Alcatel·Lucent Enterprise

INTELLIGENT MOBILITY, URBANIZATION AND PUBLIC SAFETY FOR INDIA

SAFE CITY AND INTELLIGENT MOBILITY SUMMIT INDIA 2023

Presented By

Amit Mehta

Headquarter
Colombes - **France**

Networks HQ: Calabasas, CA - **USA**

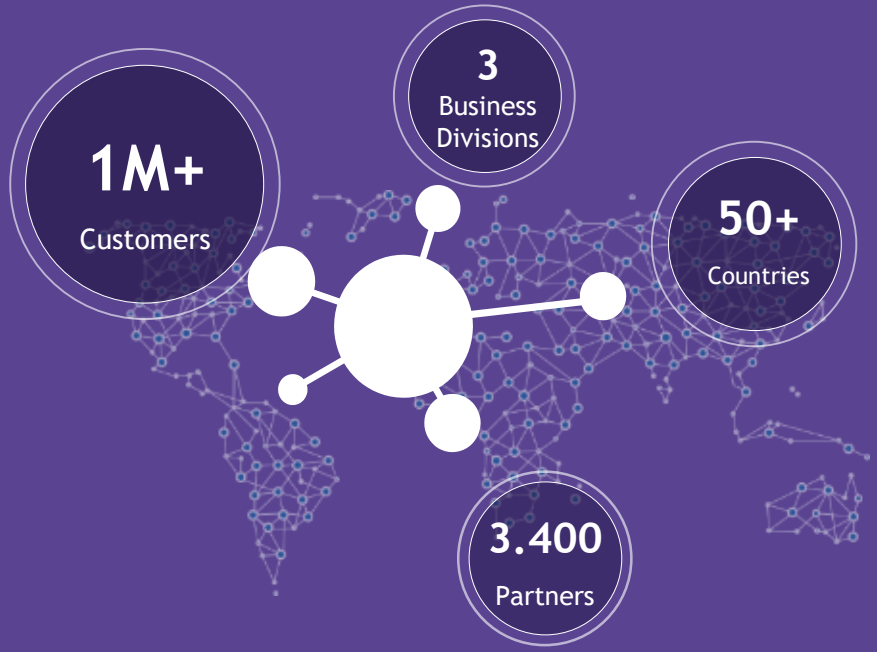
25 years experience in Networks

Founded in 1919

- Alcatel Lucent Enterprise presence in India from last 25+ years
- ALE R&D Center is in Bangalore (Network) & Chennai (Voice)
- Total Employee approximately 500+ in India
- Professional certification (ACSR, ACPS, ACFE & ACSE) for all partner
- More than 8000+ satisfied ALE customer across India
- More than 1500+ ALE certified Sales and Technical professional across India

We make everything connect by delivering digital age networking, communications and cloud solutions with services tailored to ensure our customers' success.

In the Cloud. On Premises. Hybrid.



Alcatel Lucent Enterprise in INDIA (South Asia)

- Alcatel Lucent Enterprise presence in India from last 25+ years
- Alcatel Lucent Enterprise (ALE INDIA) is Head quartered in Bangalore
- Total Employee approximately 500+ in India
- Alcatel Lucent Enterprise Selects India as High Growth Region for 2022
- ALE R&D Center is in Bangalore (Network) & Chennai (Voice)
- ALE Global Welcome Center (TAC) is based in Chennai
- Smart LAB focus on key vertical solution in Bangalore
- Professional certification (ACSR, ACPS, ACFE & ACSE) for all partner
- More than 8000+ satisfied ALE customer across India
- More than 1500+ ALE certified Sales and Technical professional across India

ALE Network R&D Center @ Bangalore

ALE Communication R&D Center @ Chennai

Alcatel·Lucent Enterprise

Alcatel·Lucent
Enterprise

WE FOCUS ON CUSTOMISED VERTICAL SOLUTIONS

Our differentiating strategy: Providing specific solutions for end-to-end ecosystems

Government

- Government institutions
- Smart cities
- Smart buildings
- Defense

Education

- Higher education
- Primary & secondary
- Corporate training

Healthcare

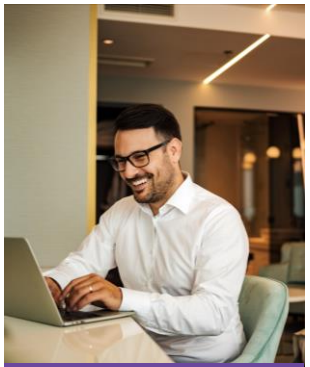
- Hospitals
- Nursing home
- Pharma & life sciences

Transportation

- Railways
- Air Transport International (ATI)
- Intelligent Transportation Systems
- Ports & logistics

