

Digital Cities: The Dell Technologies Unique Approach



DELL EMC

Pivotal

RSA

Secureworks

virtustream

vmware

DELL Boomi

DELL Technologies



Imagine a
city of tomorrow

As a citizen, my city is a city...

... that operates efficiently



... where I feel safe



... that provides services for my needs



... where I feel at home



... that provides affordable housing



... that provides quality education



... that is engaging and connected



As a city authority, my city is a city...

... where citizens' expectations are growing

...that needs to take our aging population into account

...where trust in public services need to be stronger

..that is impacted by uncertain economic conditions

...where budgets are decreasing, we need to do more with less!

.. that needs to comply with new regulations and disrupting technology paradigms

...where there is a need to find new and innovative ways to raise revenues



My city generates a lot of valuable data... but how can I leverage it to create value for the city and its citizens?

Accelerated urbanization amidst challenges



Aging, unplanned infrastructure



Declining public budgets



Unprecedented urbanization



Environmental sustainability

Cities can change the world with **technology**

Significant technical complexity in Digital City end state ...



Multiple & **Heterogeneous Ecosystems**

Need to be **adaptable & scalable** over a period of time

Need to be **data analytics driven** to **drive insight & decisions**

Ensure **Security** of the data



Imagine a world where cities...



Optimize traffic flows in real-time

The city of Bellevue installed adaptive traffic lights and saved drivers **\$9 million** annually by reducing traffic times more than **36%** during peak traffic times.



Reduce energy consumption

Eight Spanish cities reduced their electricity consumption by **64%** and saved over **4,300 tonnes** of CO₂ in 2014, thanks to efficient street lighting systems and technologies that both cut costs and benefit the environment.



Use predictive policing

The Los Angeles Police Department used predictive policing to reduce crime rates and save more than **\$9 million** a year.



Improve city functions

New York city used predictive analytics to increase building inspector efficiency. Without analytics, only 13% of inspections found dire conditions; with analytics, more than **70%** of inspections resulted in a vacate order.



Detect a drop in air & water quality

Chicago's Array of Things is a city-wide sensor network that measures temperature, barometric pressure, carbon monoxide, nitrogen dioxide, sulfur dioxide, ozone, pedestrian and vehicle traffic, and surface temperature.




Automate waste management

Seoul used smart trash cans with real-time monitoring to cut waste collection costs by **83%** and increased the recycling diversion rate to **46%**.



Interwoven in the fabric of our lives,
continuously adapting



In the next decade, Cities will likely spend more on infrastructure build up than the past 1,000 yrs

GOOGLE'S SELF-DRIVING CAR IS FINALLY HERE (LEVEL 4)



HOW WILL THIS TRANSFORM CITY LIVING AS WE
KNOW IT?

But siloed intelligent systems create sub-optimality



New York has 10-15
cameras from various
agencies at most
intersections

SINGAPORE IS IMPLEMENTING AN ISLANDWIDE NETWORK FOR 100,000+ DIGITAL LAMPOSTS

What 'smart' lamp posts can do

Lamp posts in one-north and Geylang will be turned into "smart" fixtures to collect and communicate environmental, crowd and vehicular data to government agencies, for better urban planning and management. The project could be expanded nationwide involving more than 100,000 lamp posts.

Autonomous vehicle

Real-time kinematic technologies mounted on lamp posts will provide line-of-sight connection to self-driving vehicles, to determine their precise location for navigation and to avoid collisions.

Environmental sensors

Sensors mounted on lamp posts will be able to collect environmental data, including temperature, humidity, air quality and rainfall. The data is sent to self-driving cars to improve their situational awareness of road conditions.

Personal mobility device

Camera and artificial intelligence-based video analytics systems mounted on lamp posts will be able to determine if a mobility device or bicycle is travelling at more than 15kmh on footpaths, which is illegal. The data will be captured and an alert will be sent to the relevant agency.

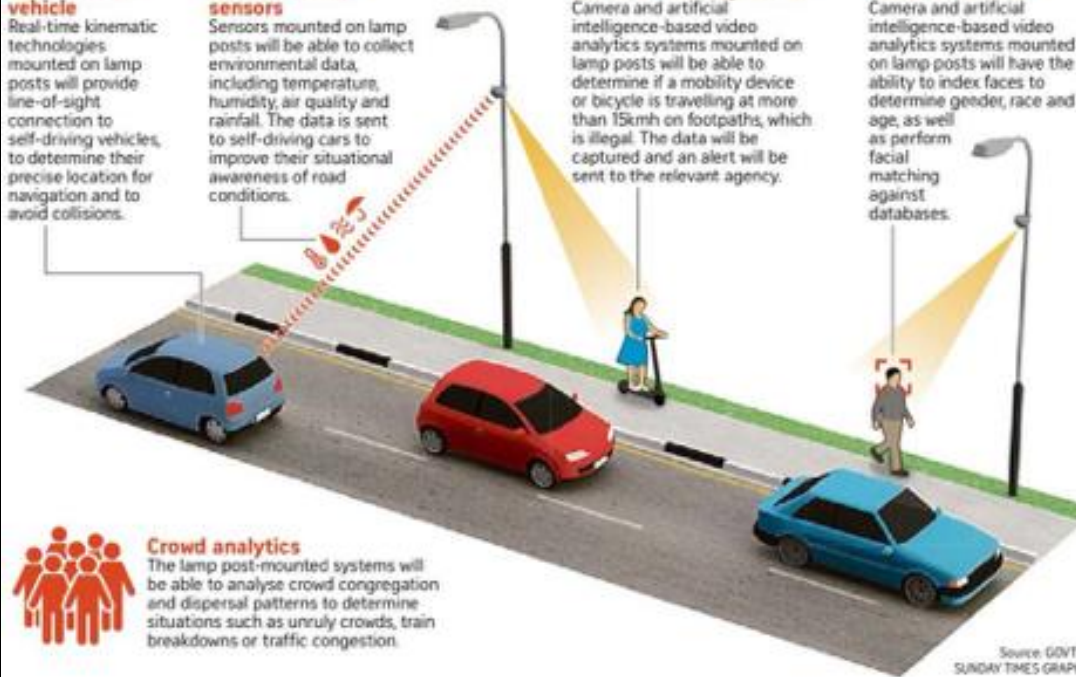
Facial detection

Camera and artificial intelligence-based video analytics systems mounted on lamp posts will have the ability to index faces to determine gender, race and age, as well as perform facial matching against databases.



Crowd analytics

The lamp post-mounted systems will be able to analyse crowd congregation and dispersal patterns to determine situations such as unruly crowds, train breakdowns or traffic congestion.



Source: GOVTECH
SUNDAY TIMES GRAPHICS

THESE ASSETS WILL BECOME THE EYES & EARS

SUSTAINABILITY IS KEY TO TRANSFORMATION OF CITIES ~ TECHNOLOGY PLAYS A CRUCIAL ROLE

Maldives, Kiribati, Marshall Islands, Tokelau and Tuvalu are most at risk of Sinking due to rising sea levels

Over the next few decades, a temperature rise of 1.5°C could minimize Global GDP losses by \$50 Trillion
(vs a rise of 4.5°C)

Cities are expected to adopt sustainable practices consuming lesser resources

1 Million In Relief Camps, Kerala Hopes To Rebuild After Floods

Scores dead after worst weather in decades in Japan

Australian farmers hit hard by worst drought in living memory

Global wine production to hit 50-year low due to extreme weather

DiCi = Big Data

Connected Plane

40 TB per day (0.1% transmitted)

Connected Factory

1 PB per day (<0.2% transmitted)

Public Safety

50 PB per day (0.1% transmitted)

Weather Sensors

10 MB per day (5% transmitted)

A city of
1 million will
generate **200**
million gigabytes
of data per day
by 2020

Intelligent Building

275 GB per day (1% transmitted)

Smart Hospital

5 TB per day (<0.1% transmitted)

Smart Car

70 GB per day (0.1% transmitted)

Smart Grid

5 GB per day (1% transmitted)

Source: CISCO



Windows 10 Pro

DELL Technologies

Drive economic, environmental and social benefits

Become an innovative digitally transformed community, business and individual

EFFICIENT



Optimized use of resources:

- People
- Businesses
- Environment

SAFE



Anticipate risks and protect people & information:
Everyone must trust the system

ENRICHING



Integrated daily life services:
Blending many facets of work & life to improve quality of life

FOR ALL



Enriched life & business experiences for every citizen:

