1st Citiverse Assembly

Global Initiative on Virtual Worlds and AI – Discovering the Citiverse

3 November 2025

Valencia, Spain and online

Keynote – From Smart City to Citiverse: Valencia Leading by Example

Ernesto Faubel-Cubells

Head of Smart City & Data Management Department
Valencia, Spain

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From Smart City to Citiverse: Valencia Leading by Example

How Valencia is transforming into a connected, inclusive and sustainable urban ecosystem

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Agenda

- Valencia's Key facts
- Valencia's Smart City foundations
- Key pillars of the transition
- Data & platforms
- Mobility & infrastructure
- Smart buildings & citizen services
- Tourism, inclusion & sustainability
- From Smart City to Citiverse
- Challenges & lessons learned
- Vision ahead & conclusions

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Valencia – Key Facts

- Valencia, located on Spain's eastern coast along the Mediterranean Sea, is home to around 800,000 residents, with over 1.5 million in its metropolitan area.
- Founded by the Romans in 138 BC, it combines rich heritage with innovation and modern development. The city is an economic hub for tourism, technology, and logistics, hosting one of the Mediterranean's leading ports,
- Culturally, the city is renowned for *Las Fallas*, a UNESCO-recognized Intangible Cultural Heritage festival that symbolizes creativity and community spirit. Valencia represents a balance between tradition and progress, making it a strategic and inspiring location within the Mediterranean region.

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Valencia – Green & Digital Transitions

- Both should be carried out in parallel
- Climate Mission 2030
- European Green Capital 2024

EU MISSION LABEL
CLIMATE-NEUTRAL & SMART CITIES
VALENCIA

EUROPEAN
GREEN CAPITAL
An initiative of the European Commission

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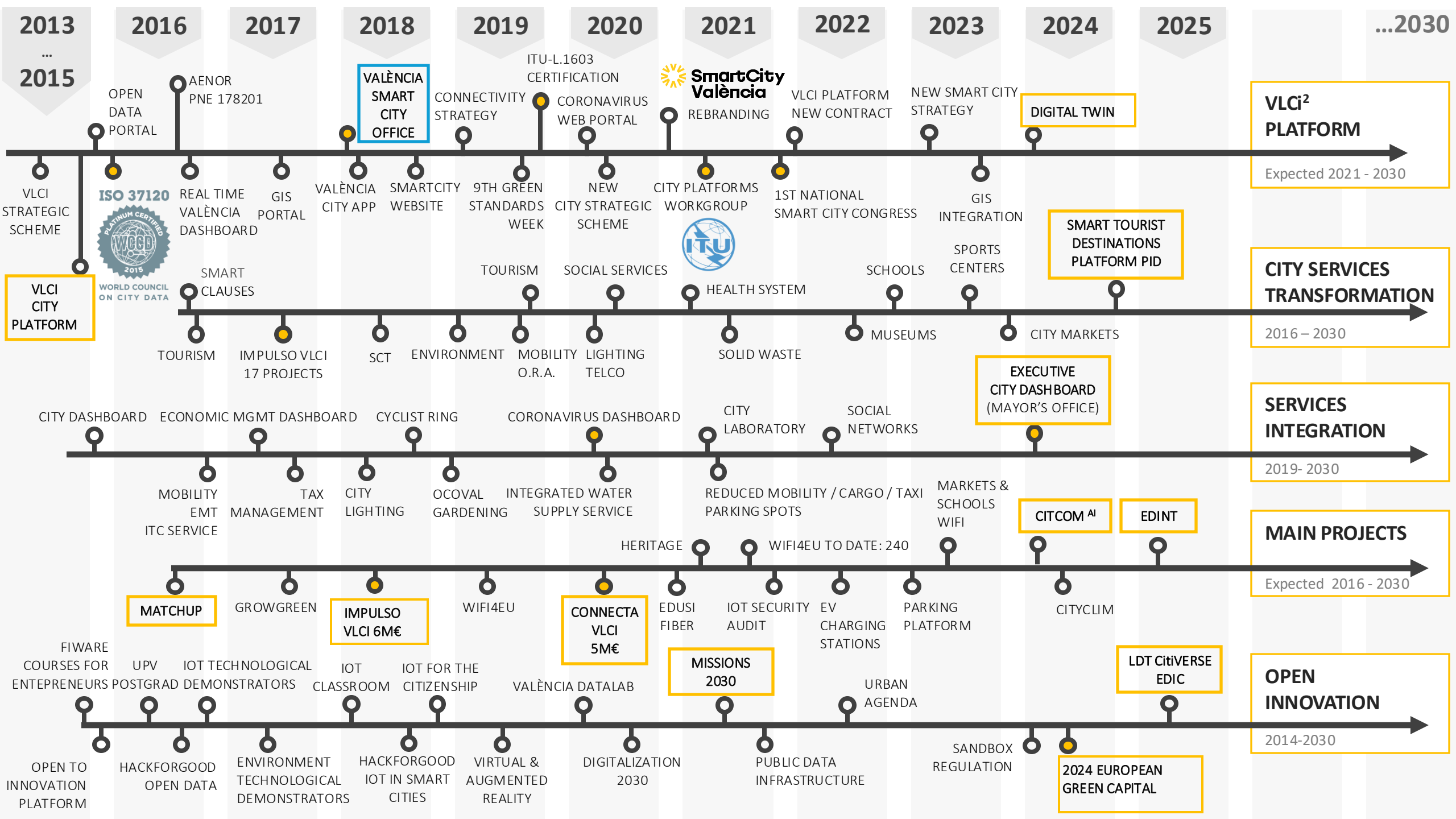