Energy & Utilities

- Upstream
- Mainstream
- Downstream
- Utilities



Hospitality

- Smart hotels & resorts
- Cruise ships
- Stadium
- Museums
- Theme parks

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NETWORK PORTFOLIO

= Hardened

OmniVista® NMS & Security

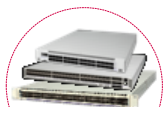
OmniVista Network Advisor

Asset Tracking

OS6860E/N

OS6865

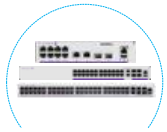
OS6900



OS9900

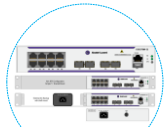
Core, Datacenter
L3

Advanced Access: 1/2.5/5/10G Core and Datacenter : 1/10/25/40/4x10/4x25/100G



OS6360

OS6560 (Multi-GIG)



OS6570M

OS6465(T)

Access
L2+

Access : 10/100/1000/2500 Mbit/s 10G PoE: 802.3af 802.3at

AP1431

AP1451

Wi-Fi 6E

AP1301

AP1301H*

AP1311

AP132X

AP1331*

AP1351

AP136X

Wi-Fi 6

AP1201

AP1201H

AP1201

AP122X

AP123X

AP1251

Wi-Fi 5

Controllerless Architecture - Operations Optimization - Advanced Features

ALE COMMUNICATIONS PORTFOLIO

Any Cloud

OXO Connect
OXO Connect Evolution
Call Management
all-in-one servers

4645 Voicemail, OT SBC,
OmniVista 8770 NMS, OTMS
Call Management Suite

OTEC
Call Management As a Service

Rainbow Hybrid
Hybrid UC, CPaaS,
SaaS connectors

Rainbow Edge
Private cloud hybrid
UC, CPaaS, SaaS connectors

Rainbow Hub
Full cloud PBX + Hybrid
UC, SaaS connectors

Rainbow Office
Full cloud UCaaS

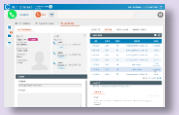
Any Vertical SaaS

Any Business SaaS

Connect Everything

4059EE Attendant Console
Greet customers personally
by an attendant

Dispatch Console
Dispatch high traffic of
internal and external calls

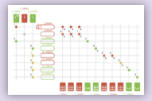


ALE Connect
Omnichannel interactions,
hybrid CCaaS

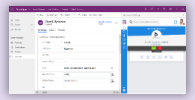
Rainbow Click To Connect
Chat, call, video from within
any website

Visual Automated Attendant
Multitenant voice response
and call routing software

OmniPCX RECORD Suite
Call recording, replay
and mentoring software



OmniTouch Contact Center SE
Patented call distribution
and call supervision software



Rainbow CRM Connect
Call, share from within
your CRM app of choice

Industries / Verticals

Visual Notification Assistant
Broadcast voice and text messages to phones, Rainbow and more. Manage situations including geolocation of ALE phones

Rainbow Alert
Priority-based messaging with persistent audio alerts

Remote Visual Assistance
Digitizing and connecting field services for operational excellence

IoT Hub
Connect IoT to Rainbow and to any workflow

Rainbow Classroom
Recreate the physical classroom in cyberspace with real-time collaboration with or without an LMS

OmniPCX Open Gateway
Integrate ALE communications in your business app of choice

Digital Workplace

8158s WLAN

8168s WLAN

8212 DECT

8234 DECT

8244 DECT

8254 DECT

8262 DECT

8262Ex DECT

8135s

IP Desktop Softphone

ALE SoftPhone

8008G/8008

ALE-2

ALE-20/ALE-20h

ALE-30h

ALE-300

ALE-400

ALE-500

ALE-500 no handset

8088 nocam

8088

Rainbow Enterprise
Rainbow Business

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KEY SECURITY & SAFETY ISSUES

