HDS Smart City Solutions



Connected infrastructure for safer, more efficient and better informed cities

Integrated by HDS

One operating view connects city services and field infrastructure

HDS combines specialist systems without removing their operational independence.

MOBILITY

Traffic and parking

Traffic measurement, incident detection, parking guidance and public transport information.

SAFETY

Public spaces

Video analytics, defined risk zones, emergency communication and coordinated response.

ENVIRONMENT

Urban conditions

Air quality, weather, noise and other sensor data for operations and planning.

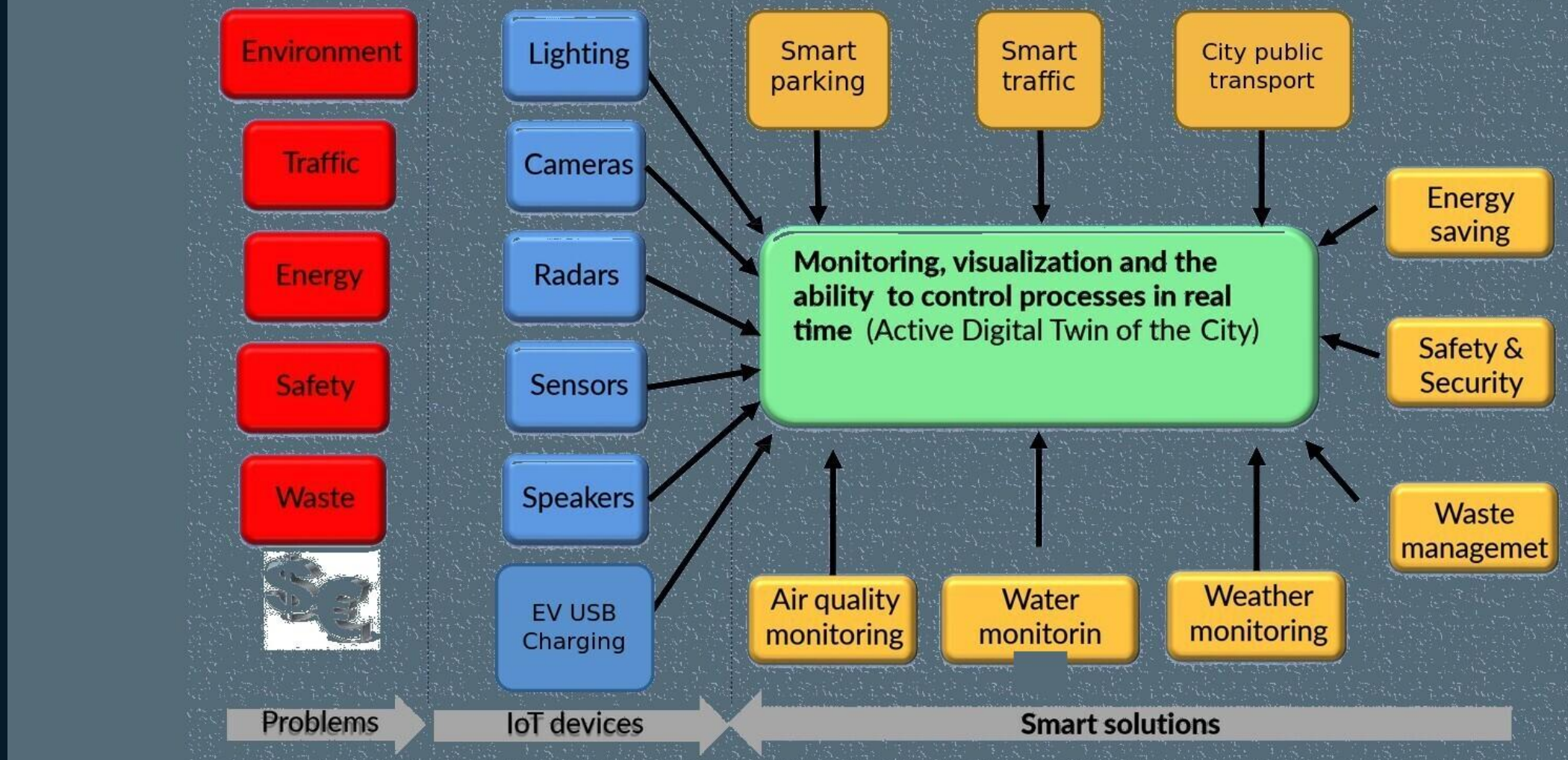
CITY SERVICES

Information and access

Interactive points, displays, controlled access and connections to municipal services.

A common data layer links events, locations and workflows across departments.

Solution system for connecting all systems in the Cities



Smart City services share a secure edge-to-cloud architecture

FIELD DEVICES	Cameras and radar	IoT sensors	Displays	SOS and access
EDGE LAYER	Detection	Local control	Recording	Protocol conversion
CONNECTIVITY	Fiber / Ethernet	4G / 5G	Wi-Fi / LPWAN	Secure VPN
CITY PLATFORM	Common map	Events	Data storage	Open interfaces
OPERATIONS	Control centre	Field teams	Public information	Planning

The architecture supports gradual rollout, local resilience and integration with existing systems.

The control centre turns distributed events into coordinated action

SITUATION

Live operational picture

Map layers, alarms, video, device health and service status in one view.

WORKFLOW

Verified response

