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CYIENT

## 4IR Enabling Connected Infrastructure --



# RAPID URBANIZATION DRIVING DEVELOPMENT OF SMARTER CITIES

55%

Total world urban  
population 2022

68%

Total world urban  
population by 2050



The reasons we'd want more connected cities, is their ability to

- **Improve** the quality of life of people by enabling local development and harnessing tech
- **Enhance** economic viability, sustainability, and the quality of living for citizens
- **Reduce** duplicity and improve the collaboration within the multiple and disjointed systems and technologies.

# THE ROLE OF TECHNOLOGY IN CONNECTED CITIES

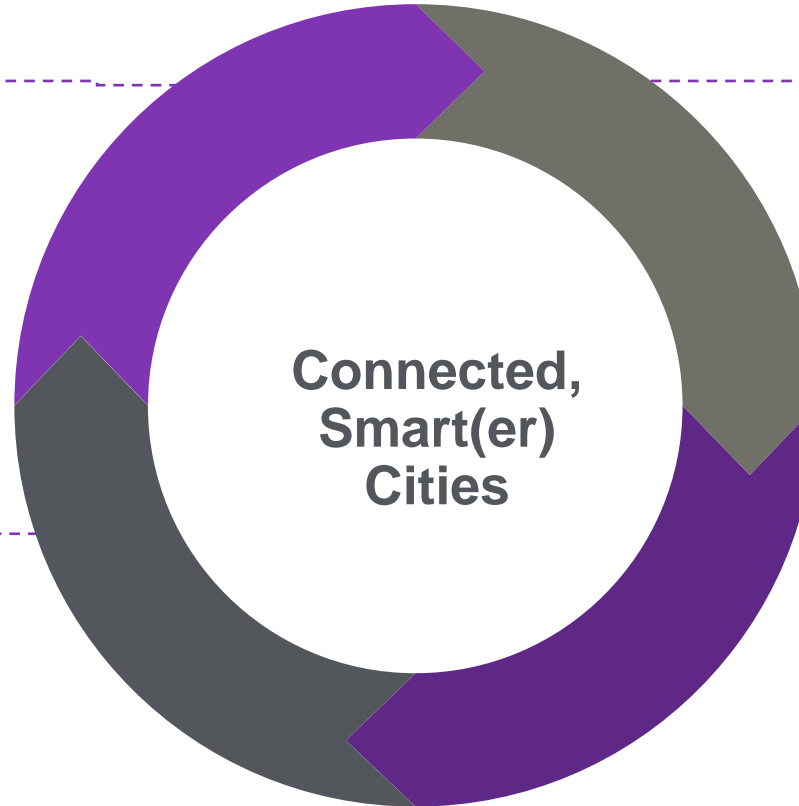
A connected city is a blend of Infrastructure and Technology playing their respective roles in creating a clean and energy efficient place with quick and easy access to services and digitization of information.

## Terrestrial & Space Sensors

The scope and scale of all types of sensors will continue to proliferate. This includes space based imagery, radar and Lidar but also terrestrial imagery, traffic cams and road sensors

## AI/ML

The applications of artificial intelligence will grow exponentially as the amount of inputs and training data about the urban environment expands



## IOT

The amount of automated instrumentation will increase in velocity and veracity. All physical assets can potentially be tracked and reported on.

## Geospatial

Location technology is an underpinning behind mobility with the ability to predict and track movements of everything within the urban environment rapidly approaching.

# TOP CITIES BY 2050

## TOP CITIES BY POPULATION

According to UN predictions by  
2050

Mumbai  
42,404,000

Delhi  
36,157,000

Dhaka  
35,193,184

Kinshasa  
35,000,361

Kolkata  
33,042,208

Lagos  
32,629,709

Tokyo  
32,621,993

Karachi  
31,696,042

NYC  
24,768,743



# Autonomous Vehicles and Connected Infrastructure

## Additional Capacity

More autonomous vehicles and more shared mobility creates a need for additional capacity. This is possible with connected infrastructure for vehicle to vehicle communications

## Safety

Both passenger and pedestrian safety enhanced by multi channel communication with street level infrastructure. Avoids GPS spoofing.

## Mobility

Better real time traffic management and route optimization through infrastructure communications.









## SAFETY AND SECURITY MONITORING WITH DRONES

Drone based digital solutions for situational awareness to create and analyse near real-time information to take mission-critical decisions by local authorities

## DRONE JAMMING

Knocking out delivery drones with a Raspberry Pi, open source software, cookie can and a battery





# DELHI TRAFFIC CAMERA

## HUMAN SENSOR

At some busy intersections in Delhi, police take pictures of vehicles running red lights. The image is uploaded and based on the license plate a bill is sent to the driver.



# TOP INVESTMENT PROGRAMS IN US INFRASTRUCTURE

From the bipartisan US infrastructure investment act of 2021



## CLIMATE CHANGE

Weatherization

Fighting Wildfires

Flood Mitigation

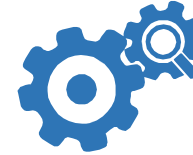


## CLEAN UP

Brownfields and  
superfund Cleanup

Natural gas wells and  
coal mines Cleanup

Pipeline safety



## INFRASTRUCTURE

Battery manufacturing

Safe Streets/Transit

Cybersecurity



# Thank You

Merci

Dank u wel

Danke

Gracias

ありがとうございました

شكرا