Accident

Harassment

Abduction

Attacks

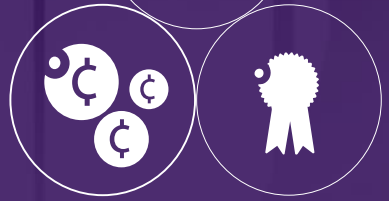
Violence act

Pollution peak

Extreme weather

Vandalism

Incident



Missing equipment

Intrusion

Epidemic

Shortage

Cyber Attacks

System Failure

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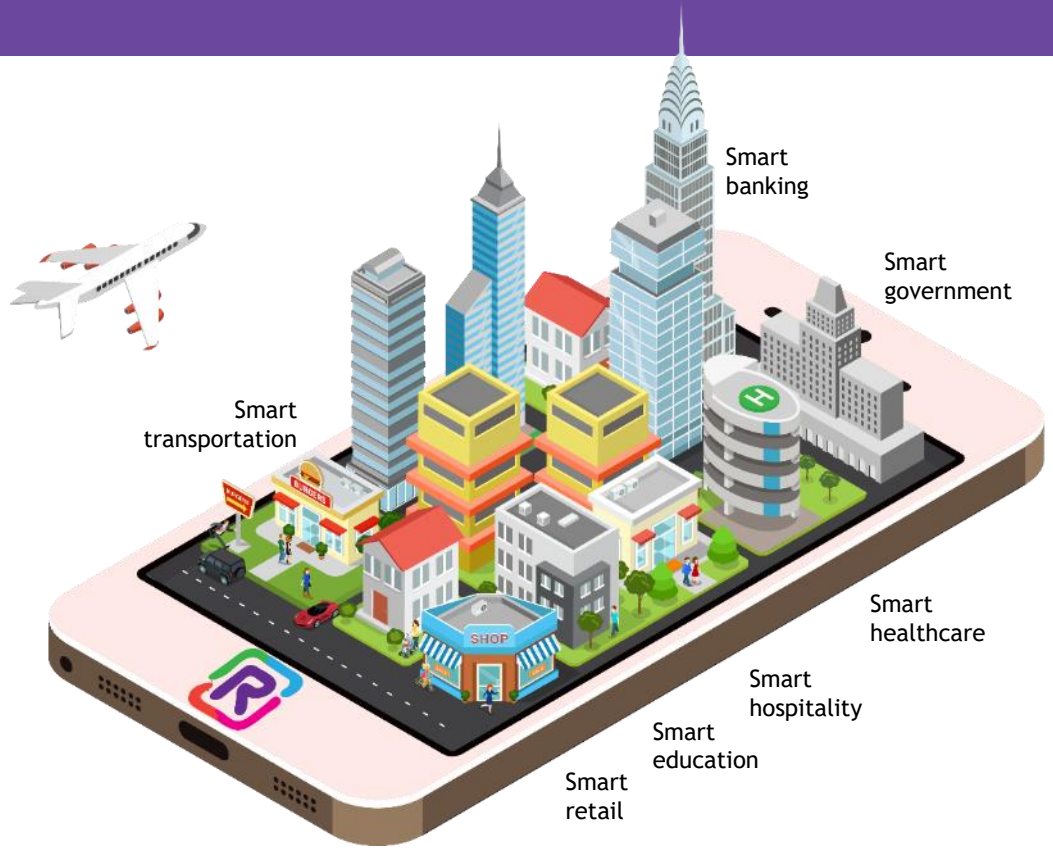
WHAT DO WE MEAN BY SMART CITY?



> A smart city uses information and communications technology (ICT) to enhance livability, workability, and sustainability.
>
> *Smart City Council*

CITIZEN-CENTRIC TECHNOLOGIES

SAFE
Emergency awareness, coordination and timely resolution

DIGITAL
Seamless access to government services and personalized experiences

CONNECTED
Secure platforms connecting people, objects, machines, processes

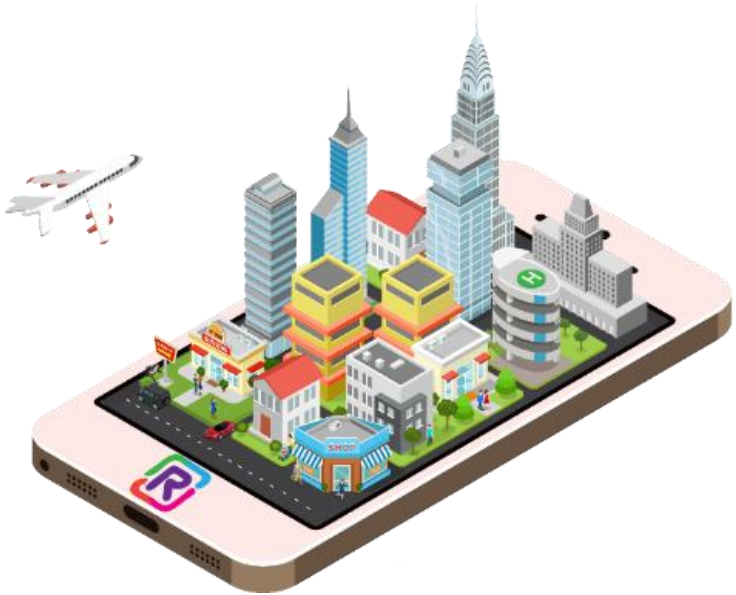
ENGAGED
Citizens, actors of their city and community