Operators assess events, assign responsibility and record the response.

HISTORY

Search and reporting

Compare locations, periods, incidents and service performance.

INTEGRATION

Connected departments

Share selected events and data through controlled interfaces.



Public-space analytics focus attention on defined risks and unusual events



PROTECTED AREAS

Configured zones

Monitor streets, squares, crossings, parks and critical infrastructure according to local requirements.

EVENTS

Operational alerts

Detect intrusion, loitering, crowding, abandoned objects or other configured conditions.

VERIFICATION

Supporting evidence

Provide location, time, images and video so operators can verify the event.

PRIVACY

Controlled use

Apply access rights, retention rules and audit trails to operational data.

Traffic data supports safer roads and more predictable journeys

MEASUREMENT

Flow and speed

Count vehicles, classify traffic and measure speed, direction, occupancy and queues.

INCIDENTS

Automatic detection

Identify stopped vehicles, wrong-way movement, congestion and selected violations.

CONTROL

Operational decisions

Feed verified conditions to traffic control, field teams and roadside information.

PLANNING

Comparable evidence

Analyse recurring patterns and evaluate infrastructure or signal changes.



Connected public transport combines fleet visibility with passenger information

VEHICLES

Position and status

Collect vehicle location, route, schedule and selected onboard events.

PRIORITY

Conditional requests

Support public transport priority at selected intersections.

