



**DIGITAL TWINS**  
**Visualize today**  
**Simulate tomorrow**

July 2022

## SIRADEL

- **Simulation Software developer**
- **Geographical Database producer**
- **3D City/Territory Digital Twins builder**
- **Smart City Platforms co-constructor**
- **An ENGIE company since 2016**

**Founded in 1994**

**180+ employees**

**7 offices (HQ in France, Toronto, Shanghai...)**

**300+ references in 60 countries**

**15% of revenues in R&D**



# SIRADEL'S DIGITAL TWINS A COMMON DATA REFERENTIAL & BEYOND

## SIRADEL DIGITAL TWIN APPROACH A UNIQUE COMBINATION OF :

- ✓ **GEODATA** - 3,000 3D cities worldwide, unique production capability with various Level of Detail
- ✓ **DATA** - infrastructures, flows, population, open & private data, alignment and integration...
- ✓ **SIMULATION, AI & ANALYTICS** - mobility, environmental, connectivity, energy, resilience...
- ✓ **DATAVIZ** - dynamic 2D/3D rendering, dashboarding
- ✓ **COLLABORATIVE** - Web solution
- ✓ **CLOUD** - native SaaS solution based on AWS, tailor-made deployment on any cloud environment



# SIRADEL'S DIGITAL TWINS USE CASES DRIVEN



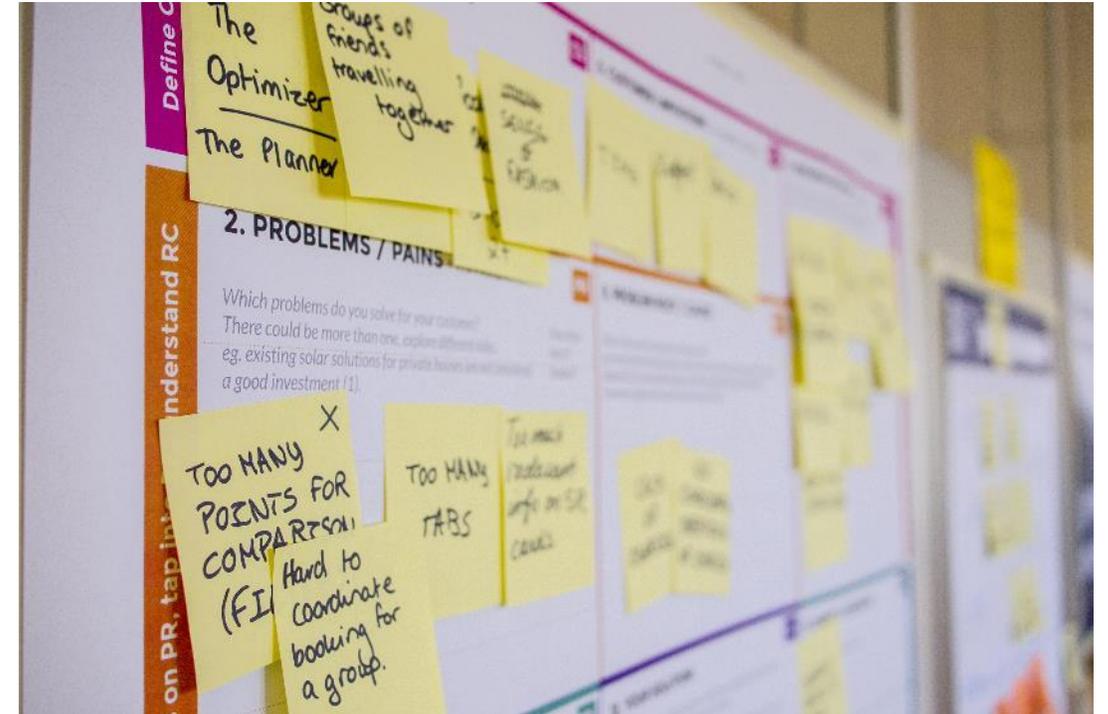
## USE-CASE & CUSTOMER NEEDS CENTRIC

- ✓ Support cities in their digital, environmental, economic, societal and resilience challenges.
- ✓ Assist our customer on their decarbonation path to becoming carbon-neutral
- ✓ Help sustainable urban planning
- ✓ Validating public policies and investments.
- ✓ Improving design & operation of urban services

# SIRADEL'S DIGITAL TWINS USE CASES DRIVEN WITH PROVEN METHODOLOGY

## A PROVEN METHODOLOGY

- ✓ End-to-end support, from the user needs definition to the development of real use cases
- ✓ Open solution, favor local ecosystems of partners & collaboration
- ✓ Data governance & privacy
- ✓ A specific internal & vertical expertise via our pool of Smart City Managers
- ✓ New business models