MOBILE
Personalized passenger services with smart mobility and MaaS

HEALTHY
Optimized care pathway with ubiquitous access to quality care for all

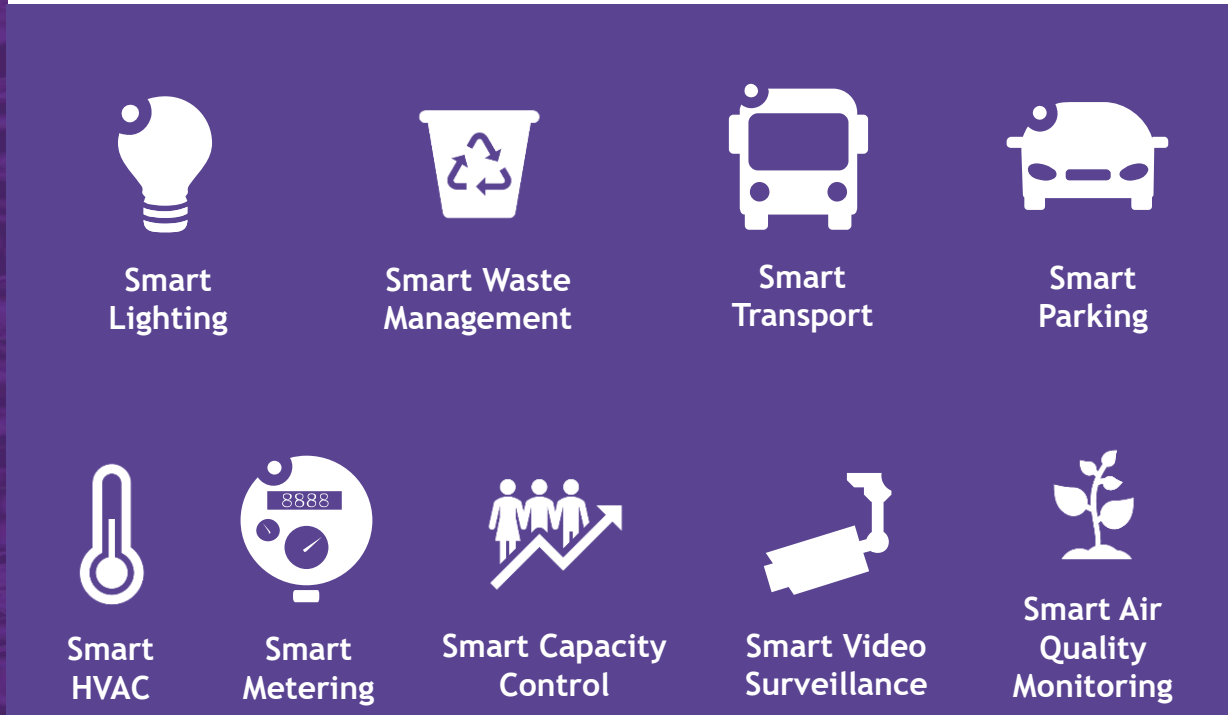
SUSTAINABLE
Reduced network technology energy consumption

RESILIENT
Robust technology for mission-critical services



SMART CITY & SMART PUBLIC BUILDINGS

Sample use cases



Benefits

- Sustainability
- Optimization of energy consumption
- Reduction of CO_2 emissions
- Improved livability
- Healthier and safer public spaces
- Automated operations
- Optimization of investments
- Cost savings