- All must benefit
- No favorites

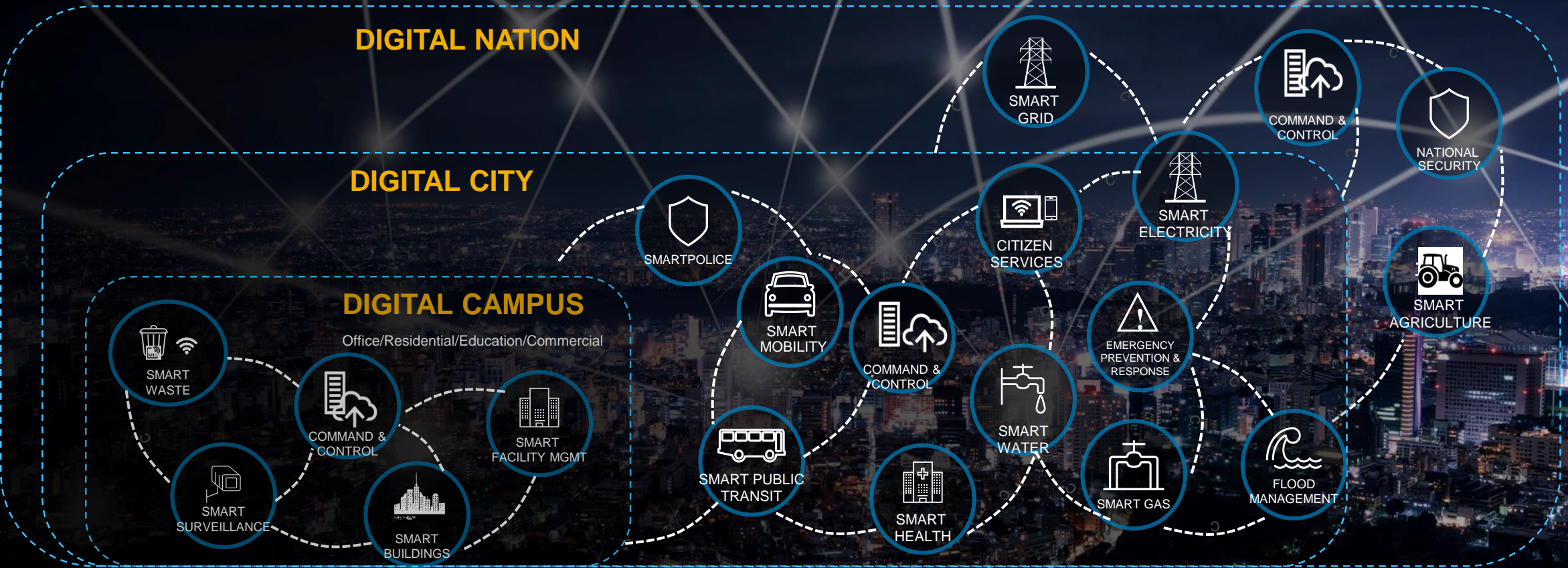
A dark, moody photograph of two men in an office setting. One man, wearing glasses and a purple shirt, stands and holds a white mug while pointing at a laptop screen. The other man, in a white shirt, sits at the desk looking at the screen. The screen displays various data visualizations including bar charts, line graphs, and circular diagrams. The background is dimly lit with blue and purple tones, suggesting a late-night or low-light work environment.

Realizing the Digital City vision

Cities traditionally deal with multiple key utilities & services



True value harnessed only when these intelligent systems are scaled up into a **“System of Systems”**



DT's DiCi platform design goals



Software-defined



Future-oriented



Adapt common standard



Interoperable



Modular



Scalable



Secure



Analytics-driven



Flexible

Integrate comprehensive portfolio to build the DiCi Stack

Leverage best in class global/local ecosystem partnerships to deliver complete solutions

Adopt a platform based approach to the digital city roadmap

Adopt an over encompassing technology strategy & not solving for specific siloed use cases

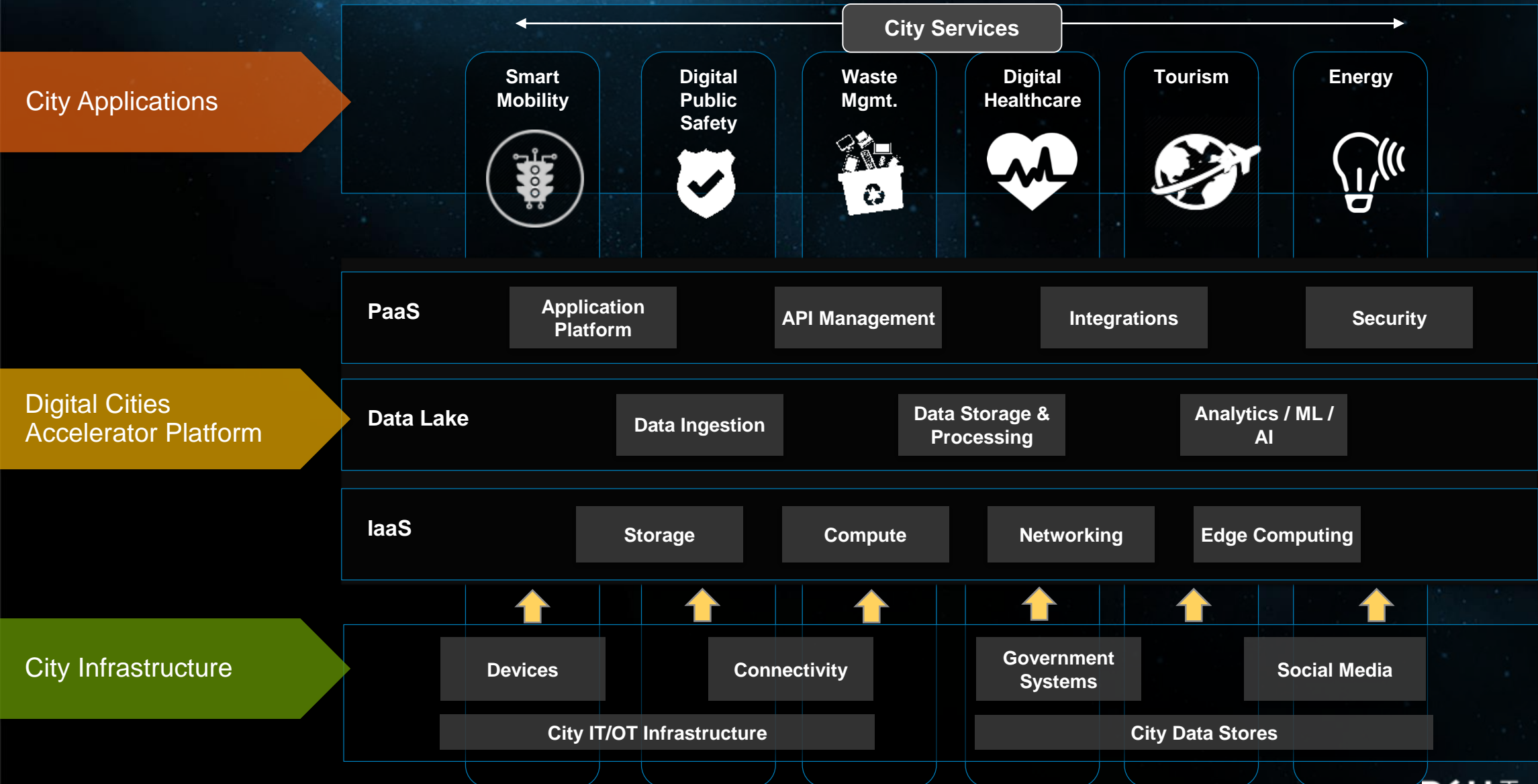
Lego approach to build a strong foundation to scale to System of Systems