2013 ... 2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
...2030
OPEN DATA PORTAL
AENOR PNE 178201
VALÈNCIA SMART CITY OFFICE
CONNECTIVITY STRATEGY
ITU-L.1603 CERTIFICATION
CORONAVIRUS WEB PORTAL
SmartCity València
REBRANDING
VLCI PLATFORM NEW CONTRACT
NEW SMART CITY STRATEGY
DIGITAL TWIN
VLCI²
PLATFORM
Expected 2021 - 2030
VLCI STRATEGIC SCHEME
ISO 37120
PLATINUM CERTIFIED
WCCD
2015
WORLD COUNCIL ON CITY DATA
REAL TIME VALÈNCIA DASHBOARD
GIS PORTAL
VALÈNCIA CITY APP
SMARTCITY WEBSITE
9TH GREEN STANDARDS WEEK
NEW CITY STRATEGIC SCHEME
CITY PLATFORMS WORKGROUP
1ST NATIONAL SMART CITY CONGRESS
GIS INTEGRATION
SMART TOURIST DESTINATIONS PLATFORM PID
VLCI CITY PLATFORM
SMART CLAUSES
TOURISM
SOCIAL SERVICES
HEALTH SYSTEM
SCHOOLS
SPORTS CENTERS
ITU
CITY SERVICES TRANSFORMATION
2016 – 2030
TOURISM
IMPULSO VLCI 17 PROJECTS
SCT
ENVIRONMENT
MOBILITY O.R.A.
LIGHTING TELCO
SOLID WASTE
MUSEUMS
CITY MARKETS
EXECUTIVE CITY DASHBOARD (MAYOR'S OFFICE)
CITY DASHBOARD
ECONOMIC MGMT DASHBOARD
CYCLIST RING
CORONAVIRUS DASHBOARD
CITY LABORATORY
SOCIAL NETWORKS
SERVICES INTEGRATION
2019- 2030
MOBILITY EMT ITC SERVICE
TAX MANAGEMENT
CITY LIGHTING
OCOVAL GARDENING
INTEGRATED WATER SUPPLY SERVICE
REDUCED MOBILITY / CARGO / TAXI PARKING SPOTS
MARKETS & SCHOOLS WIFI
CITCOM AI
EDINT
HERITAGE
WIFI4EU TO DATE: 240
MAIN PROJECTS
Expected 2016 - 2030
MATCHUP
GROWGREEN
IMPULSO VLCI 6M€
WIFI4EU
CONNECTA VLCI 5M€
EDUSI FIBER
IOT SECURITY AUDIT
EV CHARGING STATIONS
PARKING PLATFORM
CITYCLIM
FIWARE COURSES FOR ENTEPRENEURS
UPV POSTGRAD
IOT TECHNOLOGICAL DEMONSTRATORS
IOT CLASSROOM
IOT FOR THE CITIZENSHIP
VALÈNCIA DATALAB
MISSIONS 2030
URBAN AGENDA
LDT CitiVERSE EDIC
OPEN INNOVATION
2014-2030
OPEN TO INNOVATION PLATFORM
HACKFORGOOD OPEN DATA
ENVIRONMENT TECHNOLOGICAL DEMONSTRATORS
HACKFORGOOD IOT IN SMART CITIES
VIRTUAL & AUGMENTED REALITY
DIGITALIZATION 2030
PUBLIC DATA INFRASTRUCTURE
SANDBOX REGULATION
2024 EUROPEAN GREEN CAPITAL

Valencia's Smart City foundations

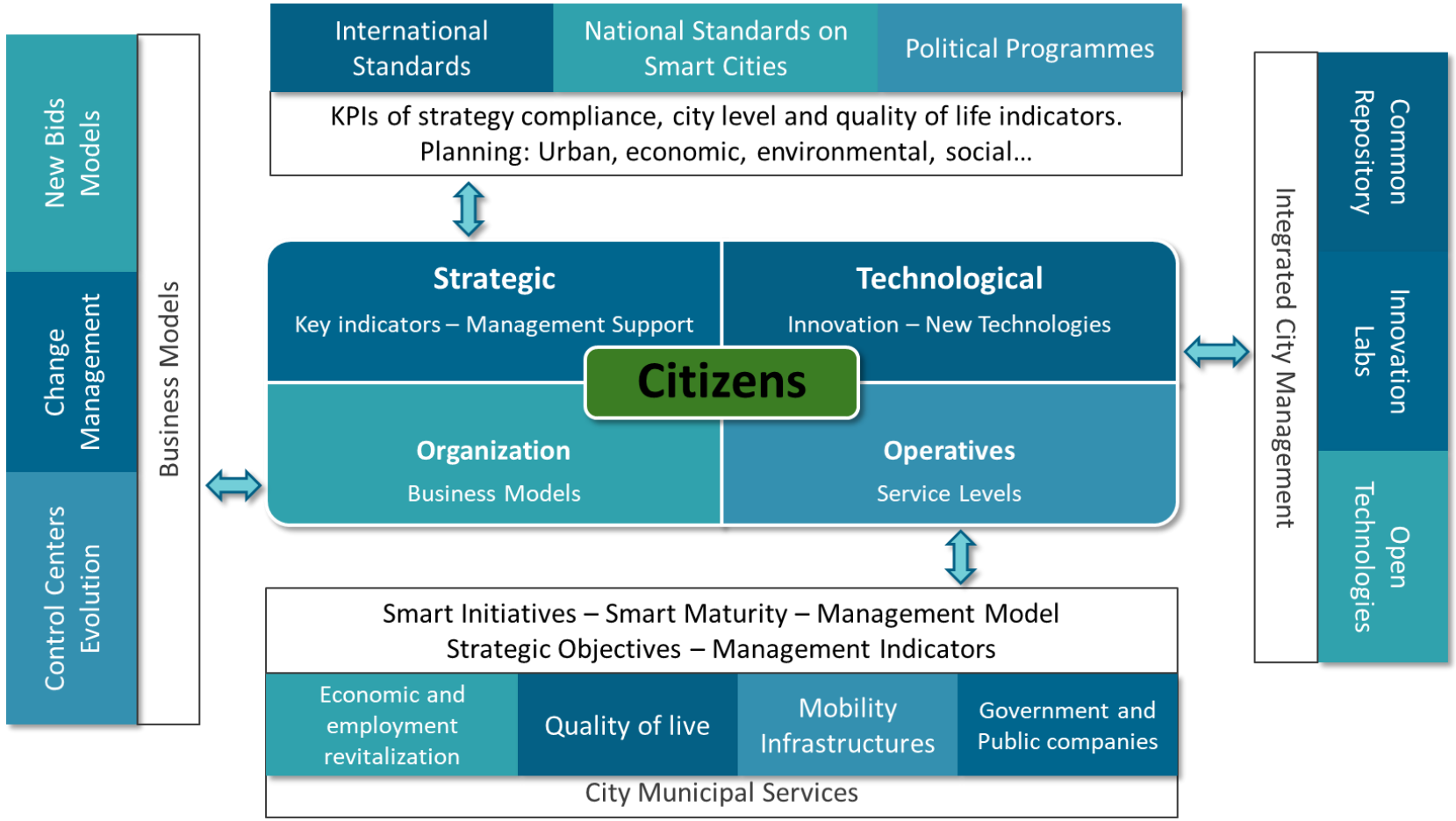
Data-Driven City Management

VLCi Platform – the data backbone

- Launched 2014, one of the first FIWARE-compliant platform in Spain.
- Collects data from sensors, municipal systems, external sources.
- Enables service integration, breaks silos and encourages open data.

