDON** every month!
Rapid Urbanization Leads to Challenges in Cities Worldwide

The need to do more with less...

Traffic
Parking
Safety

Urban decay, poverty, crime

Clean water
Clean air
Clean streets

Access to education and healthcare
Offering public sector agencies unprecedented opportunities to address issues and transform.

IoE in Public Sector

$4.6T
The Digital Community
Harness the power of integrated digital information…
…to create a fully connected, unsurpassed citizen experience.
Smart+Connected City Solutions: Focus on Lighting and Parking
Smart+Connected City Solutions: Focus on Lighting and Parking
Smart+Connected City Solutions

1. Smart+Connected City Parking
2. Smart+Connected City Traffic
3. Smart+Connected City Safety and Security
4. Smart+Connected Citizen Engagement
5. Smart+Connected City Lighting
6. Smart+Connected City Operations Center

COMMON DATA LAYER: Foundational Network

SHARED INFRASTRUCTURE: Smart+Connected City Wi-Fi
Smart+Connected City Solution Architecture

MOBILE APPS
- Transport Management
- Water Management
- Parking Management
- Lighting Management
- Waste Management
- Environment
- Safety and Security
- Traffic Management

PARTNER APPLICATIONS AND URBAN SERVICES
- Monitoring/Command Control Centers

Foundational Network Infrastructure
- Wireless WAN (2G/3G/4G/Wimax) DSRC/LMR
- Public/Private WAN
- Internet

S+C City Wi-Fi and Multi Sensor Network

PARTNER SENSORS
- VEHICLES
  - Vehicles
- BUILDINGS
  - Residential
  - Industrial
  - Commercial
- STREET
  - Water
  - Parking
  - Street Lighting
  - Waste
  - Environment
  - People
  - Street Furniture
  - Safety and Security
  - Traffic
Smart+Connected Cities Solution Architecture

MOBILE APPS

PARTNER APPLICATIONS AND URBAN SERVICES

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  - Traffic

Monitoring/Command Control Centers

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A New Generation of Lights That Are SMART Like Tiny Computers. With SENSORS.
One Network, One Platform, Many Apps

- Smart Lighting
- Control Security
- Traffic Analytics
- Parking Analytics
- Plus 100’s of Additional Apps
- One Network
- No Trenching
How It Works

Solution Components
- LED lighting Fixture
- Multi-Sensor Node
- Video camera, license plate reader, face recognition camera
- Wi-Fi Network
- Cisco Cloud

Data Flow
1. Different sensors monitor live city conditions and perform FOG Analytics
2. Collected data is sent over the secure Wi-Fi network to the Cisco Cloud
3. Cisco Cloud aggregates and normalized collected data
4. Applications leverage data to optimize city operations and provide citizen services
Cisco Video Based Parking Solution: How It Works

City Network Connected to the Cloud

Advanced Node with Video Camera and Analytics

Parking Events

Camera Monitors Parking Spaces
Improved City Parking Experience

Monitor and Manage Parking Spaces

Guidance to the Available Parking Space

Parking Sensor

Parking Sensor

No Parking Zone
The Eco-System Solution Components

**CISCO**
- End-to-end Network
- IoT Gateways
- Datacenter Infrastructure
- Foundational Network Software
- Operator Applications
- Enforcement Application
- Citizen Applications

**sensity**
- Multi-sensor Advanced Nodes
- NetSense Application Platform

**altiux**
- Parking Sensors
- Altiux Application Platform
- Electronic Display Panels
- Guidance and Enforcement agent Mobile apps

**WORLD SENSING**
- Parking Sensors
- FastPrk Application Platform
- On-street Electronic Panels
The Value Proposition
Lighting and Parking

CITIES
- Lower energy costs
- Lower maintenance costs
- Improved revenue from city services
- Improved citizen compliance
- Leverage existing assets
- More hours: Higher compliance leading to more paid hours (higher meter revenues)

CITIZENS
- Safer streets and neighborhoods
- Improved mobility and higher productivity
- Lower environmental impact
- Economic opportunity
- Improved digital access
- Access to real-time parking information via mobile applications
- Reduced circling, leading to time & fuel savings and less stress

CITY OPERATORS & ENFORCEMENT OFFICERS
- Improved and complete situational awareness
- Informed decision making
- Empowerment and actionable knowledge to optimize city operations
- Easier collaboration
- Improved compliance enforcement
- Ability to drive city goals of safety, mobility or revenues

SYSTEM WIDE
- Environmental
  - Reduced carbon emissions
- Social
  - Improved traffic flow and reduced congestion, better mobility and safety conditions
- Economical
  - Improved planning, driving better ROI and savings for reinvestment
Outcomes, Deployments, and Case Studies
Drive City Growth and Prosperity

Connectivity boosts transparency and improves operations for a more engaged city

Rapid Growth Puts Pressure on City Infrastructure, Making it Harder to Maintain Citizen Quality of Life
Greater Need to Manage Carbon Footprint and Improve Sustainability
Boosting Livability Index Is More Crucial Than Ever to Retain and Attract Trade, Commerce, and Talent

Enabling dynamic citizen engagement is crucial to defining Social, Environmental, and Economic Success
Drive Economic Results for Cities

Outcomes

- Reduced Energy Bills
- Attract Talent
- Attract Local Business
- Efficient Budgets
- Marketplace Leader
- Service Vendor to Other Cities
Kansas City Video
Kansas City
Kansas “Digital” City
Kansas City, MO – the place to be!*  

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<thead>
<tr>
<th>Challenge</th>
<th>Solution</th>
<th>Results</th>
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<tbody>
<tr>
<td>Bring together certified ecosystem partners</td>
<td>A citywide Wi-Fi network</td>
<td>Long-term goals to bring on collaborators in private sector, real estate, sports and entertainment, and academia.</td>
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<td>Create scalable, repeatable, and self-sustainable framework</td>
<td>An open data portal that gathers and shares information across a network of sensors and services</td>
<td>Application developers take available digitized city data to create new apps that address citywide challenges</td>
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<td>Deliver a new generation of urban services for city agencies, citizens, and businesses</td>
<td>Smart lighting and video</td>
<td>Creation of a global urban marketplace for buyers, sellers, and citizens</td>
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<td>Interactive digital Kiosks</td>
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<td>Smart water initiatives</td>
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“The Smart+Connected City solutions framework will improve the livability, connectivity, efficiency and economic vitality of Kansas City in ways we cannot yet even imagine, and for generations to come”

*Sly James  
Mayor, Kansas City, MO*
Connecting Communities with IoE to Improve Services, Efficiency, and Economic Growth
Connecting Communities with IoE to Improve Services, Efficiency, and Economic Growth
Make Your Community a Better Place to Live and Work
✓ For more details, visit:
  o Website: cisco.com/go/smartconnectedcommunities
  o Blogs: blogs.cisco.com/government
  o Public Sector IoE Deployment Map: cs.co/IoEPISImpact

✓ To see a live demo, visit the Connected Community Booth (#1733o) in the Cisco Section of the World of Solutions

✓ Questions? Contact SmartConnectedCity@Cisco.com
TOMORROW starts here.