Offer flexibility to Start small but build a foundation to scale

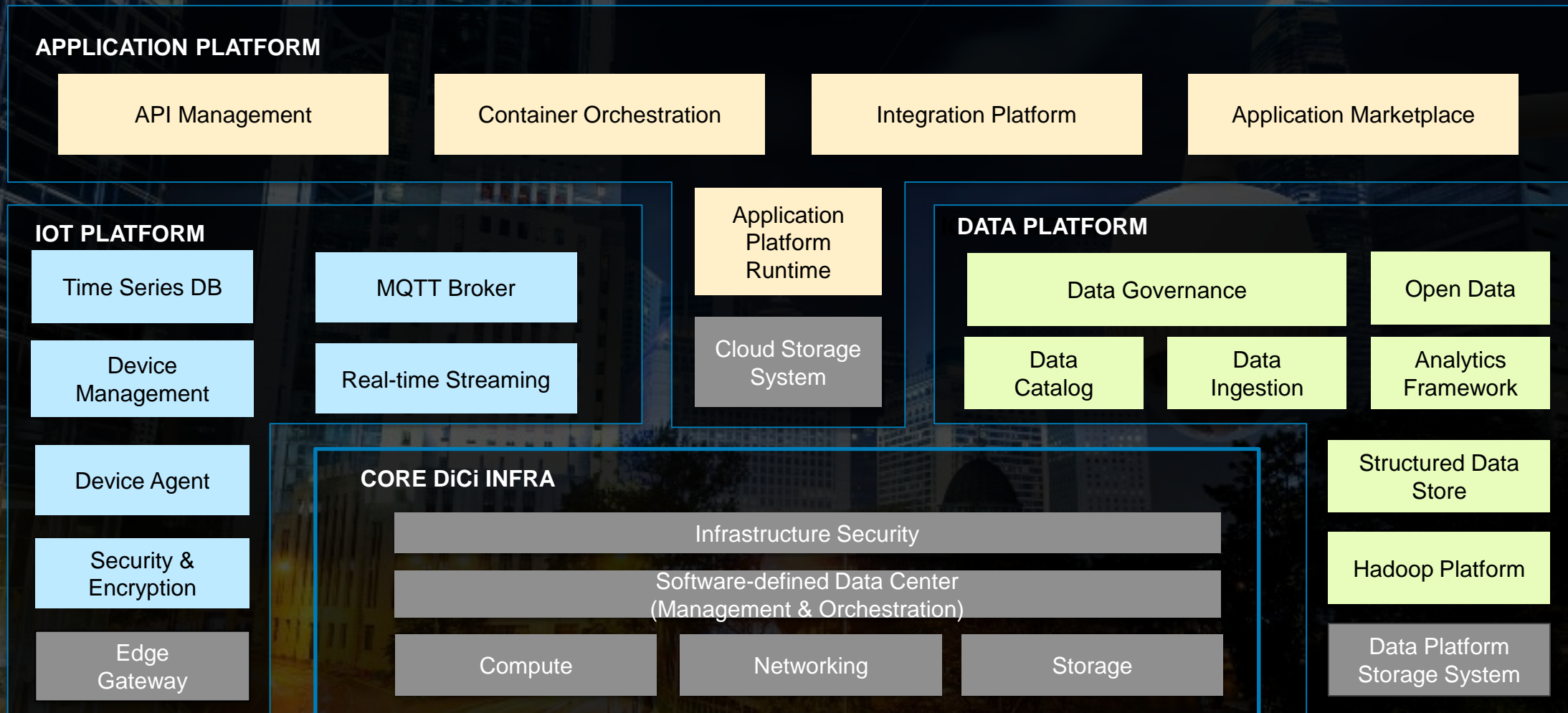
Software defined - Open, Agile, Secure, Data analytics driven