Data for City Management

- IoT Projects
- City GIS
- Holistic view = location + time + service metrics



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Valencia's Smart City actuation areas

COMMITMENT TO STANDARDS

ISO 37120 PLATINUM CERTIFIED WCCD 2019 WORLD COUNCIL ON CITY DATA

ITU

SUSTAINABLE DEVELOPMENT GOALS

OPEN & AGILE SMART CITIES

smartcity red española de ciudades inteligentes

U4SSC

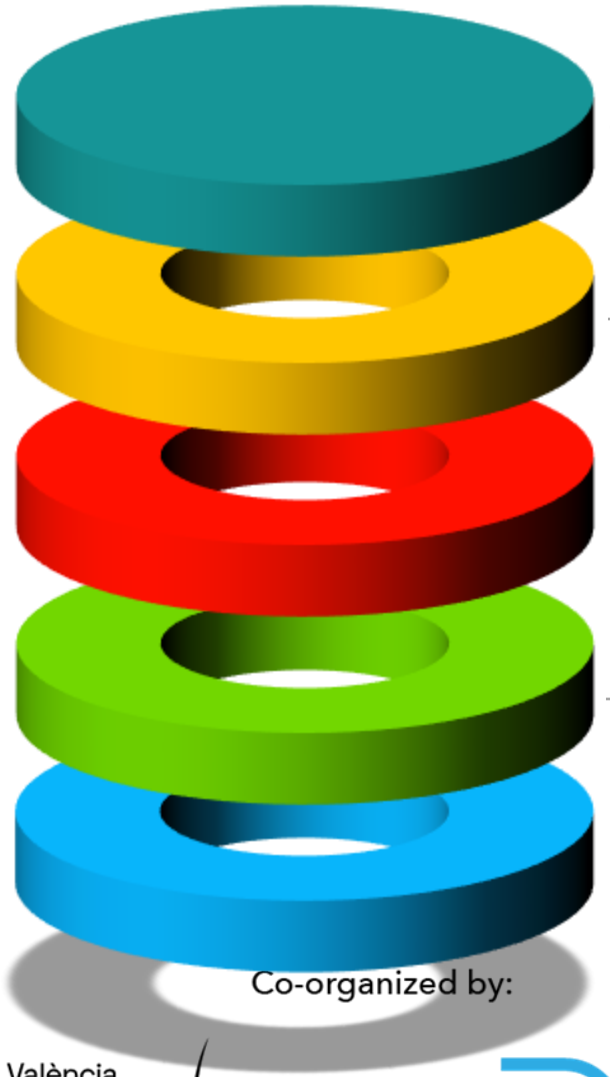
UNE Normalización Española

DIGITAL TRANSFORMATION OF SERVICES

- Platform Integration
- Smart clauses in public contracts.

CONNECTIVITY

- Connectivity Strategy
- IoT and 5G deployment



INNOVATION ECOSYSTEM

SMART SOLUTIONS

- Dashboards:
- Citizenship - City
- Specific

ENABLING COMPONENTS

- Urban Platform
- GIS - Geoportal
- Open Data Portal
- City App

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VALÈNCIA SMART CITY > SMART ICT Ecosystem

Citizens & City Officers

Personal | Telephone | City WEB | City App | Electronic Office | Citizen Dashboard | Geoportal | OGOV Portal | Citizen Participation | Open Data

City Services

Certified digitization | Catalog of Procedures | Electronic signature | Electronic Registry | Electronic Payment

Administrative Information Systems

SOA

E-ADMIN. PLATFORM | URBAN DATA PLATFORM | CITY DB | GIS

City IT Core

Balanced ScoreCard | BI tools | APIs

Mobility Mng. | Lighting Mng. | Waste Mng. | Environmental

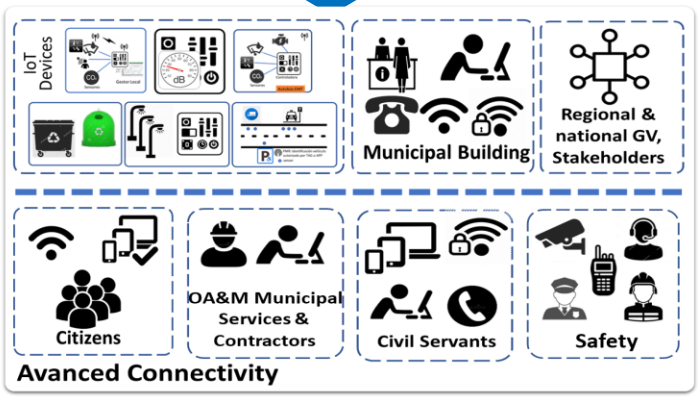
Smart Services & Apps

Gateway

Integration BUS (ESB) | Integration (ETL) | Security | Audit | IoT

External

Cloud Services | External Partners | Regional & National Government | Other Stakeholders | API



Valencia's Smart City Dashboards

City KPI's

- External view of Valencia
- International Standard Indicators
- Static information / Smart areas.

Dept. Management

- Internal – external use
- Operational Management Dashboards
- Economic Management (PMP, GACO, RA...)

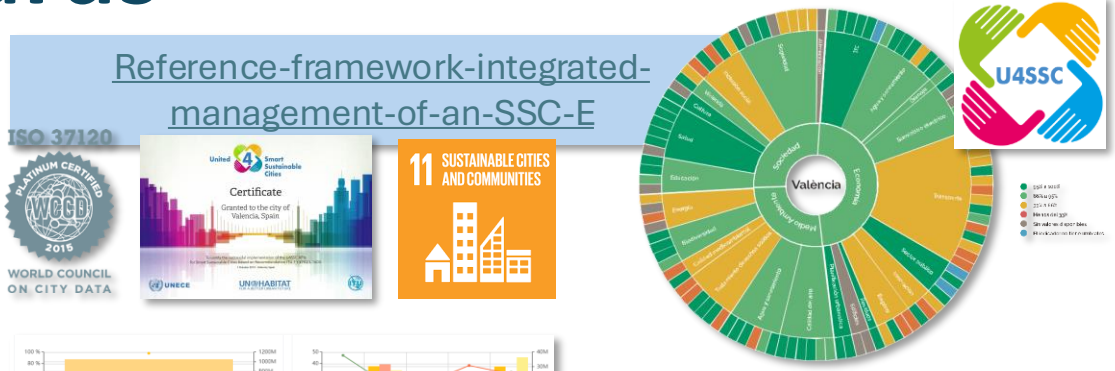
Unified

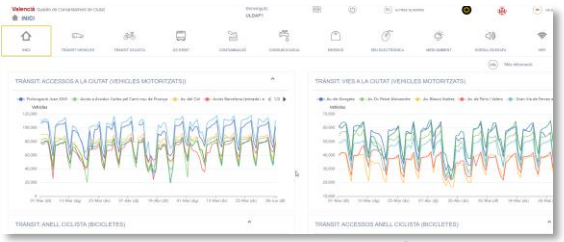
- Internal and external use
- Report Charts
- Information by Area, Delegation, Serv.