PASSENGERS

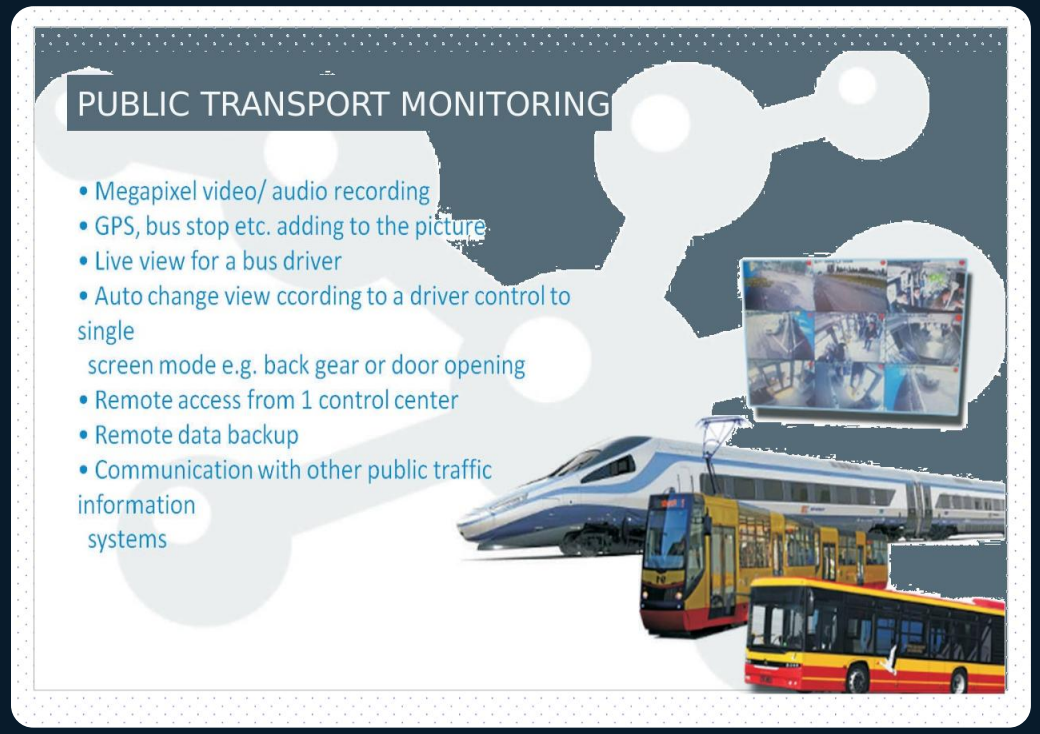
Consistent information

Publish arrivals, disruptions and diversions at stops and through digital channels.

OPERATIONS

Service overview

Compare adherence, delays, incidents and recurring route constraints.



Information points make city services visible where people need them

PASSENGER INFO

Real-time messages

Show departures, service changes, maps and emergency information.

WAYFINDING

Local orientation

Guide visitors to transport, parking, public offices and important destinations.

ACCESSIBILITY

Inclusive formats

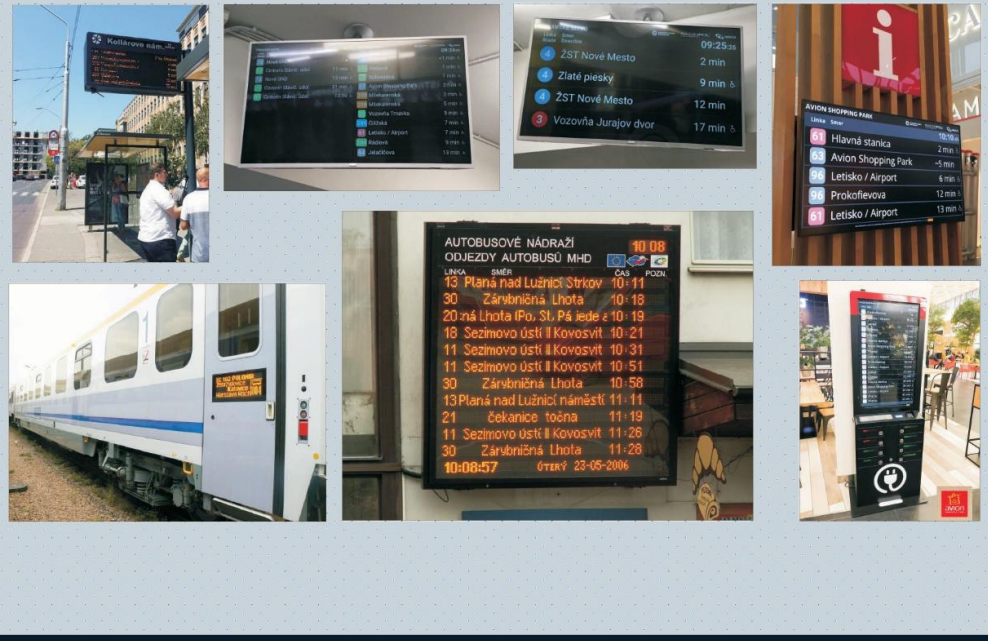
Support clear contrast, readable layouts, audio or tactile options where required.