Providing flexibility, scalability and future proofing

Digital City Architectural Blueprint



DiCi Accelerator Platform – Building Blocks



Dell Portfolio Products

APPLICATION PLATFORM



IOT PLATFORM



- Device Management
- Security
- Data Onboarding
- MQTT



Data Ingestion & Integration



DATA PLATFORM



In Memory Data Processing



Distributed Structured Data Store

EDGE X FOUNDRY



Dell Edge Gateway

CORE DiCi INFRA



End to End Security Solutions



Software Defined Data Center



Hyper-converged Infrastructure

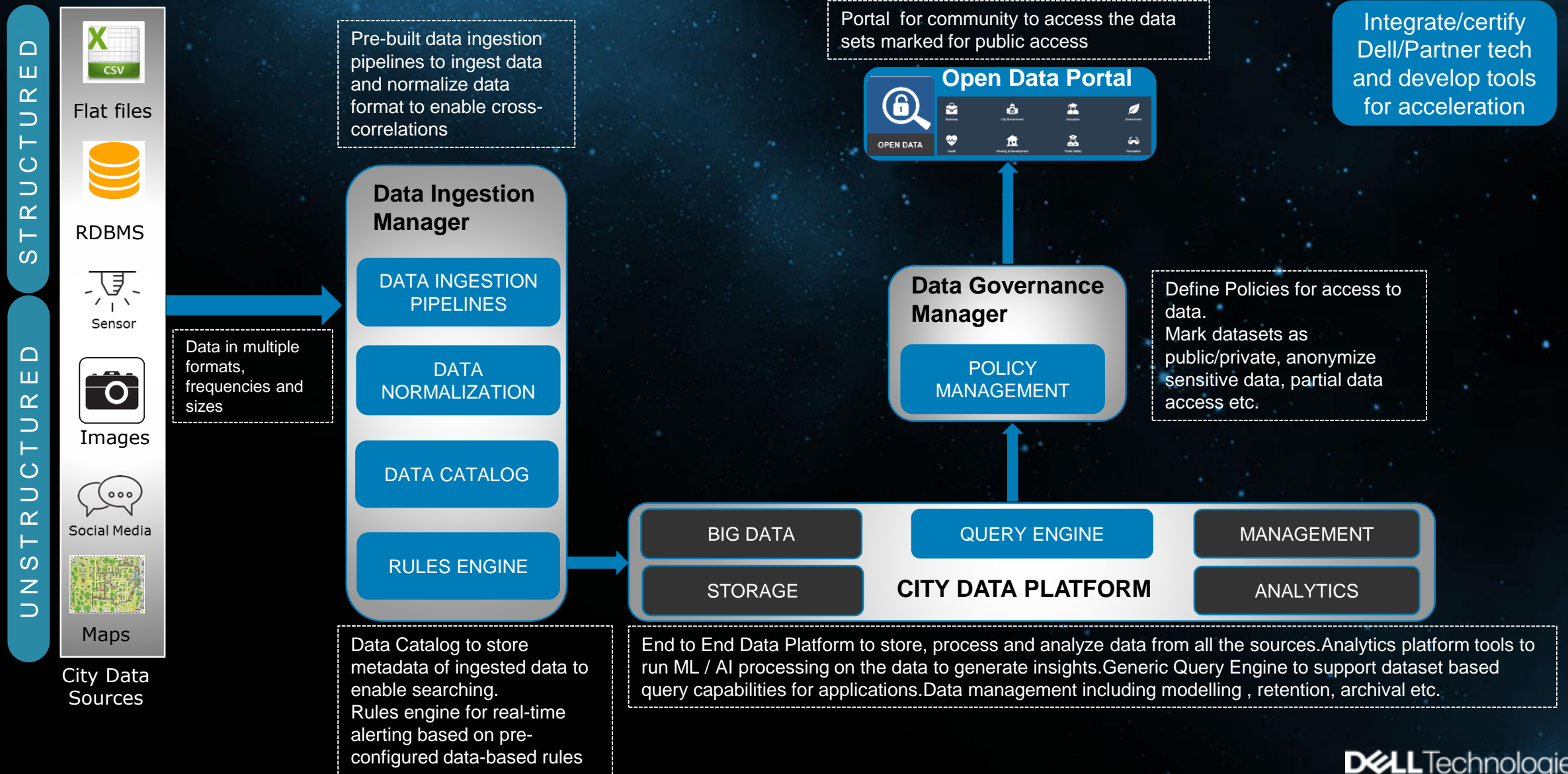


Nautilus – Real time streaming processing



Massively Scalable Unstructured Data Storage System

DiCi Platform – Data Layer



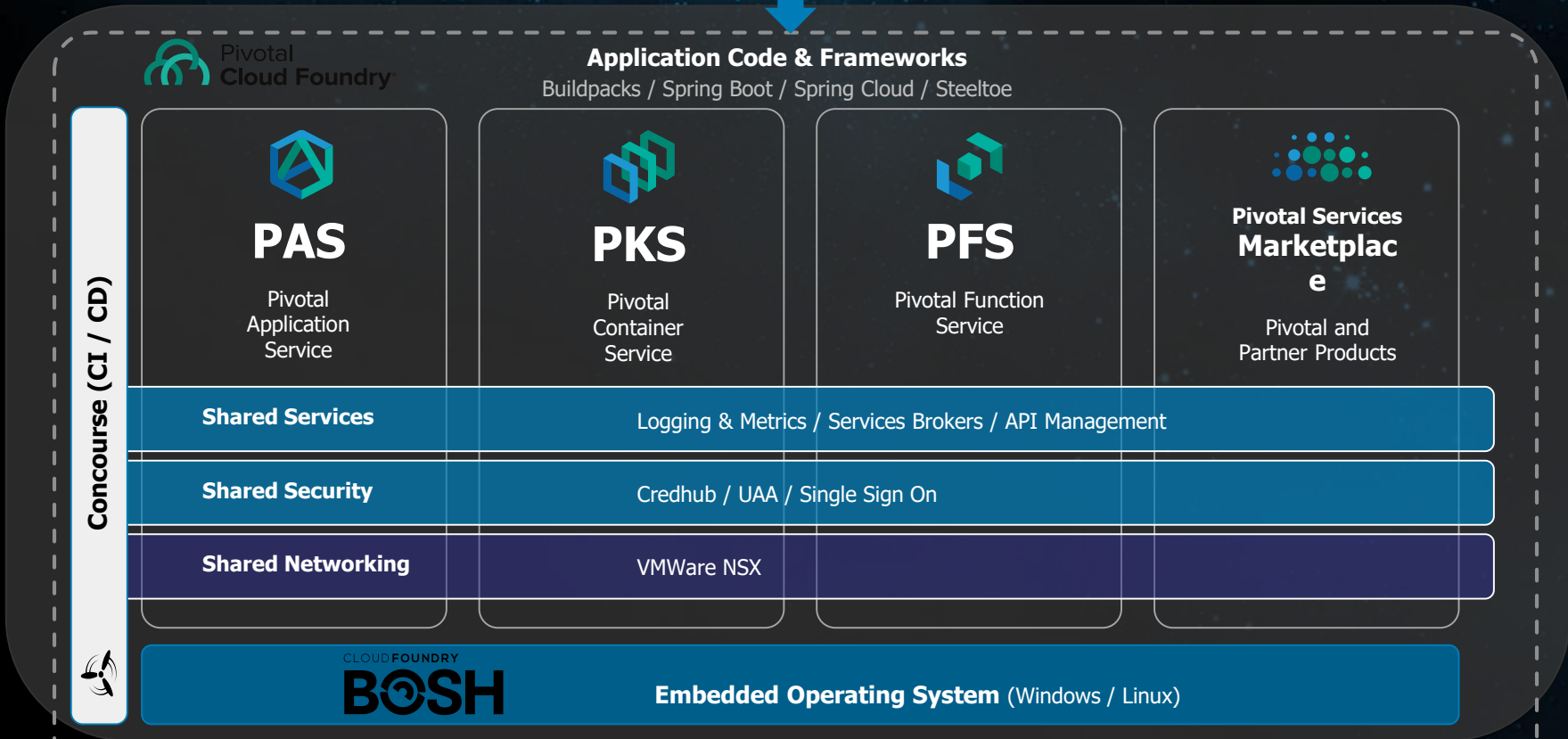
DiCi Accelerator Platform - PaaS Layer

Accelerator components



Integrate/certify Dell/Partner tech and develop tools for acceleration

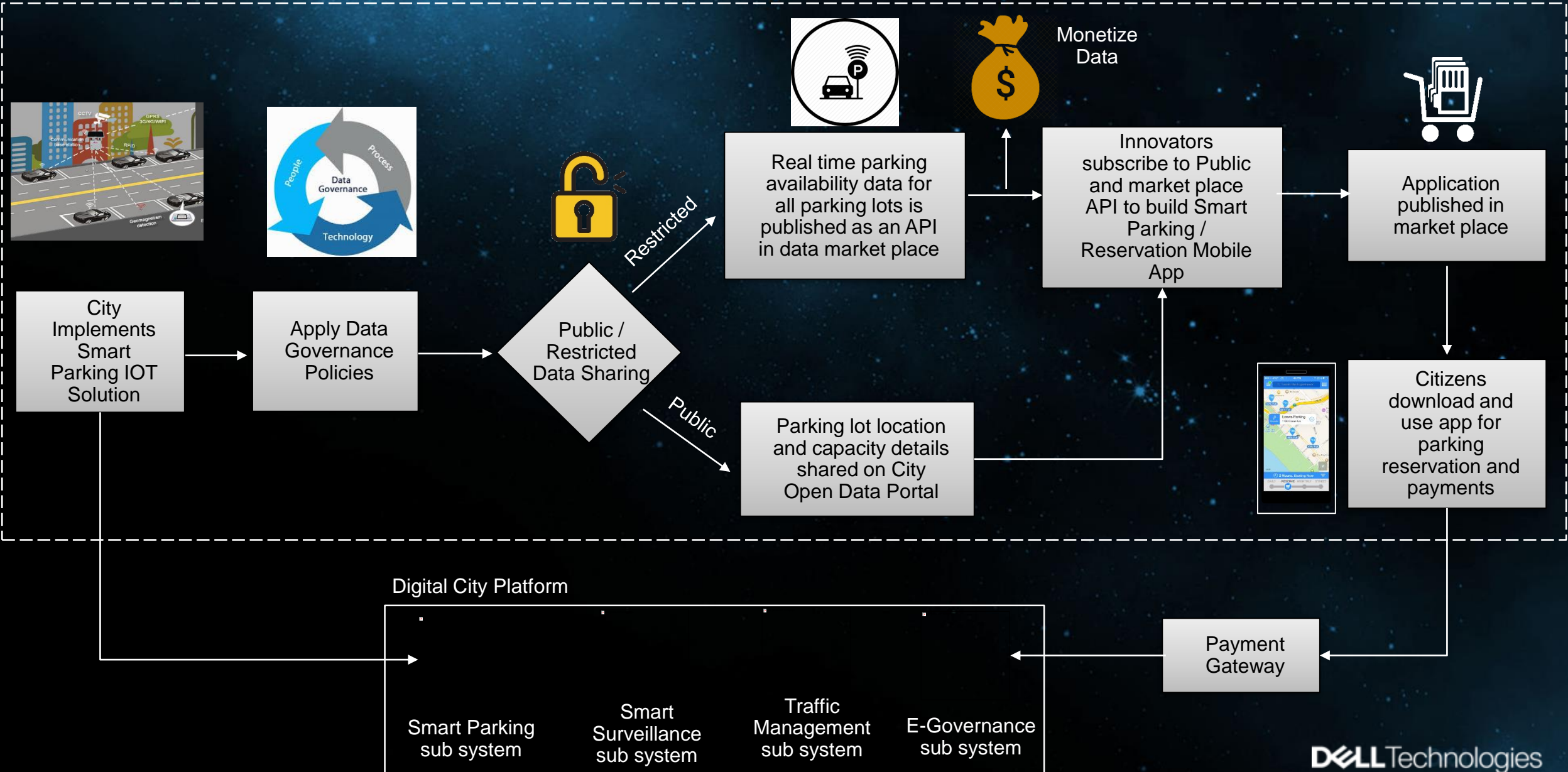
PCF Platform



Infra



Data Governance, Sharing and Monetization



Demo Screenshots

Digital city

Window to the city

The screenshot shows the Digital City website interface. At the top, there is a navigation bar with links for HOME, APPLICATIONS, OPEN DATA, MARKET PLACE, and TOPICS OF INTEREST. Below this is a social media and statistics bar showing TRAFFIC INCIDENTS (152), WEATHER (Temp 13°C), 4830 TWEETS, 100 FACEBOOK, 1560 NEW JOBS, and 250 PICTURES. A large image of a city at night is displayed with navigation arrows. Below the image are icons for RATE, SHARE, LIKE, and UPLOAD. The main content area is titled "OPEN DATA" and includes a search bar for "Search Keywords". Below the search bar are icons for various categories: TRANSPORT, CLIMATE, CONSUMER, EDUCATION, ENERGY, FINANCE, HEALTHCARE, and MANUFACTURING. The bottom section features three columns: "MOST POPULAR APPLICATIONS" with "Traffic Incident Management" (FREE, 5 stars), "MOST DOWNLOADED DATASETS" with "Bus Lane Fines" (TOPIC: TRANSPORTATION, 5 stars), and "TOP INSTALLS IN MARKETPLACE" with "Rent-A-Bike" (\$ 0.99, 5 stars).

Applications and PaaS marketplace

Example bike rental availability

The image shows a screenshot of the Digital City website. The top navigation bar includes 'HOME', 'APPLICATIONS', 'OPEN DATA', 'MARKET PLACE', and 'TOPICS OF INTEREST'. Below the navigation bar, there are social media and data widgets for 'TRAFFIC INCIDENTS 152', 'WEATHER 12°C', '4830 TWEETS', '100 FACEBOOK', '1880 NEW JOBS', and '250 PICTURES'. The main content area features a 'MARKET PLACE' header with a yellow background. Below this, a text block describes the Smart City Marketplace as a resource for civic hackers, tech entrepreneurs, data scientists, and developers. Two buttons are visible: 'USE OPEN DATA' and 'BUILD YOUR APPS'. The right side of the image is overlaid with a Google Map of Southwark, London, showing the River Thames and various streets. A blue line indicates a route from the river towards the center of the map. A callout box titled 'BIKE POINT (DIRECTIONS)' provides the following instructions:

- HEAD WEST ON SNOWFIELDS TOWARD WESTON ST
- SLIGHT RIGHT ONTO NEWCOMEN ST
- TURN LEFT ONTO BOROUGH HIGH ST/A3
- LEAVING TOLL ZONE
- TURN LEFT ONTO HARPER RD/B240
- ENTERING TOLL ZONE
- DESTINATION WILL BE ON THE RIGHT


The map also shows a callout for a specific bike point: 'BIKE POINT (DIRECTIONS) HARPER ROAD, THE BOROUGH NO. OF BIKES-34'.