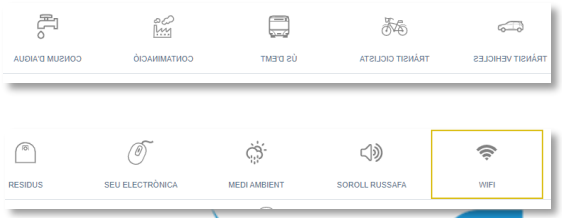
City

- Internal and external use
- Report Charts
- Information by areas of interest

Reference-framework-integrated-management-of-an-SSC-E







Hoste -orga

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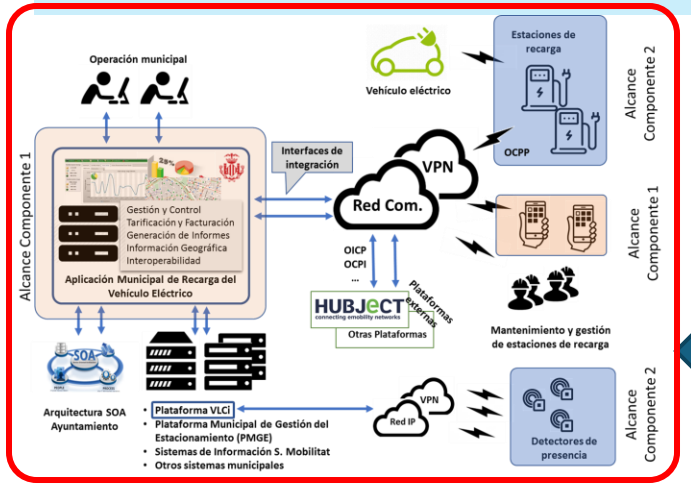
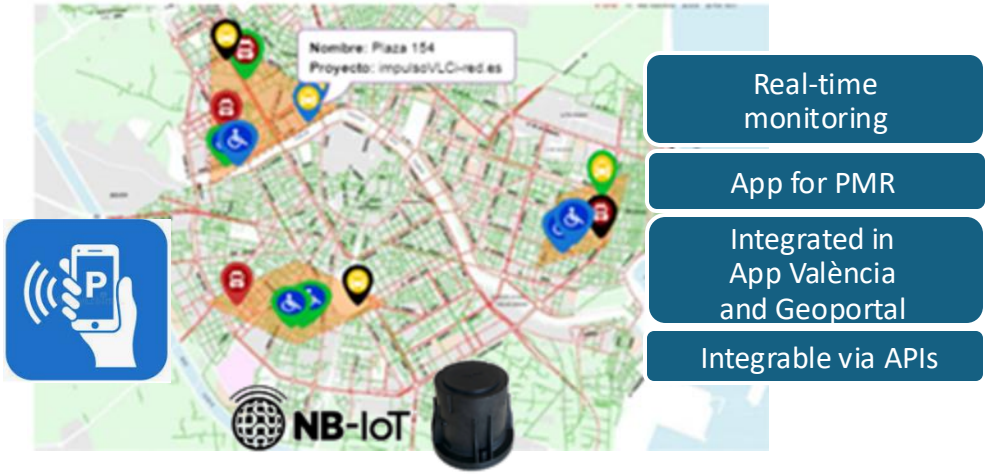
Moving freely, sustainably

ELECTRIC VEHICLE CHARGING SYSTEM



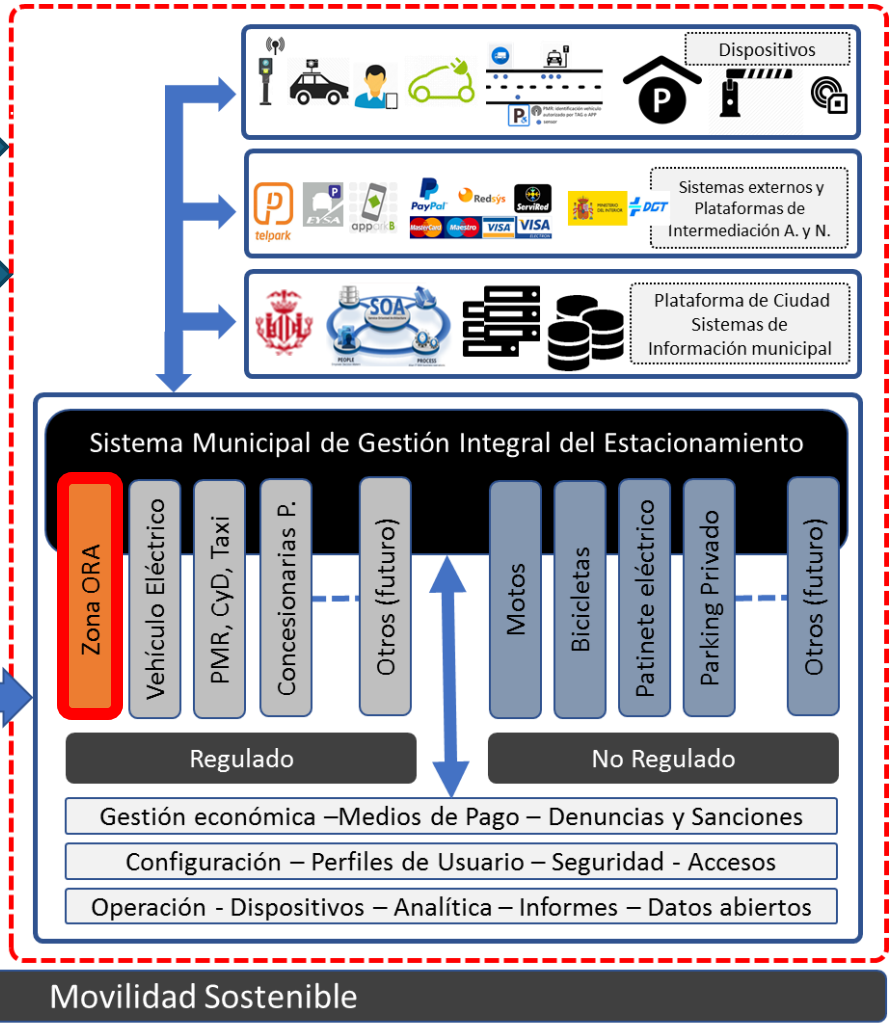
EFFICIENT PMR MANAGEMENT – L/U- TAXI

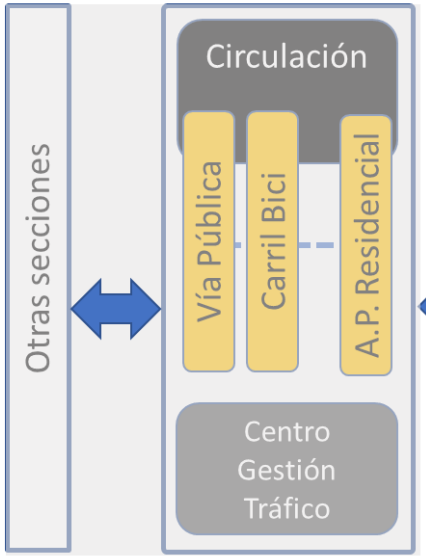


- Real-time monitoring
- App for PMR
- Integrated in App València and Geoportal
- Integrable via APIs