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DIGITAL AGE NETWORKING

To enable the Government value proposition

Autonomous Network

Automate mission-critical network operations and improve user experience

IoT Outcomes

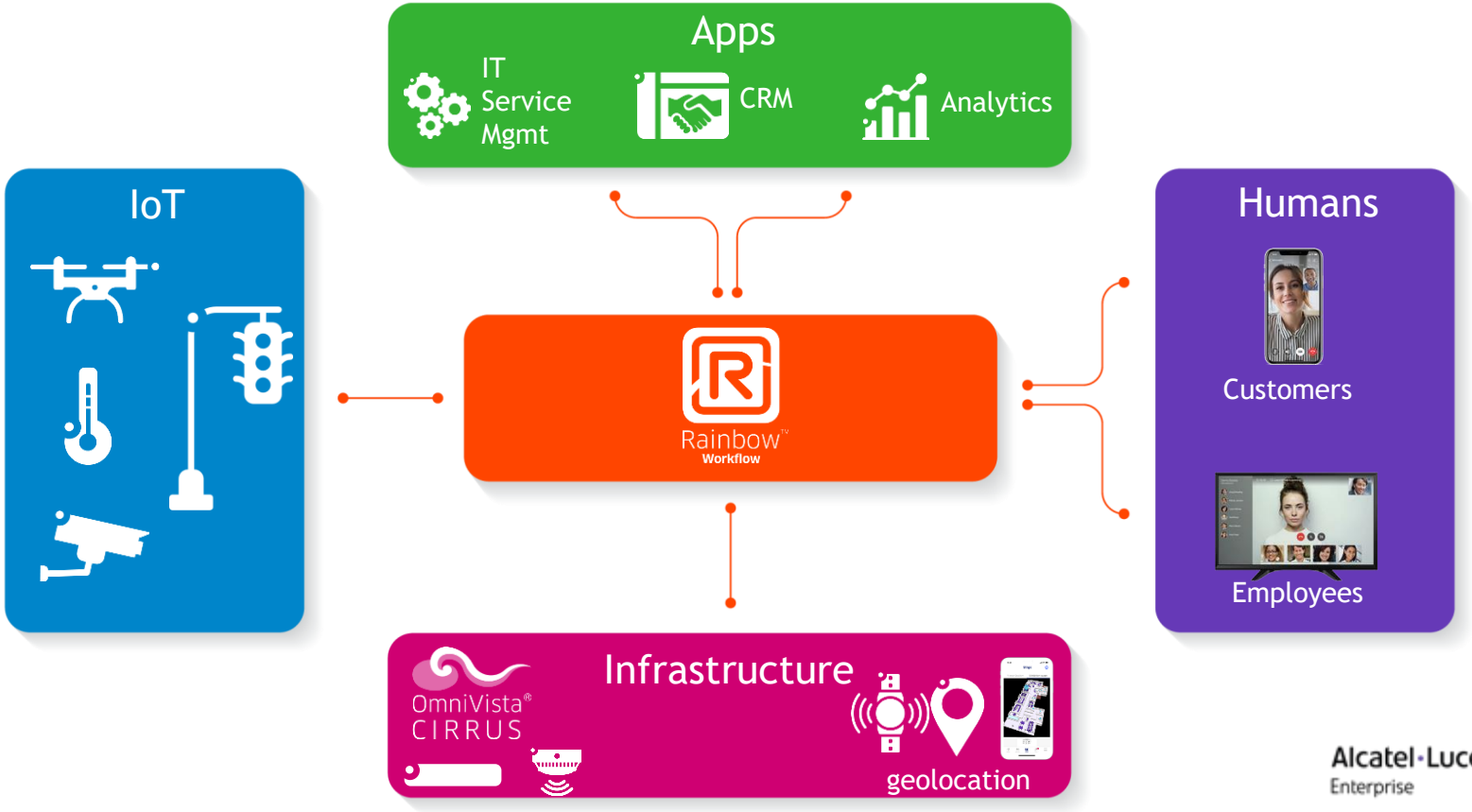
Scale up digitalization through IoT secure onboarding and management

Business Innovation

Accelerate transformation with automated workflows

IT/OT CONVERGENCE

NETWORK + USERS + APPS + IOT → INTEGRATED



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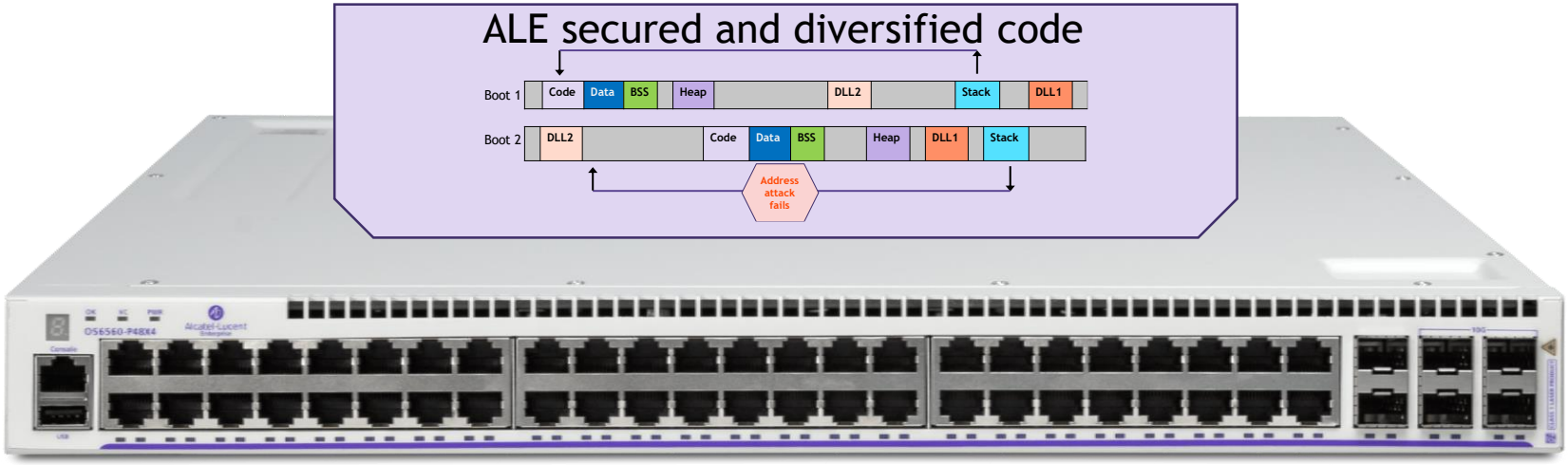
OS-HARDENED FABRIC, VERIFIED, CERTIFIED



- ✓ Independent validation and attestation
- ✓ Independent source code inspection
- ✓ Address layout randomization
- ✓ Secure software supply chain