Dashboards for citizens

Digital City

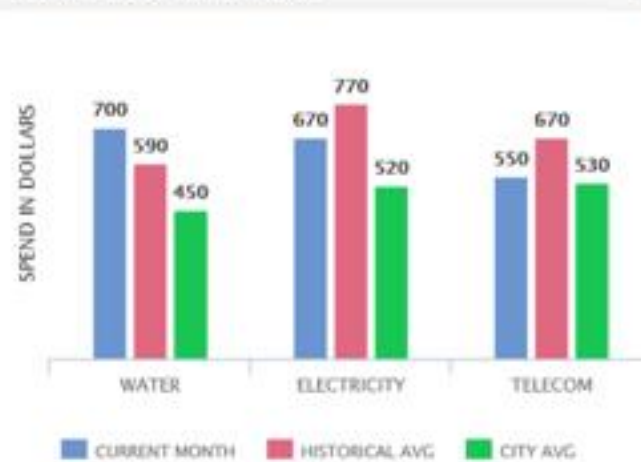
HOME APPLICATIONS OPEN DATA MARKET PLACE DASHBOARD TO CITY PERSONAL DASHBOARD

TRAFFIC INCIDENTS 136 WEATHER Temp 12°C 5884 TWEETS 100 FACEBOOK 1500 NEW JOBS 250 PICTURES



FIRST NAME : John
LAST NAME : Smith
DATE OF BIRTH : 02/07/1978
PROFESSION : Lawyer
INTERESTS : Golf, Basketball, Comedy Clubs

YOUR SPEND VS CITY AVERAGE



Category	Current Month	Historical Avg	City Avg
WATER	700	590	450
ELECTRICITY	670	770	520
TELECOM	550	670	530

USEFUL LINKS & INFORMATION

BUS INFORMATION

- Buy Your Ticket
- Bus Services
- Stations
- Plan Your Trip

TRAIN INFORMATION

- Red Line Bus Time Table
- Green Line Bus Time Table
- Parking At The Metro Stations
- City Tram
- Map Of The Metro

PLACES OF INTEREST

- Restaurants
- Hospitals
- Leisure Locations
- Events

DRIVING LICENSE DETAILS

Licenses Number -- EL20518901775

Expiry Date -- 28/04/2020

YOUR ALERTS - ACT NOW

TRAFFIC INCIDENTS NEAR YOU

SEVERE DELAYS EXPECTED Current Delay of 98 mins on ROUTE E 66 due to a car crash. Traffic pile-up observed over an area of 5 miles.


TOLL BOTH CLOSED : Lane number 9 of Toll B06 both on Route C 27 has been closed due to repair work. Avoid this lane.

YOUR TRAFFIC VIOLATIONS

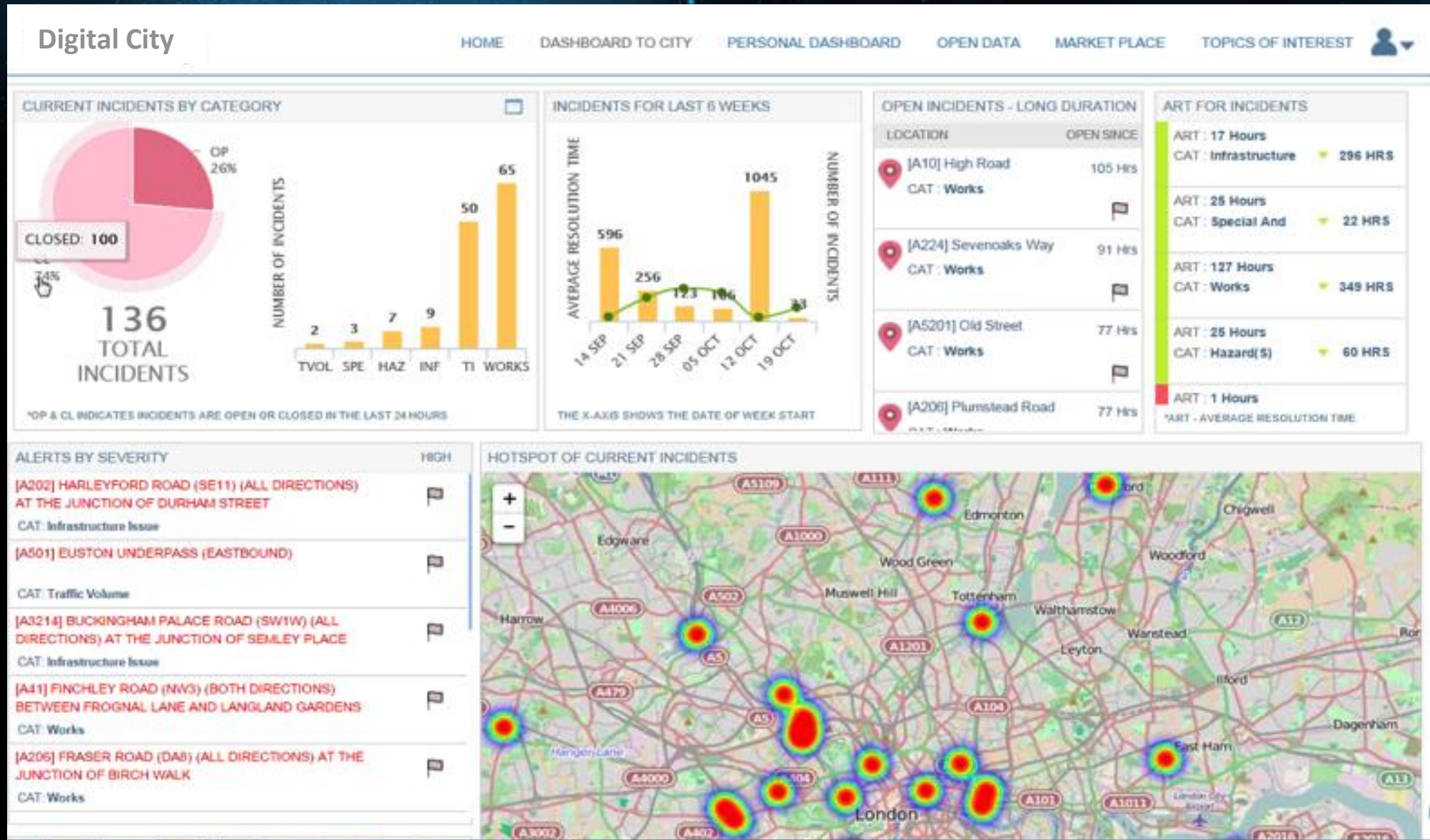
OFFENCE : Parking in a No Parking Zone
WHERE : Shaftesbury Avenue **WHEN** : May 11, 2015 09:15 Hrs
PENALTY : E 60 **PAY BY** : May 18, 2015

MY TASK

ADD TASK SYNC WITH OUTLOOK



KPIs for city



Trends: drill-down details



Analytics

Predict areas of potential accidents and related sentiment analysis

Digital City HOME DASHBOARD TO CITY PERSONAL DASHBOARD OPEN DATA MARKET PLACE TOPICS OF INTEREST

CAT: Traffic Volume

[A3214] BUCKINGHAM PALACE ROAD (SW1W) (ALL DIRECTIONS) AT THE JUNCTION OF SEMLEY PLACE

CAT: Infrastructure Issue

[A41] FINCHLEY ROAD (NW3) (BOTH DIRECTIONS) BETWEEN FROGNAL LANE AND LANGLAND GARDENS

CAT: Works

[A206] FRASER ROAD (DA8) (ALL DIRECTIONS) AT THE JUNCTION OF BIRCH WALK

CAT: Works

TWITTER ANALYSIS & REAL TIME FEEDS

SENTIMENT ANALYSIS

0.03%	78%	22%
POSITIVE	NEGATIVE	NEUTRAL

#TFL - MON OCT 19 11:44:57

are you going to do something about this @MayorofLondon?
[#tfl #WelcometoLondon](https://t.co/z1HK79CZVf)