SmartCity València

MUNICIPAL PARKING MANAGEMENT SYSTEM + ORA (SMGE+SGORA)

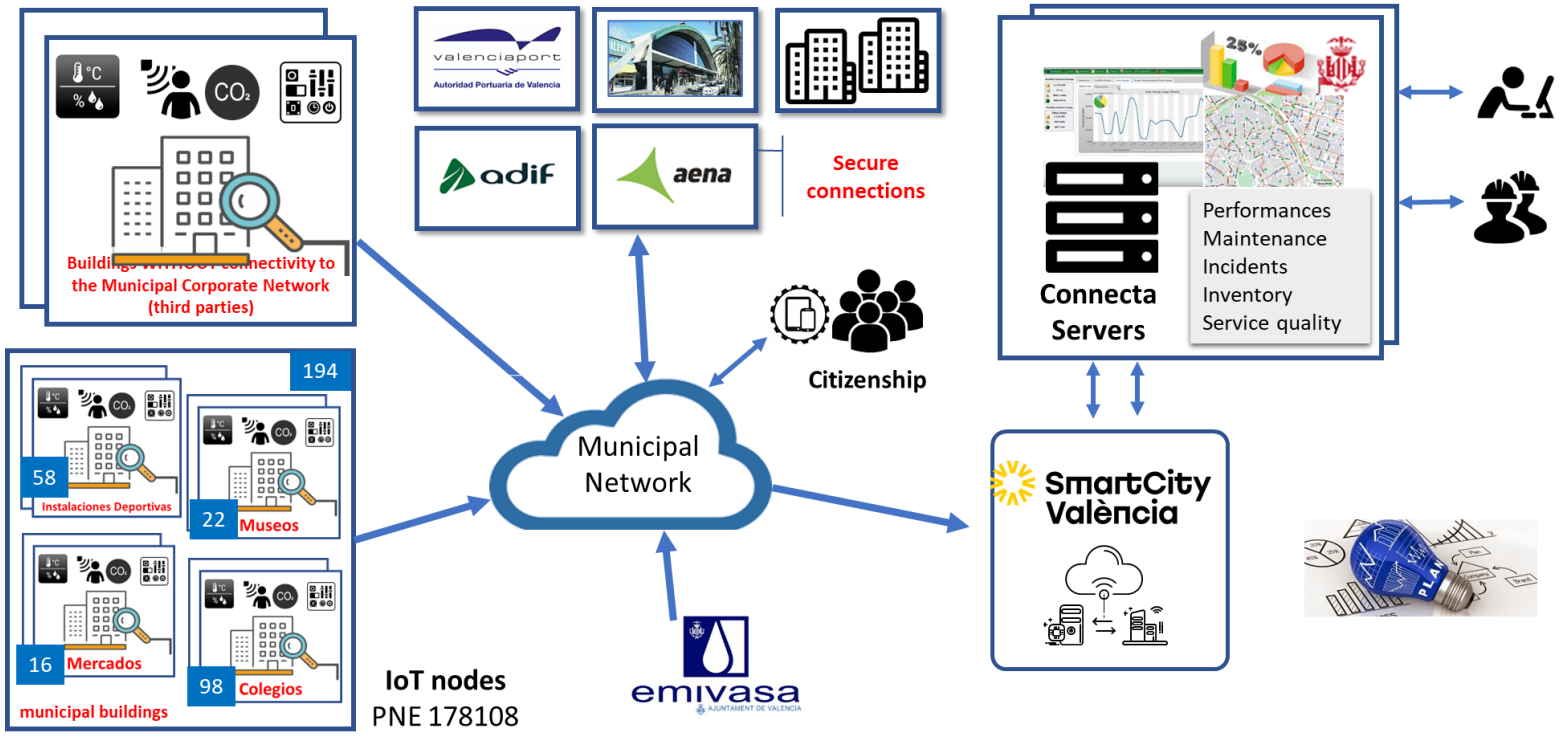




Movilidad Sostenible

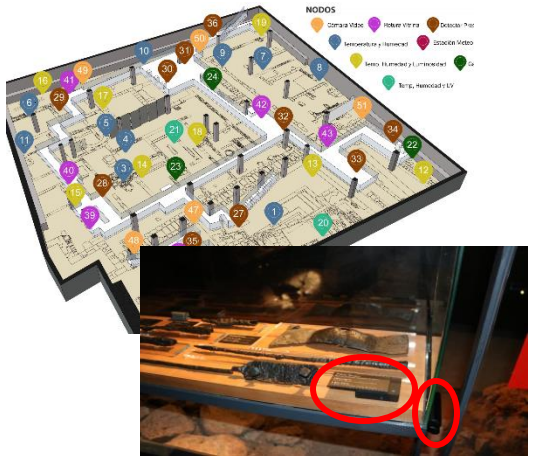
Buildings that think, a starting point for the Valencia Citiverse

- 194 municipal buildings to be made smart.
- Focus on human-centric services: open data, participation.

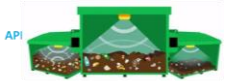


Almoina

- Heritage surveillance system including video surveillance CCTV
- Temperature, humidity and brightness sensors deployed to monitor status
- Real-time monitoring and historical data available



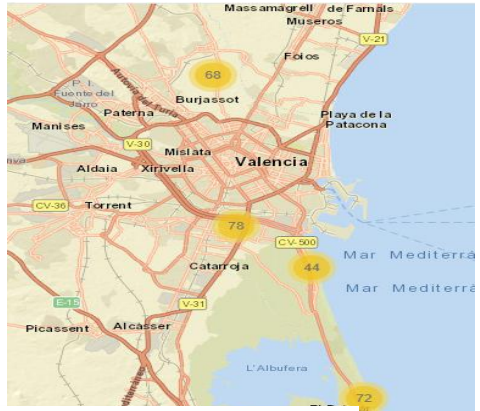
Solid waste

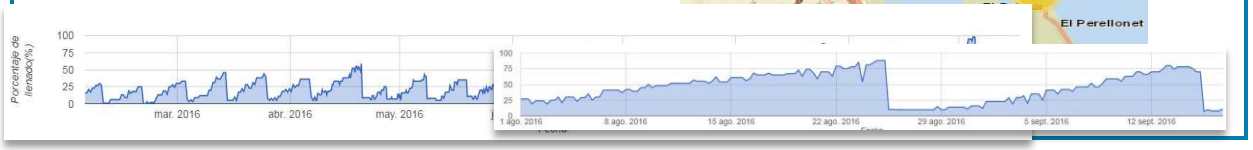


Settlements in districts. 300 containers

Glass and light containers. Benefits:

- Pickup service optimization
- Avoid overflows
- Improved perception of the city





Air Quality Monitoring in buses

- 44 buses with air quality analyzers
- Real-time monitoring of internal and external air quality (CO, NO2, O3…)

Efficient use of parking

Reduced mobility, loading and unloading and taxi stops

- 1060 parking spaces
- Real-time occupancy tracking
- Guarantee the correct use of reduced mobility points

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Valencia Smart Destinations Platform

- More than 90,000 València Tourist Cards
- Agility and ease for the tourist,
- Integration into the VLCi platform
- Smart Routes
- Sustainability

Users/Profiles
ACL
Operation/Application

- Profile of the AytoVal Tourism Service
- Visit Valencia Profile
- Tourism Company Profile
- Tourist profile

PID CENTRAL NODE UNIFIED ACCESS PORTAL

PID Valencia Platform

Front-end

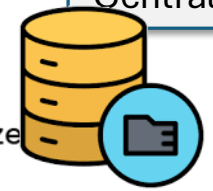
Back-end

- Own modules
- Business logic and orchestrator
- Funciones de BI Informes y CdM
- User Profile Management & Security
- Integration and interoperability features

APP TOURIST SEGITTUR

Front end	Front end	Front end	Front end	Front end
PID Central-PIA Modules	Other PID Modules	Visit Valencia SIT Valencia	VLCi Platform	Other Stakeholders
PID Central	DTI (**Store**)	Visit Valencia	Plataforma VLCi	Other actors

Co-organize



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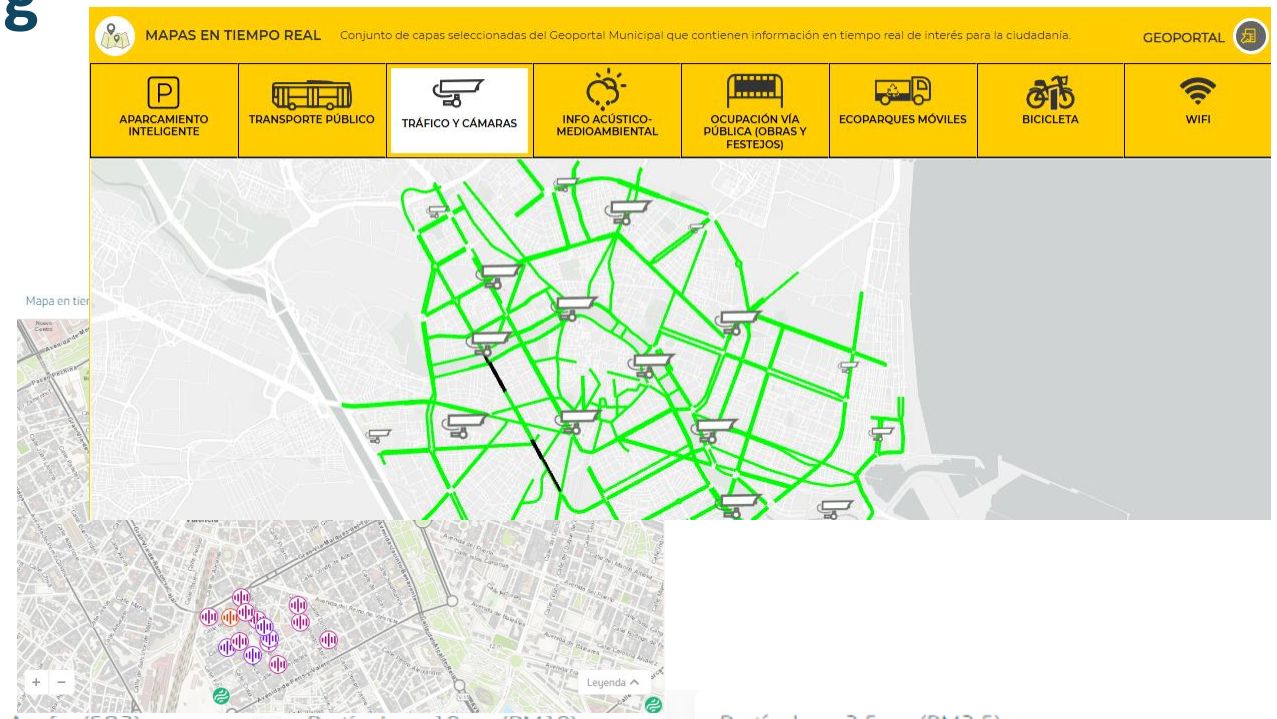
Traffic and environtmental monitoring

Dashboard ENVIRONMENT & Valencia-al-minut

- It unifies the city's environmental information in a single place: Air Quality, Noise, Weather Stations, etc.
- 23 integrated stations with data updated every few minutes.
- Access to historical data for each station.
- Advanced analysis of the impact of some parameters on others. Ex: Impact of rain and temperature on air pollution

WEBsite Valencia-al-minut

- All relevant city information at glance



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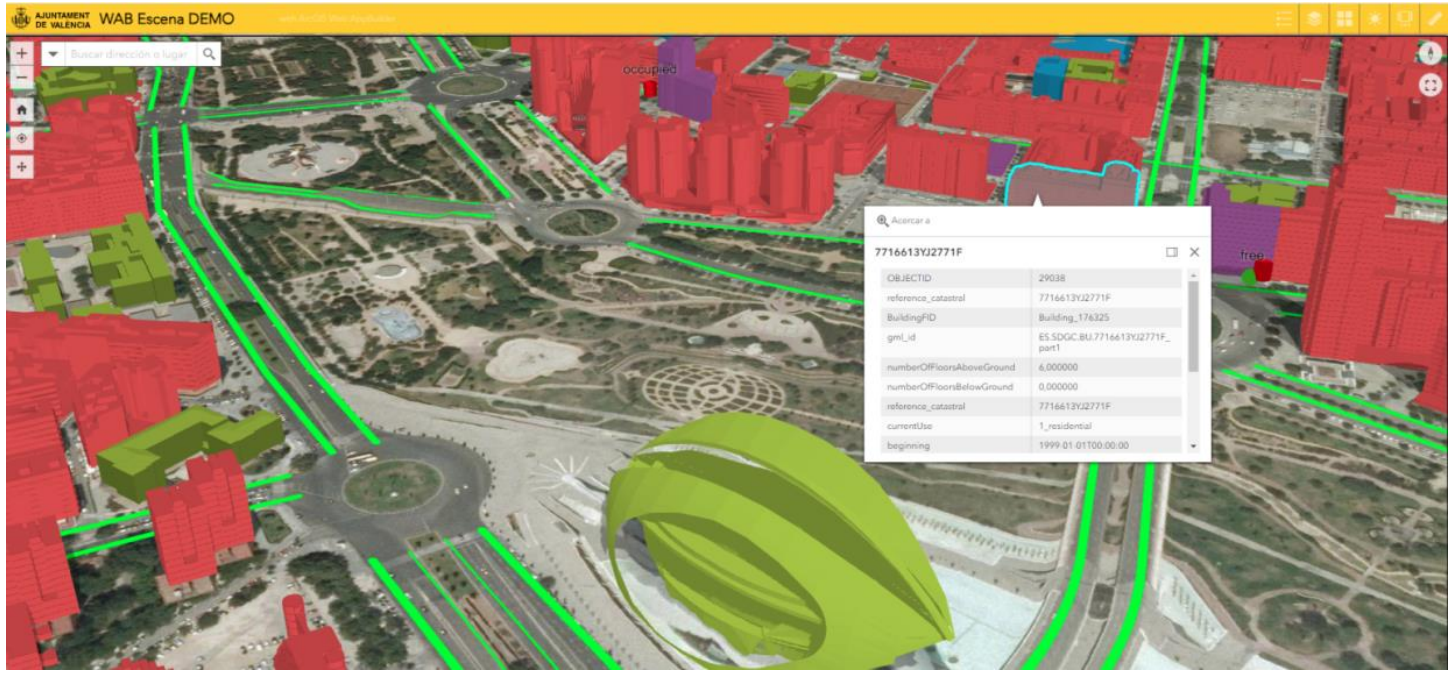
Local Digital Twin

