Smart and interconnected city
Smart cities live in the digital age, making sense of vast quantities of data to deliver high-quality services to their citizens — from security and transport to energy and environmental protection.

As urban areas grow, managing city services becomes more complex, and new generations of connected citizens have higher expectations than ever before. Today, cities can tap into the huge volumes of information and data generated every day to better understand what their citizens want and deliver the services they need.

With a more joined-up approach to urban management and a wider choice of services available, local authorities can make cities better places to live and work, attract new business, drive economic growth and enhance the quality of life of their citizens.
Supporting the urban transformation

“Through better coordination, smart cities optimise their infrastructure and services to drive sustainable development, meet economic goals and improve quality of life for citizens in a connected world.”

Growing urban density
- 50% of the world’s population living in cities, rising to 70% in 2050
- 2% of Earth’s land surface occupied by cities

Pressure on resources
- Lack of space in urban areas
- Funding constraints

Congestion on urban road networks
- Increased air pollution
- Costs due to longer journey times

Smart cities improve quality and performance in all areas
- Economy
- Mobility
- Environment
- Attractiveness
- Quality of life
- Resilience
- Administration

1 - Source: UN
2 - Source: Institut Bruxellois pour la Gestion de l’Environnement
Highly connected city

Many municipal services still operate independently of each other. Today they need to share key information and analyse huge quantities of data to make our cities more efficient. Thales has developed tailored solutions that help all the stakeholders in the urban transformation — from security services and transport operators to public agencies, healthcare and energy providers — to work together as a network and share their resources.

“Smart City operation management”

Thales provides city authorities with the tools they need to operate as high-performance data hubs, helping them to manage movements of people, optimise logistics and respond in real time to incidents and crisis situations. With timely access to relevant information, decision-makers can anticipate events and assign resources as required. Thales solutions help city authorities to deliver services efficiently, empower citizens to interact with their environment and transform the urban space into a more attractive place to live and work.

**Urban Computing**

Urban computing is a process of acquisition, integration and analysis of data from multiple sources in urban spaces, such as sensors, IoT, vehicles, buildings and people.

Citizens themselves have a crucial role to play, and they need simple ways to communicate and interact with the city authorities.
“Drawing on its system integration capabilities, Thales develops intelligent solutions that complement and coordinate legacy systems and are tailored to the needs and priorities of each city.”

**BENEFITS**

- Improved operational efficiency of all city services
- New services tailored to citizens’ needs
- Decision support with centralised information and analysis tools
- Enhanced ability to anticipate, detect and respond to incidents and crisis situations
- Better planning and management of large-scale events
Leveraging and protecting valuable data

The success of a smart city hinges on the ability to interconnect the various urban systems, collect, analyse and interpret the information they generate, and share it intelligently while ensuring data security and integrity.
Leveraging and protecting valuable data

Innovative analysis tools

With so many sources of information — system hardware, applications, sensors, connected objects and users — smart cities must be able to handle huge volumes of data.

The Thales range of Big Analytics solutions analyse, correlate and interpret the data collected from all these sources, giving decision-makers the reliable, context-sensitive information they need to understand the world around them and make the right decisions quickly.

Transforming vast quantities of raw data into useful insights and critical information helps city authorities to operate more efficiently, optimise their processes and organisation, anticipate and adapt to situations as they unfold, and manage and share resources intelligently.

Data protection

Smart cities are exposed to a wide array of risks, including sabotage, theft of personal data, service disruption and disinformation, all of which have the potential to damage their infrastructure and downgrade their services. To counter these threats, cities authorities need to implement an appropriate security policy. They need secure, resilient information systems that protect user privacy, guarantee data integrity and ensure continuity of operations.

Thales is a major player in IT security with a focus on mission-critical systems. From cryptology to penetration testing, risk analysis, security audits, design of security architectures and rapid response in the event of an attack or crisis situation, Thales expertise spans every aspect of cybersecurity, critical information systems and resilient networks.
As well as high-level solutions that coordinate multiple systems and stakeholders, Thales offers dedicated responses to two key aspects of smart cities today: security and mobility.

Safer cities

The future of our cities depends on their ability to guard against and deal with security issues. Urban resilience is an imperative as cities address a vast array of risks and threats, from terrorist attacks to organised crime and climate-related disasters. The challenge they face is to share information rapidly between public agencies, law enforcement, security services, emergency services and essential operators and build the common operational picture they need to respond effectively.

Thales offers an urban security platform that seamlessly interconnects systems such as videosurveillance cameras, image analysis and geographic information systems with automated process management, alarm management, response management and secure communications. Thales proposes an integrated approach to urban security based on real-time information sharing between all players — including citizens, so they can alert the emergency services easily when necessary. By pooling operational capabilities, this approach helps the city authorities and other operators to respond more quickly and effectively to emergency or crisis situations.

Integrated, scalable solutions:
- Big analytics
- Crisis management systems
- Management of security services
- Mobile command and control systems
- Applications for mobile response units
- Videoprotection and sensor systems
- Video image analysis
- Applications for citizens
Citizens on the move

Mobility is a key component of the smart city concept. To make cities more attractive and more competitive, urban authorities and transport operators need to make travel easier for commuters, improve the quality of the services they provide, and support the objectives of sustainable development.

Drawing on the expertise of its ground transportation businesses, Thales leverages every source of mobility data, from operational control centres to fare collection systems for the various modes of transport: metro, tram, bus, car parks and road networks. As an integration specialist, Thales offers solutions that interface with the legacy systems in place to better regulate urban transport flows. Thales innovations for mobile users include a navigation app incorporating data from all public and private transport operators. In the event of an incident or crisis, the systems deployed by Thales enable authorities and users to share information immediately for more efficient coordination of response teams and improved citizen safety and security. These solutions result in significant improvements in operational efficiency for transport operators while reducing overall costs, helping them deliver a safer and more intelligent transport network and a better passenger experience.
Key references

**Mexico City - Mexico**

Urban security solution and emergency response management for a megacity of 22 million people. In seven years of operation, crime rates are down by almost 50%.

**Auckland - New Zealand**

Multimodal fare collection solution for train, bus and ferry, which also manages and distributes ticket revenue to participating transport operators.

**Brisbane - Australia**

Large-scale event management system.

Free-flow road tolling system with automated license plate recognition and toll collection to improve traffic flows on urban and intercity routes.

**Marseille - France**

Passenger information service for metro, bus and tram, with mobile app, dynamic displays at bus and tram stops and real-time traffic information portal.

Use of Big Analytics tool for urban security.

**Strasbourg - France**

Large-scale event management solutions, with integration of traffic control system and urban security.

**Toronto - Canada**

Use of Big Analytics tool to help transport operators analyse passenger flows and improve services, such as new lines, adaptive train frequencies, customised pricing structures and tailored station advertising.
**Why Thales?**

- Tailored, cohesive solutions based on a **detailed understanding of the needs and priorities** of city authorities and operators.

- **Direct involvement in every phase of the project**, from design concept to deployment and through-life support.

- **Multi-agency, multi-operator coordination** for more efficient services and better environmental performance.

- **Secure solutions** based on modular, scalable Service Oriented Architectures.

- **Expertise in system and service integration** with new and legacy infrastructure and applications.

- **Proven experience in design and deployment of innovative city-wide security and transport solutions.**

- **Record of successful partnership with innovative SMEs and research institutes.**