#TFL - MON OCT 19 11:44:57

#justselfie #후반포스트 #나는 #강의외이동 #좋아하다 #tfl #하나님 은속복 <https://t.co/J6G4o52Q6Z>

#TFL - MON OCT 19 11:44:57

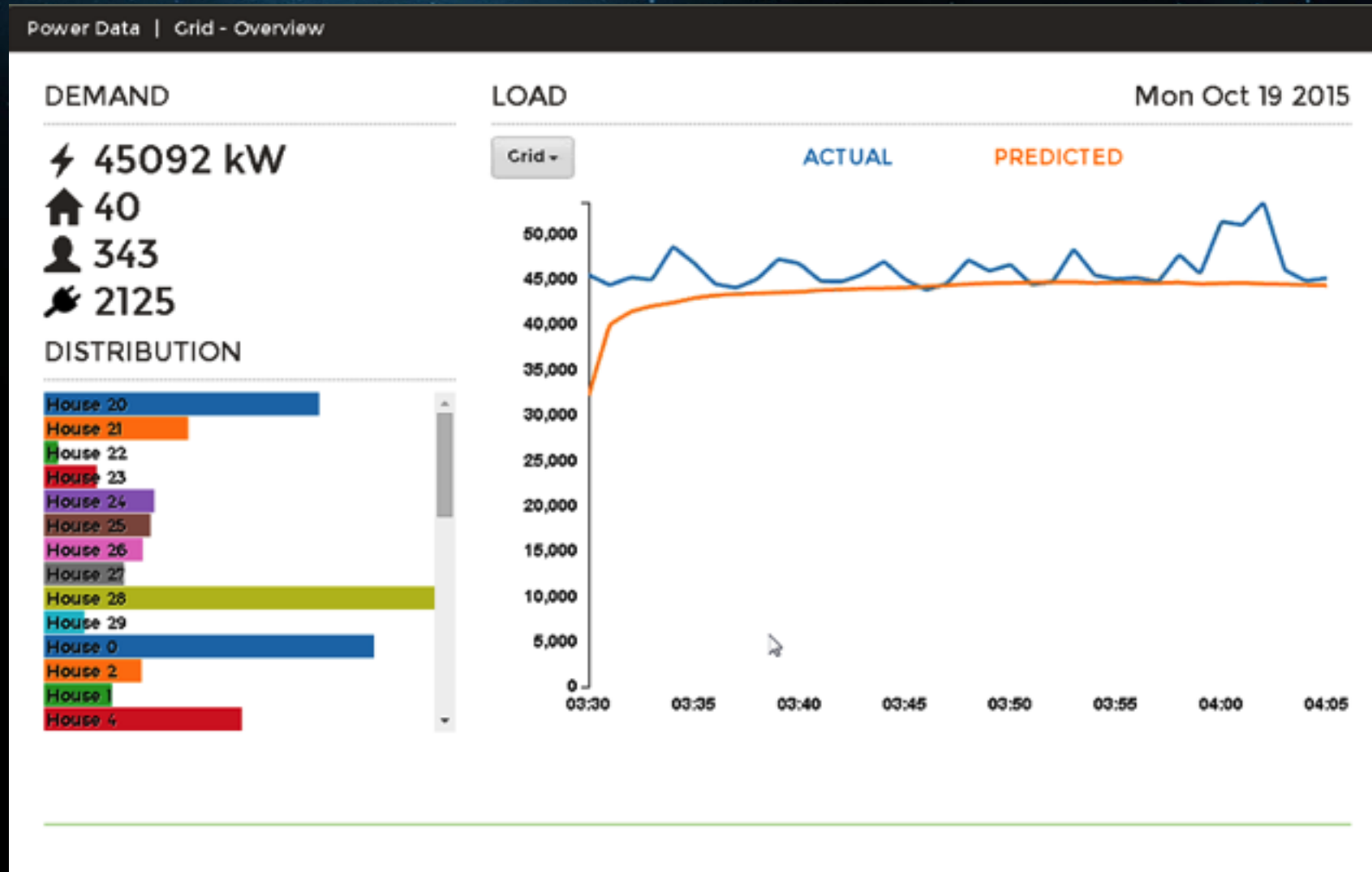
Bi çay molası ☺☺ #like4like #likes #likeforlike #tfl #instagood #likeforlikes #recent4recent #tfl... <https://t.co/GLtgCZKt>

#TFL - MON OCT 19 11:44:57

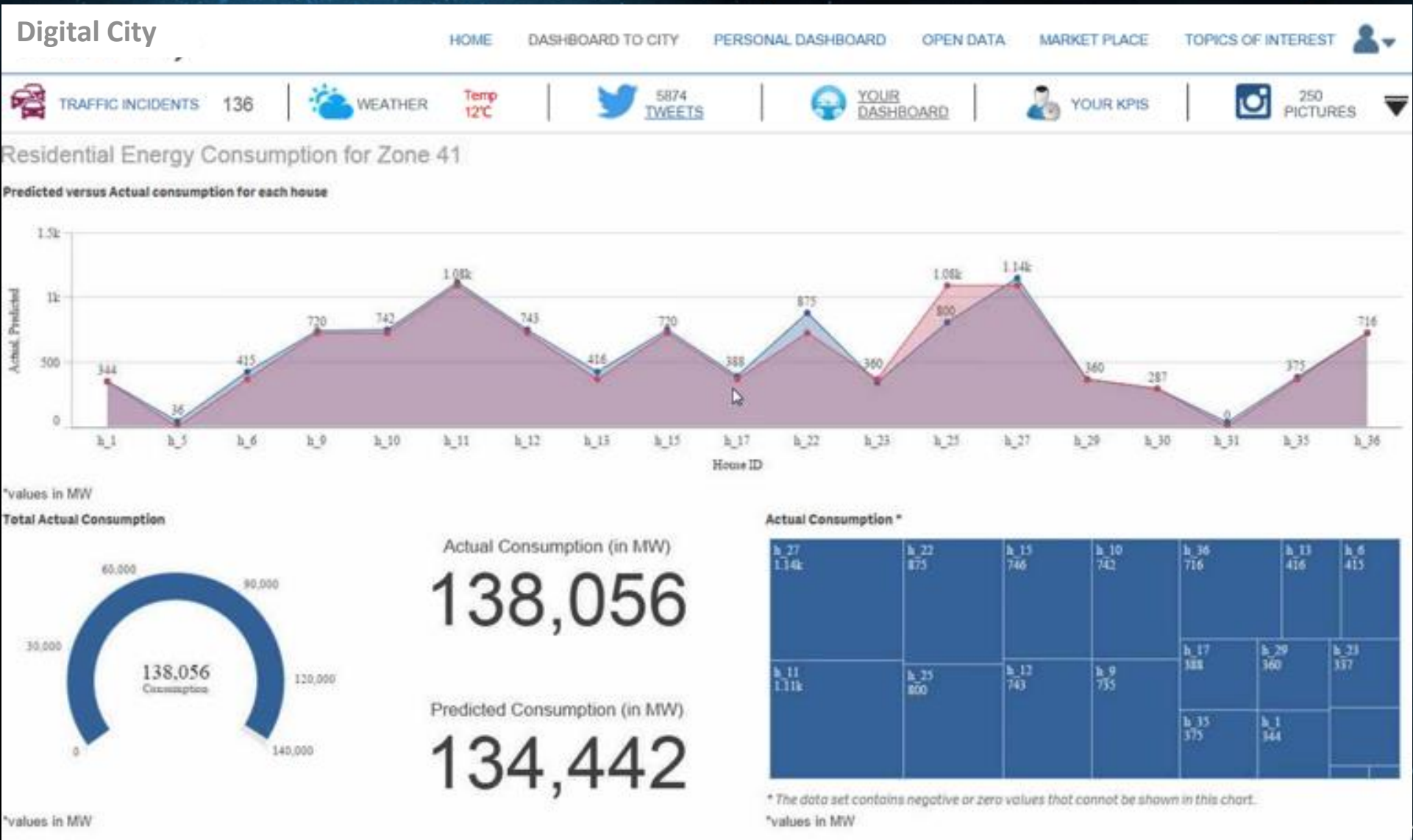
SECONDARY INCIDENTS :