EAL2 Common Criteria CERTIFIED

NDcPP Common Criteria CERTIFIED

FIPS Level 2 Validated 140-2

FIPS Level 1 Validated 140-2

NIST National Institute of Standards and Technology U.S. Department of Commerce

NATO OTAN

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Smart City Network Solution

Multi-Tenancy

- Service-oriented
- Any-to-any L2/L3 VPN
- IoT containers

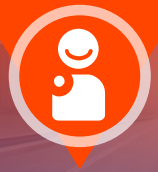
Simplified Operations

- Automated provisioning
- In-service maintenance
- Zero-touch
- Unified management

Security

- Strong Network Admission Control
- Secure on-boarding
- Role-based access
- Application whitelisting
- Integrity
- Confidentiality
- Independent certification (CC / FIPS / JTIC)

Quality of Experience

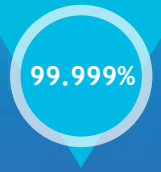


- High speed
- Seamless connectivity
- Profile-driven QoS
- Application QoS
- Analytics

Environmental

- Ruggedized
- Green

Availability



- No SPOF
- Self-healing
- Fast convergence

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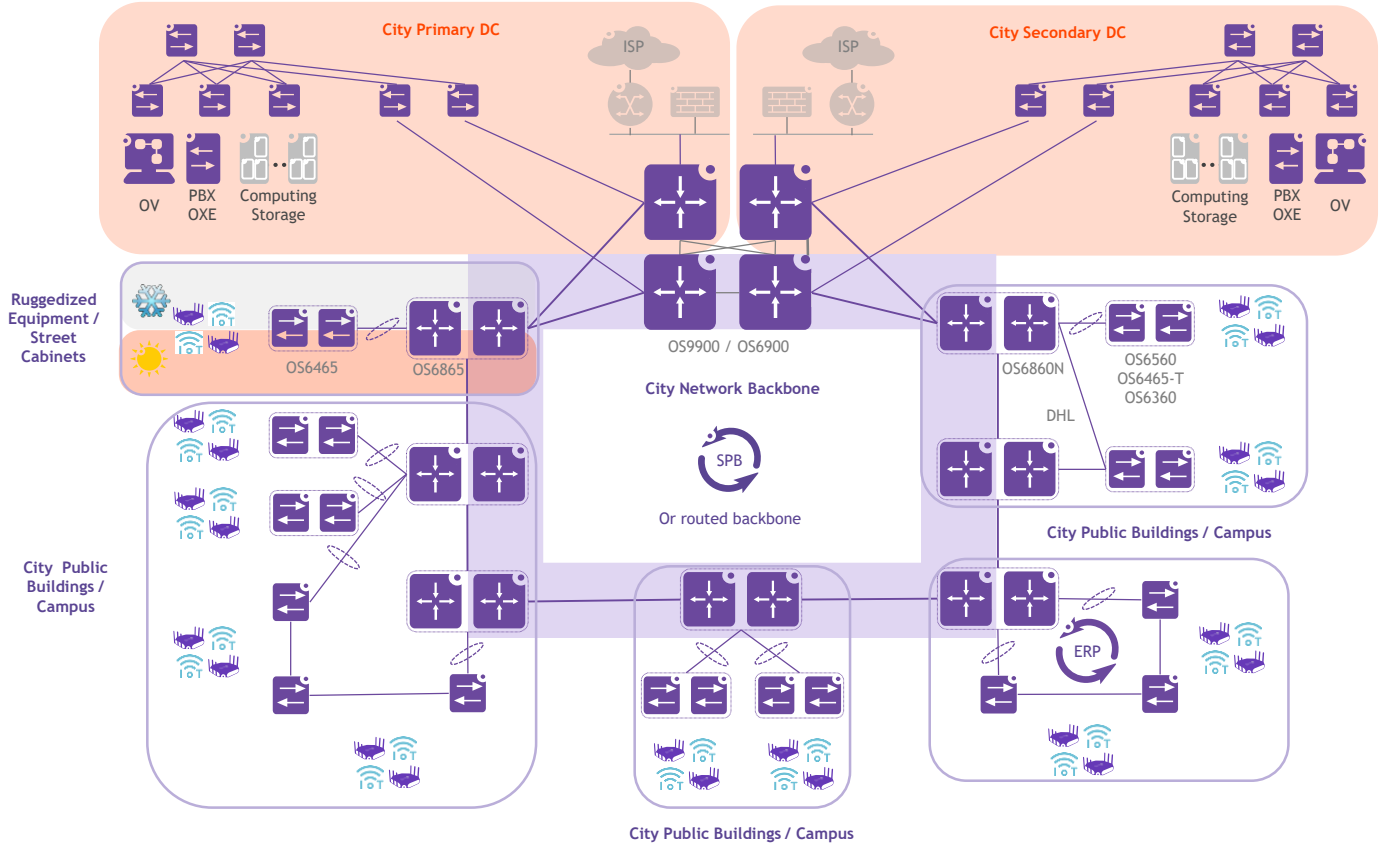
SMART CITY/SAFE CITY/ ITMS NETWORK