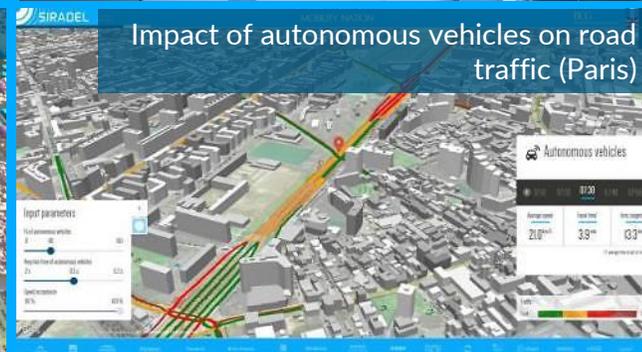
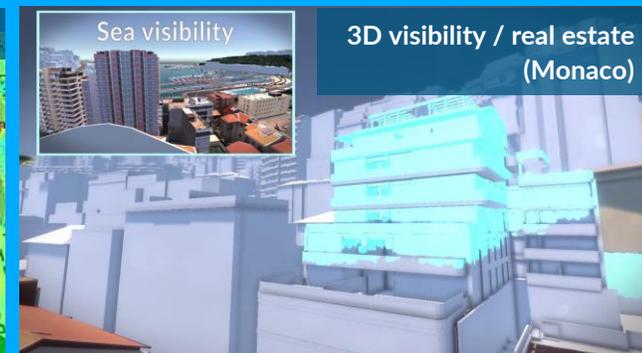
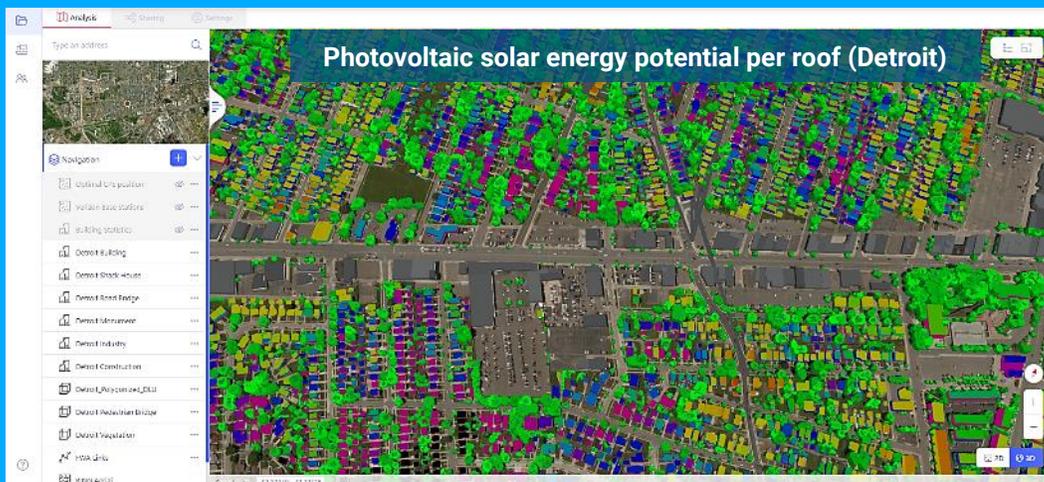


# SIRADEL SIMULATION CAPABILITIES

## SIMULATION SERVICES AI & URBAN INDICATORS

5G/IoT   CCTV   Air Quality   Carbon  
 Road traffic   Urban Heat islands  
 Public lighting   Photovoltaics   Noise  
 Soil permeability...

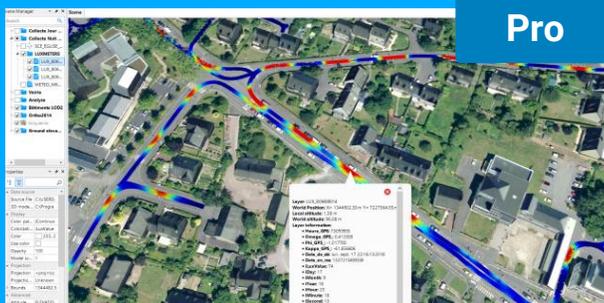
Ex. of KPI (ISO): % of routes covered by public transport services with sufficient connectivity to commuters



## Data Management - Visualization - Simulation

### ENGINEERING

Infrastructures design & planning



Pro

- Expert
- On premise or SaaS / SDK
- S\_Products plugins

### CO-CONSTRUCTION / CO-DECISION

Decision-makers, partners, citizens...



Web

- Expert & non-expert
- SDK
- Plugins

### COMMUNICATION



Media

- Multiplatforms
- Apps, AR, VR



## PORTFOLIO OF SOLUTIONS OR TAILOR-MADE DEVELOPMENTS

Energy and environmental impact

Adaptation to climate change & territorial resilience

Employment and economic attractiveness

Planning, development and real estate promotion

Quality of life, wellbeing and social inclusion

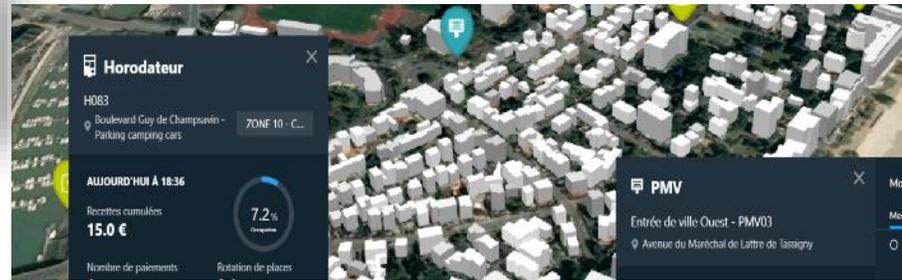
Public policies, transparency and communication

New mobilities (infrastructures and usages)

Management of major events

Population vulnerability & health

# FOCUS ON 3 SMART CITY PROGRAMS (ONGOING)



- The **biggest data concentrator** in Europe (8k+ data sets)
- **2,5 million of 3D buildings**
- PPP with **180+ partners to co-construct** digital services
- 20+ services for citizens, cities & companies
- **100K+ unique visitors** each month

- The **biggest smart city project** in France (180 million USD)
- City **hypervision** (9 connected infrastructures to the Digital Twin)
- Global performance contract
- 3D Digital twin **available from multiple platforms**
- **100 million € of saving over 25 years**

- Improve the operational excellence of Government actions:
- **hyper-realistic** 3D digital twin (cm)
- Ex. of use cases :
  - Planning and management of construction sites/road works
  - Nature in city
  - Exposure to EM field
  - Geothermal
  - Drone piloting assistance



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