Energy

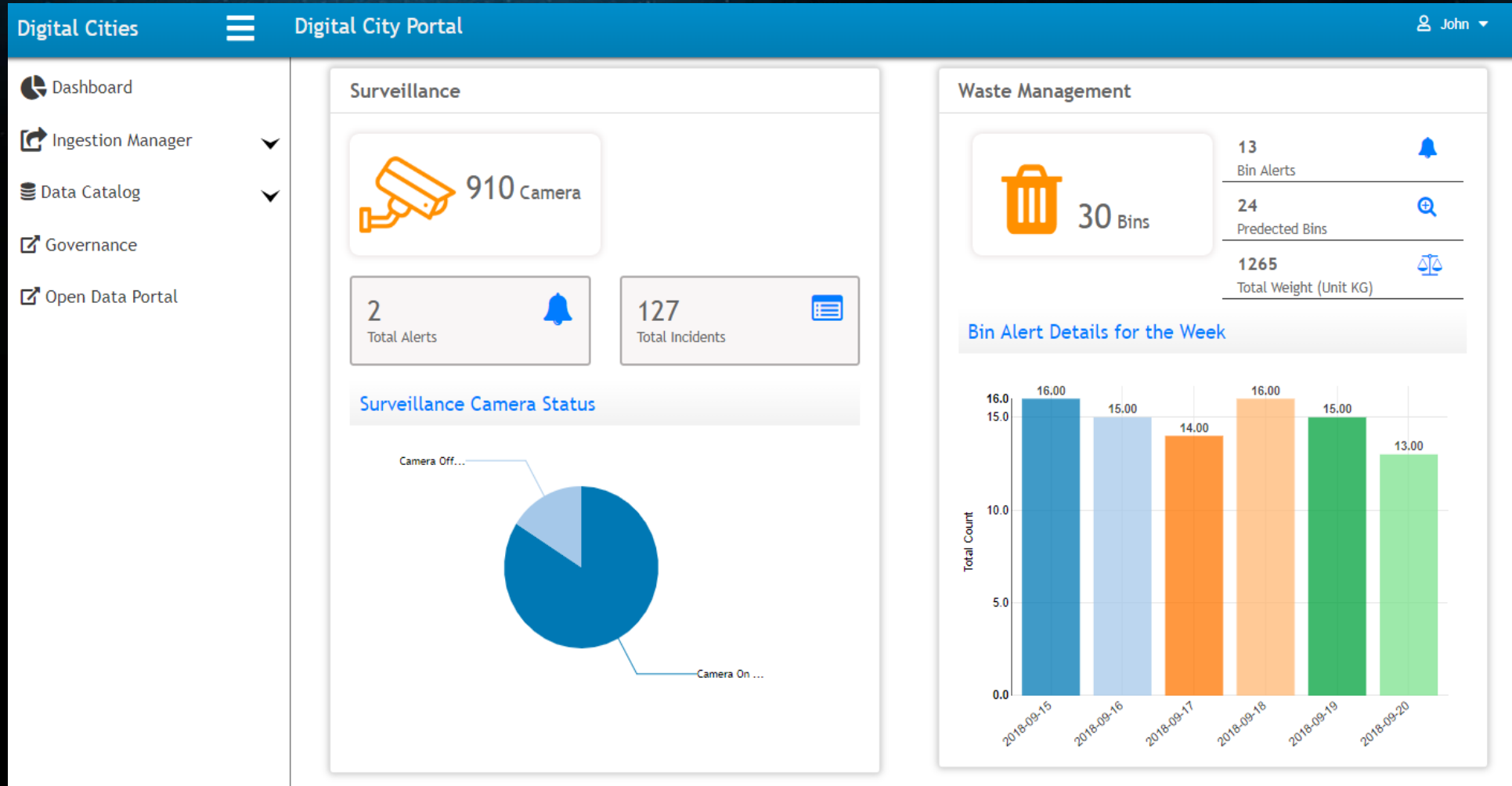
Prediction of the power consumption



Household consumption



City Command & Control Portal

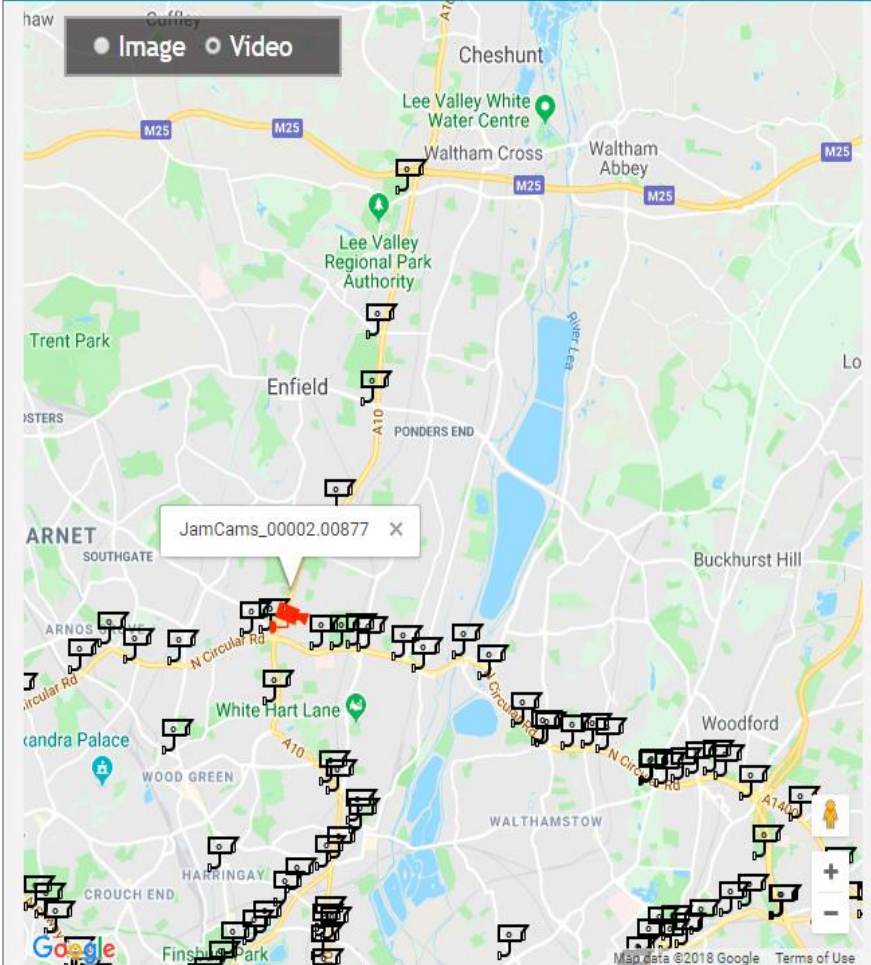


Surveillance Dashboard Details

Digital Cities ☰ Digital City Portal John ▾

Surveillance / View


● Image ○ Video



Video Section

● Live ○ Historical

Thu 27 Sep 09:47



877 A406/A10 U/Pass East

A406/A10 U/Pass East

Search Location :

- A406 Billet Upass E(JamCams_00002.00865)
- Romford Rd / Tennyson Rd(JamCams_00001.02151)
- Piccadilly Circus(JamCams_00001.07450)
- Blackheath Rd/Greenwich High

Smart Waste Management Dashboard

Digital Cities Digital City Portal John

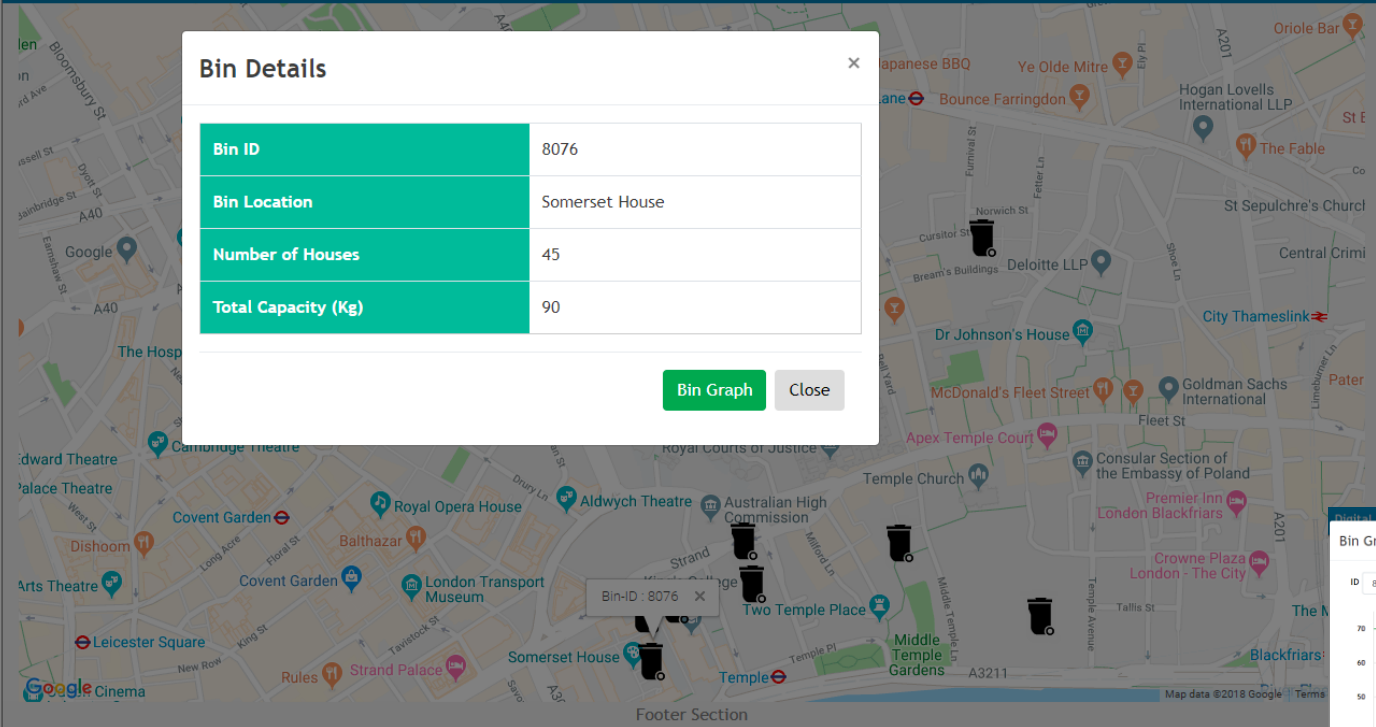
Waste Management / View

Dashboard
Ingestion Manager
Feeds
Categories
Data Catalog
Catalog
Data Search
Governance
Open Data Portal

Bin Details

Bin ID	8076
Bin Location	Somerset House
Number of Houses	45
Total Capacity (Kg)	90

[Bin Graph](#) [Close](#)



Digital City Portal – Data Ingestion Manager

Digital Cities Digital City Portal John

Dashboard
Ingestion Manager
Feeds
Categories
Data Catalog
Catalog
Data Search
Governance
Open Data Portal

Data Ingestion / Create
Data Feed - General Information

NYC Cooling Towers
OpenData
NewYork Municipal Corporation
NYC X Cooling Towers X Health X
NYC Cooling Tower Data

Previous Next

Digital Cities Digital City Portal John

Dashboard
Ingestion Manager
Feeds
Categories
Data Catalog
Catalog
Data Search
Governance
Open Data Portal

Data Ingestion / Create
Data Feed - Source Details

FileSystem
dohmh*.csv
/var/DropZone / dohmh_cooling_tower_data

Previous Next

Digital Cities Digital City Portal John

Dashboard
Ingestion Manager
Feeds
Categories
Data Catalog
Catalog
Data Search
Governance
Open Data Portal

Data Ingestion / Create
Data Feed - Schema Details

Manual Sample
File Format: CSV
Select File: Choose File No file chosen Upload

Column Name	Data Type	Primary Key
Year	Date	false
Region	String	false
Hospital Code	Integer	false
Pharmacy Code	Integer	false

Previous Next

Digital Cities Digital City Portal John



Dashboard
Ingestion Manager
Feeds
Categories
Data Catalog
Catalog
Data Search
Governance
Open Data Portal


Data Ingestion / Create
Data Feed - Destination Details



Select Destination: RDBMS Hive
Merge Strategy: Overwrite Append Merge using Primary Key
Script
Execution Environment: Select
Choose File No file chosen
Schedule: Immediate

Previous Finish



Digital City Portal - Data Catalog

Digital Cities  Digital City Portal John 


 Dashboard


 Ingestion Manager 

- Feeds
- Categories


 Data Catalog 









- Catalog
- Data Search

 Governance

 Open Data Portal

Data Set Name Category Data Store

Type to search... 