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Core and backbone switches OS9900, OS6900, OS6860N

Access and aggregation switches in city public buildings and campuses: OS6560, OS6360

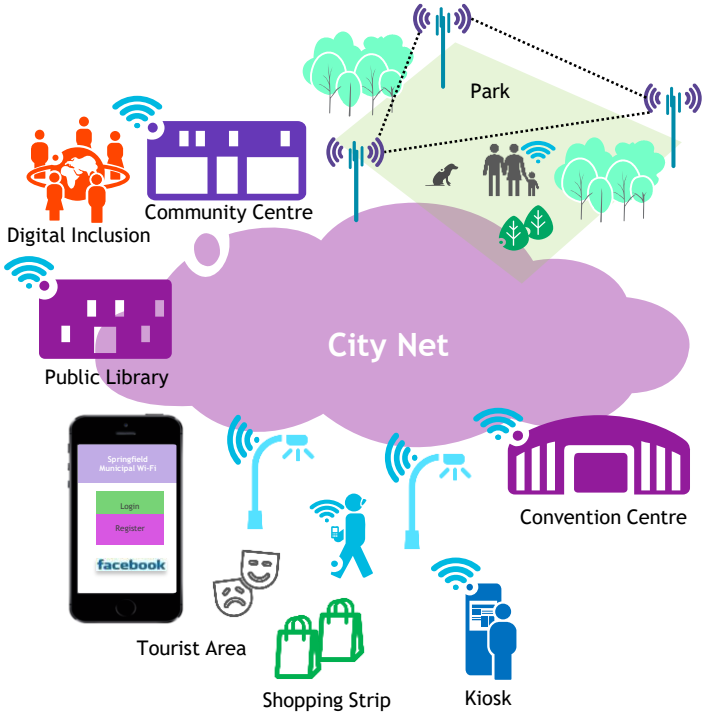
Hardened switches for street and outdoor deployments: OS6865, OS6465, OS6465-T

Stellar Wi-Fi

OmniVista NMS

PUBLIC WI-FI

- Municipal Wi-Fi in public spaces, for residents and visitors
  - Parks and pedestrian zones
  - Convention centers
  - Public venues
  - Municipal buildings
  - Tourist areas, etc.
- Enables smart city use cases
  - Digital inclusion
  - Access to e-learning tools
  - Access to citizen digital tools
  - Access to municipal information
  - Wireless IoT use cases



- Stellar WLAN solution
  - Competitive Wi-Fi 6 portfolio
  - Distributed intelligence control
  - Scalability
  - Secure access with role-based access control
  - Secure IoT onboarding
  - IoT multi-standard support
  - Captive portal options
  - Public Wi-Fi regulations

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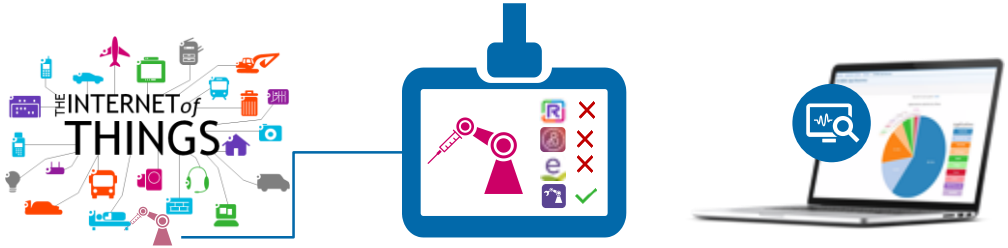
ALE IoT MANAGEMENT



- Automated provisioning of IoT devices into secure IoT network containers
- Wired and wireless IoT devices
- IoT fingerprinting, DS-PSK, 802.1x
- IoT monitoring through OmniVista NMS
- IoT connectivity natively supported
  - Ethernet, Wi-Fi, BLE, Zigbee
- Gatways, APIs and IoT Hub to integrate with any IoT ecosystem
  - LoraWAN, KNX, Modbus, SCADA,…

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THE ICCC WORKFLOW

Emergency → Call taking → Situational Analysis → Dispatching → Incident Management → Inform → Statistics & Reports

people

objects

systems

Emergency Call Taking

Localization & Context

Operator Desktop

CAD

Emergency Notification ("Reverse 112")