Virtual 3D representation
Connected to data
AI algorithms & Data analytics
Simulation scenarios



Our vision

Evolution from GIS
Integrated with Urban platform
Interconnected and interoperable DTs

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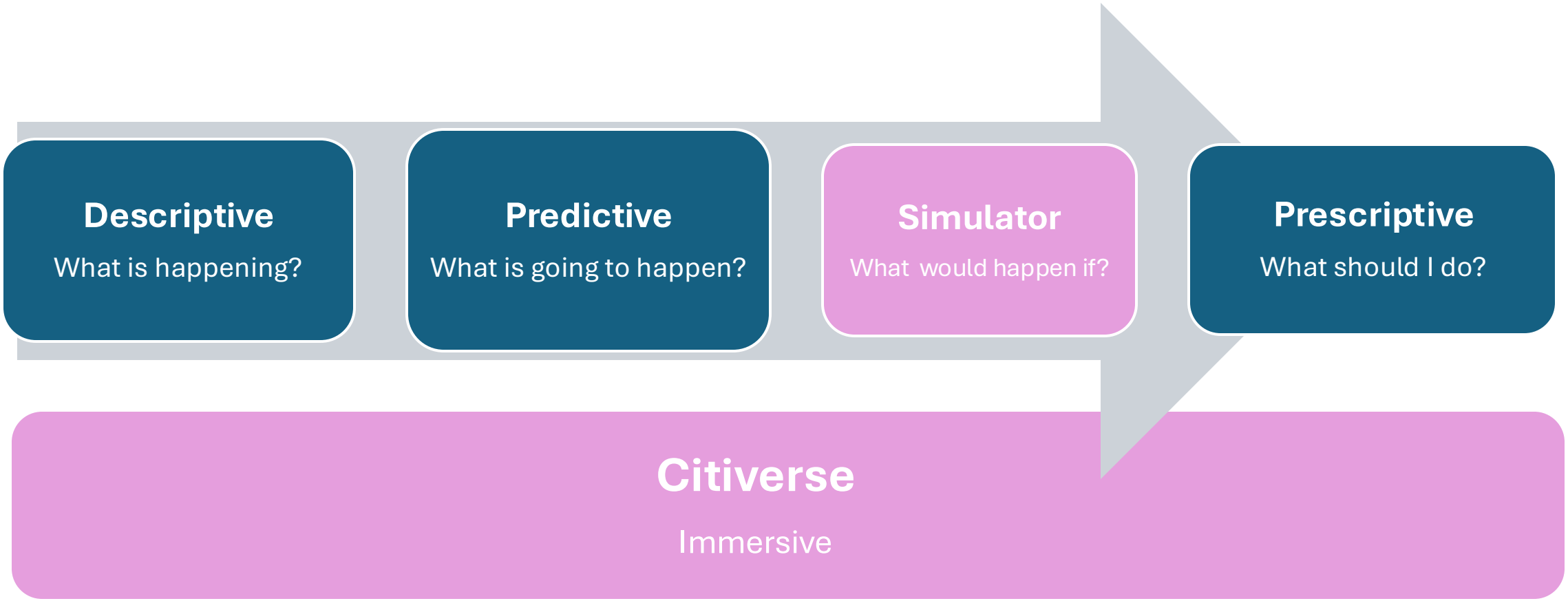
Levels of maturity in Digital Twins



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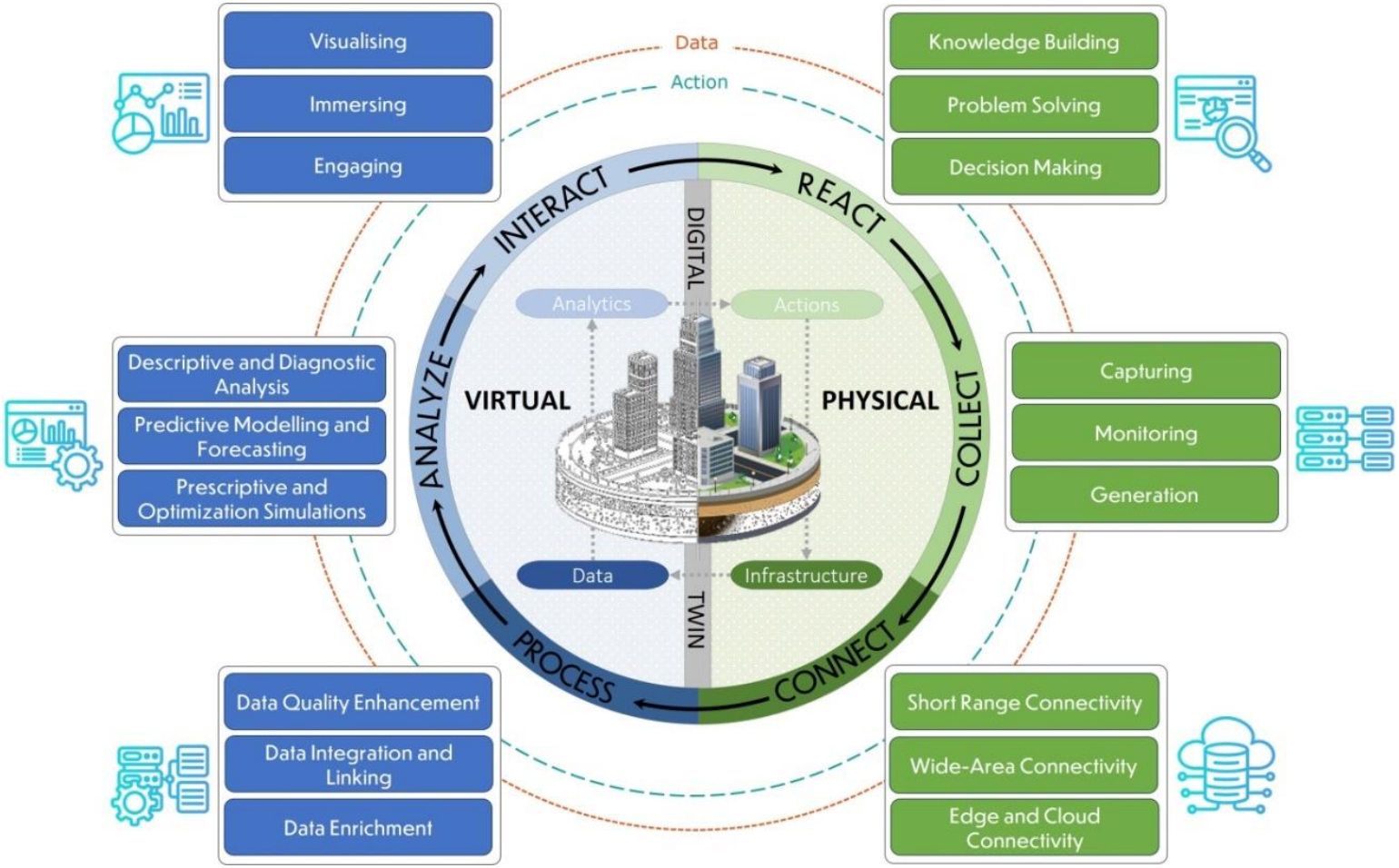
DIGITAL TWIN. LIFE CYCLE