Data Set Name	Category	Data Store	Visibility	Micro Service Api	Upload to CKAN	View Contents
Hospital	Health Care	Hive	false	http://10.118.169.62:8899/select?tableName=Health		
Waste Management	Waste Management	Hive	false	http://10.118.169.62:8899/select?tableName=Bin_Data		
NYC Cooling Towers	OpenData	Hive	false	http://10.118.169.62:8899/select?tableName=dohmh_cooling_tower_data		
test	OpenData	Hive	false	http://10.118.169.62:8899/select?tableName=test		

« Previous 1 Next »



Dell Technologies
can make it REAL

Every Digital City has a unique journey...

It is important to get started today!



Start small but build a foundation to scale

Where do you begin?



Solve a specific problem:



Created by Abdul Karim from Noun Project

Public safety, traffic management, smart lighting



Created by Anesthem Latycheva from Noun Project

Immediate benefits for citizens and the city



Created by Marco Lovati from Noun Project

Build a foundation for future projects

We understand the script for success

- Not restricted to specific siloed use cases
- Over encompassing strategy applied across the Edge – Core – Cloud continuum

- Architected for the future - enabling efficient scalability



Unrivalled expertise

DELLTechnologies

DELL EMC Pivotal RSA Secureworks Veeva Systems VMWare

Global reach and support

180 countries, 1,800 service centers, lead times in weeks

Data-driven perspective



Dell financial services

TOTAL SOLUTION PROVIDER	INTEGRATED CAPABILITIES
DEDICATED EXPERTS	FLEXIBLE SOLUTIONS
END OF LEASE SERVICES	COMPREHENSIVE PORTFOLIO

Funds ~\$4 billion/year

Technology leadership

Recognized leadership in 20 Gartner Magic Quadrants and market share leader in key areas

Partnerships

Atos NTT DATA UNISYS

ISS, metis, Surveillus, VERINT, RSA, Genetec, VIEVO, Seneca, AVIGILON, TASER, BOSCH, PIXIA, PELCO, LENSEC, AXIS, AGENT, vmware, intel, REVEOL, splunk, milestone, Cognify, dvtel, CISCO, Honeywell, MediaSoft

\$70M+ business already delivered globally across key DC solutions: video surveillance and analytics, waste management and data centre

Dell Technologies: your partner of choice on the journey



Reference Cases

City Surveillance for one of Asia's largest city

Largest City Surveillance managing 6000+ cameras, 1500 locations

Problem:

- Over 6000 CCTV cameras deployment to manage 1500 Locations
- Establish a link between the IP Camera's & the aggregation point at the Edge and the datacenters, Datacenters to Command and Control Viewing Centers, Datacenters to Police Stations, Datacenters to Mobile Vas
- Scope included building 2 Datacenters in Active-Active mode Primary & backup with a data retention for 30 days
- RFP with Picture Intelligent Unit (PIU) - responsible for taking & analyzing feeds from different locations

Solution:

- Isilon NL400 5.5PB x 2nos
- VNX5400 Block with 65TB x 2nos
- Networker 65TB Capacity based Lic x 2nos

Results:

- Capabilities of Isilon platform to manage surveillance storage archival
- Strong partnership with the surveillance partner & vendor
- EMC's understanding of the surveillance architecture and solution design

Digitization of all Customer transactions- West Torrens

Dell helps make all services available online, 24x7, providing digital means of interacting with the community

Problem:

- In order to Digitize all cistern & community services CoWT needed to revamp current infrastructure and way of managing IT
- They also identified the need to make the solution an Agile, software defined stack
- Manage Mission Critical availability with a highly trusted solution

Solution:

- Partner CompNow assisted by VMware and Dell EMC built a VMWare centric Software Defined Data centre running on VxRail
- The total solution included Stretched Cluster over two sites using VxRail, Deployment services and Migration services from partner CompNow.

Results:

- Provide an Active/Active solution providing highest availability
- Enable customer to embark on Digital Journey
- Simplify Management & Operations
- Reduce Admin effort with VxRail Integrated LCM
- Provide an evergreen architecture that can be incrementally scaled whilst containing upgrade costs

City of Zhejiang, China

Intelligent Traffic Cloud

Problem:

Need to optimize the layout of roads, waterways, aviation routes and other traffic modes in order to effectively form a convenient, smooth, efficient, safe and integrated transport system.

Promote equal access to public transport services in both urban and rural areas by giving priority to the development of public transport in rural area, and accelerating the integration of regional and urban-rural traffic.

Solution:

Implementation of an **Intelligent Traffic Cloud**, with high availability and protection from data loss. Edge + Centre Cloud solution involves Dell EMC, VMware and Pivotal products, make full use of federation capability on cloud and big data.

Results:

Secure private cloud for improved transportation services.



Fujiyan University of Technology



Successfully drives a Smart City strategy to manage rising vehicle numbers

Problem:

Fujian University of Technology wanted to create a high-performance cloud platform to mine and analyze real-time data on local road usage, and deliver it to residents and government offices.

Solution:

- The university built an end-to-end Dell cloud platform based on Dell PowerEdge blade and rack servers featuring Intel® Xeon® processors
- Dell Storage with IntelXeon processors, Dell Networking switches
- VMware® vCloud®. Performance of the solution is optimized through the support of Dell Deployment Services and Dell ProSupport Plus

Results:

- Helps residents travel more efficiently by reducing congestion.
- Delivers transportation updates in real time with in-memory databases
- Reduces running and management costs by using a converged IT platform.
- Maximizes performance with highly responsive support.

"We are helping Fujian province develop its Smart City Transportation strategy with Dell's end-to-end cloud platform. The data shows how our roads are being used and will help shape transportation policy and services at a time when the number of vehicles is rapidly increasing."

Professor Zou Fumin, Vice Dean, College of Information Science and Engineering, Fujian University of Technology



Featured

Solutions

- Big data
- Cloud solutions
- Converged infrastructure

Services

- Enterprise deployment
- Enterprise support

DELLTechnologies

Goyang City Hall

Improving the quality of life of its residents

Problem:

Deployment of thousands of high resolution surveillance cameras

Strong data growth from high resolution video technology

Data security of video footage and long-term archival

Solution:

- Dell EMC Isilon NL400
- Dell EMC Isilon SmartConnect
- Dell EMC Isilon SmartQuotas

Results:

- Efficient management of 24-hour security operations
- Rapid scalability within a single file system
- Reduced management complexity for video surveillance
- Delivered resource and management efficiencies

“We have reduced the complexity and administrative work while gaining a solution that can rapidly process data from thousands of high-resolution cameras within a centralized environment.”

Yeong-hwan Jo
Assistant Director, Information and Communication Division, Goyang City Hall



Saensuk in Thailand Improving healthcare with IoT



50% improvement in care services for elderly residents with a wearable IoT-enabled monitoring system

Problem:

With a growing population of elderly residents, the municipality of Saensuk needed to find a way to meet the healthcare needs of this demographic while keeping control on spending

Solution:

- Internet of Things
- OEM Solutions
- Modular Infrastructure
- Storage
- Cloud Client-Computing

Results:

50% improvement in care service response times for elderly residents 100% reliability from robust IoT platform 90% of elderly users are highly satisfied with IoT solution Lowers ratio of nurses to residents, helping reduce homecare costs 14% of Saensuk residents are over 80 and could benefit from technology Almost zero training required, with elderly proficient in minutes

90%

elderly users satisfied



100%

reliability from IoT platform



50%

improvement in response times



Pune City

Terrorism and crime targeted with reliable, urban video system

Problem:

Ongoing terrorism threat
Petty crime
Limited police resources needed to be used more effectively
Need for long-term robust and scalable technical solution
3MIL + Population

Solution:

- Adopted modern IP-based municipal video surveillance system
- Isilon NL400 having 3PB +capacity
- Backup Accelerator Nodes VNX5300 Block Storage System – 50TB
- VMWare vSphere 6.0

Results:

- Pune Safe City Project now provides security for a geographic area of some 600 square kilometers.
- Identify & report faster other anomalous situations such as explosions or fires
- Operate more than 20 applications related to video and video processing

"We have been impressed with both the performance-scalability and the critical power of EMC storage systems to ensure successful surveillance."

Nitin Shah, Chairman & Managing Director of Allied Digital