Dispatch

conferencing

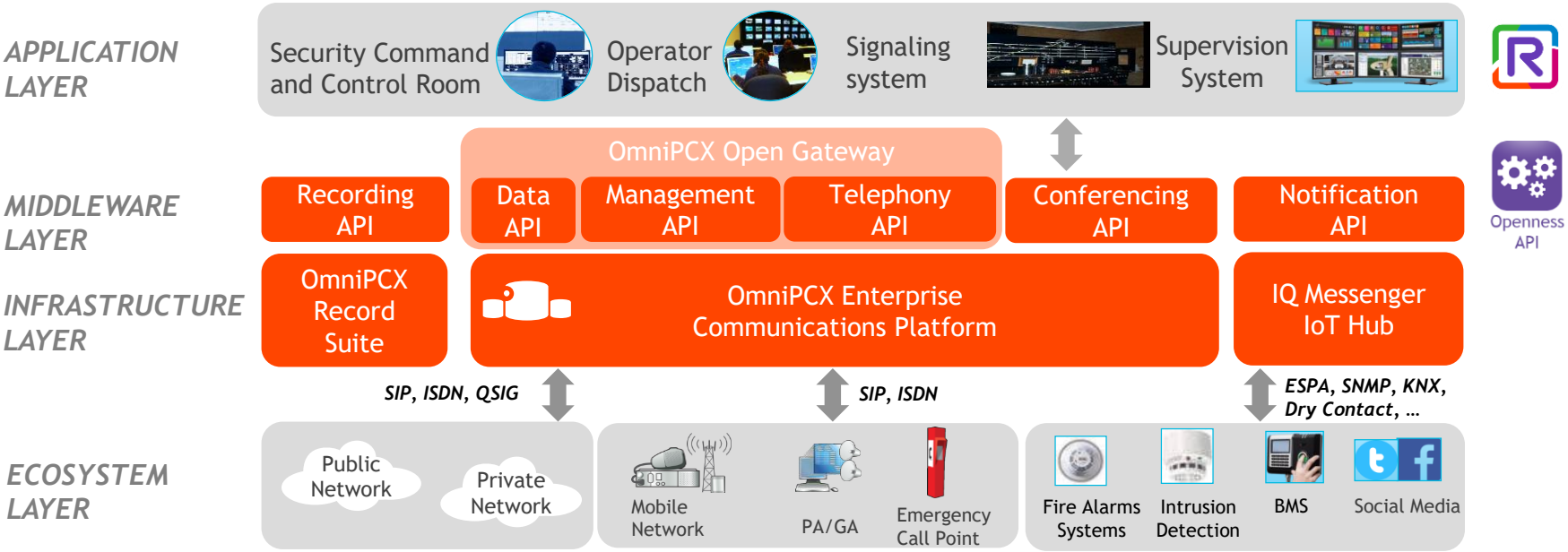
Situation Awareness

Control Room

Mobile teams

THE ICCC GLOBAL OVERVIEW ECOSYSTEM

Systems openness



SMART CITY USE CASES

Smart lighting, waste management and video protection

Smart lighting

Save energy with remotely-controlled on-off timing and dimming depending on time of year, weather conditions and motion detection

Smart waste management

Reduce waste collection activities, fleets, fuel usage and CO2 emissions with smart bins that can compact waste and inform their fill level

Video protection

Improve public safety and security with licence plate recognition, vehicle tracking, dangerous situation recognition and analytics

ALE VIDEO SURVEILLANCE SOLUTION

SIMPLE, SECURE, AND SMOOTH

Easy self-provisioning for network setup when installing a surveillance system or when adding or removing cameras on the network

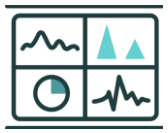
ALE technology provides a service defined network which detects new devices and **automatically provisions them on the network**

Decrease operational costs with no touch provisioning and eliminate manual configuration errors

Enforce secure access only to authorize users and applications

ALE's IoT containment automatically discovers and **assigns unique security parameters** to video devices when added to the network

Only authorized users/applications are assigned a video user network profile to **insure secure access and protection from tampering**



Ensure the highest video quality even during network outages or peak data usage

ALE uses shortest path bridging with minimal convergence time **Eliminating blurry video and lapses in footage**

ALE uses multicast video streams which ensures best network performance **resulting in premium grade video**

ALE provides a mobile device application for **easy network configuration and maintenance** for video deployments.

Leverage **preconfigured typical video deployment models** that have been tested and proven

Efficient use of IT resources due to preconfigure and automation

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CUSTOMER REFERENCES

GOVERNMENT PUBLIC CUSTOMER REFERENCES WORLDWIDE

City of Frankfurt

Sardegna Ricerche

Evangelical Supreme Ecclesiastical Council

Wembley Park

DIRECCTE

Ocala Fiber Network

City of Vila Franca de Xira

Secretary of Energy

Arroyomolinos City Council

Fukuoka City

Blickle and Scherer

City of Münster

Bangkok Metropolitan Administration

Tamaulipas State Government

The Australian Government

Ville de la Tronche

RISE

Athens Water Supply and Sewerage Company

Volusia County

Valencia Regional Government

The Scottish Government

City of Montrouge

Fortaleza City Hall

Urban Community Est-Ensemble


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THANK YOU