REMOTE CONTROL

Managed content

Monitor display status and update authorised content centrally.

INFORMATION TABLE



Interactive city points combine information, navigation and selected transactions

CITY INFORMATION

Maps and local services

Provide transport, parking, events, municipal contacts and visitor information in one interface.

DIGITAL SERVICES

Connected transactions

Support ticketing, reservations, forms, payments or QR handoff when required.

MANAGED DEVICE

Operational control

Central content management, health monitoring, secure remote access and local fallback content.

The user interface and service set can be adapted to the location and target audience.

Parking information connects capacity, access and guidance

OCCUPANCY

Capacity by area

Measure available spaces by street, zone, floor or facility.

ACCESS

Entry and exit

Use licence plates, tickets, credentials or reservations for controlled lanes.

GUIDANCE

Clear directions

Update entrance, zone and indoor displays from current availability.

OPERATIONS

Rules and payment

Connect permissions, parking duration, payment and enforcement workflows.



SMART CITY

VISITORS, TRANSPORTATION & SMART STOP

Information points and connected public transport infrastructure



Automatic Incident Detection (AID) – Vehicle

Occupancy and Driver Monitoring

Accident Response

Monitor Passenger Safety

Efficient Multi-directional Coverage

Face Mask Detection Analytics

Illegally Stopped

AID Pedestrian in Danger



Graffiti Buster Recognition

People Counting

Smoke and Fire Detection

Perimeter Protection

Object Counting

Abandoned Object Detection

AI Intrusion Zones

3D Calibration

3D People Counting

SOS points create a direct communication path from public space to an operator

SMART CITY

SOS SOLUTION

Emergency communication for cycling routes, parks and public spaces





1 Request

A person activates the SOS point and starts voice or video communication.

2 Locate

The platform identifies the exact device, location and available camera context.

3 Respond

The operator provides assistance or escalates the incident to the responsible team.

Urban sensors provide local evidence for health, maintenance and planning

AIR

Air quality

Monitor selected gases and particulate indicators according to the installed sensor set.

WEATHER

Local conditions

Measure temperature, humidity, pressure, rainfall, wind or surface conditions.

NOISE

Acoustic environment

Track sound levels by location and time for trend analysis and event correlation.

INFRASTRUCTURE

Condition signals

Connect water, waste, lighting, cabinet or other municipal telemetry.

Sensor selection, calibration and maintenance determine the quality of the resulting city data.

Connectivity choices follow the service, location and operational risk

HIGH CAPACITY	Fiber	Industrial Ethernet	Private network
MOBILE	4G	5G	Managed router
IOT	LoRaWAN	NB-IoT / LTE-M	Sensor gateways
RESILIENCE	Local logic	Buffered data	Redundant links

Edge processing reduces latency and bandwidth use. Central services provide cross-system context, reporting and coordinated workflows.

Open interfaces keep Smart City data available to authorised systems

SOURCES	Mobility	Safety	Environment	Public services
COMMON SERVICES	Identity	Events	Maps	Historical data
CONSUMERS	Control centre	Department tools	Open data	Reports

DATA GOVERNANCE

Clear ownership and retention

Define responsibility, access rights, data quality, retention and audit requirements.

CYBERSECURITY

Segmented and maintained systems

Use device hardening, secure remote access, monitoring, updates, backup and recovery.

A phased Smart City programme connects quick wins with long-term architecture

1 Define

Confirm priority services, stakeholders, locations and acceptance criteria.

2 Pilot

Test a representative site and validate data quality and workflows.

3 Scale

Reuse proven designs, interfaces and operating procedures.

4 Operate

Maintain infrastructure, monitor performance and improve configurations.

HDS provides solution design, technology selection, installation, integration, commissioning and lifecycle support.