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LDT CitiVERSE EDIC

in a nutshell

European Digital Infrastructure Consortium

- ✓ **Legal entity**
- ✓ **Multi-country** projects
- ✓ To create a **common & sustainable European infrastructure**
- ✓ To go **beyond research**
- ✓ To **avoid repetitions**
- ✓ To create a **solid EU ecosystem on SCC**

➔ **14 Member states**
➔ **2 in process of joining**
➔ **Cities**

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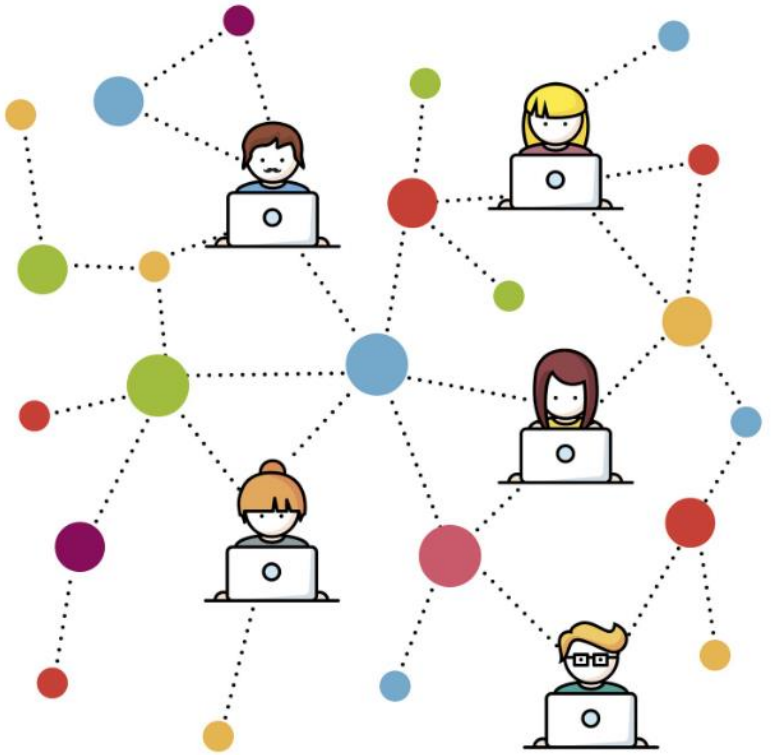
LDT CitiVERSE EDIC. With whom

- ✓ Synergies with other initiatives:
  - ✓ Living-in.eu
  - ✓ EDIH
  - ✓ Scalable cities
  - ✓ TEFs (AI)
  - ✓ National Networks: Innpulso, RECI
  - ✓ International Networks /Initiatives: U4SSC, Virtual Worlds, OASC, Smart Cities World…
- ✓ Associated partners



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How to evolve to a Citiverse Ecosystem?

Ecosystem view: physical + digital + human infrastructures.

Key features: interoperability, real-time responsiveness, citizen-centric design, scalability.

How Valencia is making the transition.

physical + digital + human infrastructures fully integrated, interoperable, adaptive, and citizen-centred.

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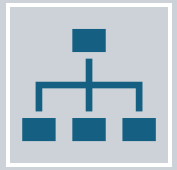
What we've learned (and still must address)



Integration complexity: organisational, technical, cultural.

Technology is enabler, but governance and participation are vital.

Scalability from pilots to city-wide operations.

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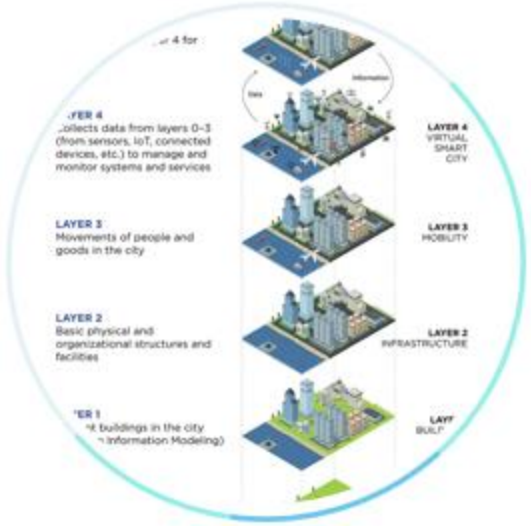
Looking ahead to 2030 and beyond

Valencia is already committed with Citiverse

We are deeply committed to the digital transformation of our city.

A leap into the Citiverse is necessary, but with a clear strategy and time

Need to work together



Shift to Citiverse offers better services, sustainability, inclusivity

Urban planning, Tourism, Net-zero emissions, green mobility, intelligent energy & water, citizen-first services.

Valencia aims to export its model, build around digital twin and AI-based simulations.

The cities of the future will face new challenges

The transition to the Citiverse is essential to proactively address the current and future needs of our citizens.

Developing a strategic framework that embraces the new paradigms of disruptive technologies represents the first step in this transformative journey.

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Keynote – From Smart City to Citiverse: Valencia Leading by Example

Thank you!