

# The Smart Cities Handbook

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**Defining Smart Cities,  
benefits, services and  
ICT approach**

**- Excerpt -**



A truly Smart City can increase efficiency, productivity and sustainability whilst improving quality of life in a world of increasing population density and urban complexity. A connected city - or assets - collects, analyses and shares data from, for example, vehicles, healthcare equipment, wearables, building management systems and city infrastructure such as lighting.

The result: efficient operations, improved environmental sustainability, new business opportunities, better governance and a host of differentiating services that will appeal to a variety of stakeholders. Connectivity and integration of a wide variety of platforms and systems are essential to unlocking the potential value of a Smart City.

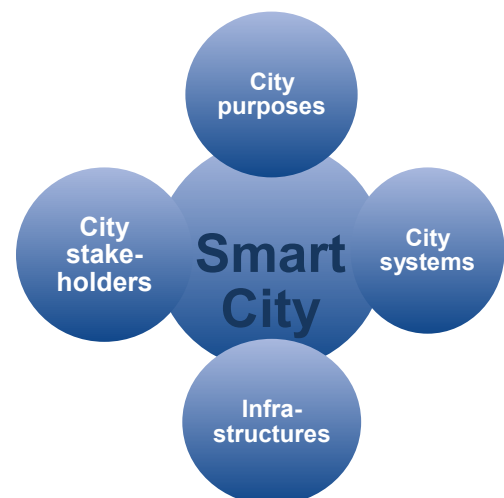
In the Smart Cities Handbook, the major factors involved in design, rollout, ongoing development and IT requirements are covered. The Smart Cities Association examines four main thematic areas:

- The definition of Smart Cities
- The benefits of Smart Cities
- The deployment of Smart Cities
- The ICT approach

## 1. The definition of Smart Cities

A 'Smart City' is a city in which the ecosystem has been 'enabled' by connecting its sectors and services to a platform of applications. Smart Cities are defined by digital transformation. This should adhere to a national roadmap, considered mandatory for successful implementation and transformation to a Digital Smart City.

The Smart City solves many challenges related to growing population and urbanization. This growth isn't limited to today's expanding cities: urban services and behaviours are spreading to larger geographical territories. Several fiber-equipped cities have made vast advances in tackling related issues whilst enhancing residents' quality of life.



## 2. The benefits of Smart Cities

A Smart City can help increase productivity, ecological awareness and overall efficiency. Integration with different systems can leverage and expand their existing benefits. However, several elements need to be in position before this can take place.

Effectively developing ICT maturity allows cities to transform people's quality of life and economic prospects. However, a 'Smart' approach can also solve a number of potentially serious economic, societal and health-related issues. However, technology should not be introduced for its own sake. There needs to be a clear link between a specific problem and a technological solution. Taking a specific technology or platform as a starting point, instead of first analysing the actual needs might introduce severe limitations in the future.

## 3. The deployment of Smart Cities

A Smart City is built up of several layers, each serving a distinct purpose. The integration between these layers, each of which introduces specific demands and considerations, is essential to the overall success of the Smart City.

Smart City services rely on devices equipped with sensors and actuators and networked, physical objects, bridging the physical and the digital worlds. The Internet of Things and Digitalization are key drivers behind Smart Cities that must, therefore, be built on a strong, reliable communication network. There's a greater need for bandwidth, flexibility and access points, greater cabling and flexibility. A high-speed, high-capacity, low-latency fiber-optic network can act as the foundation for current and future applications and services.

## 4. The ICT approach

ICT is a key enabler of smart, sustainable solutions is transforming cities around the world. However, these solutions will only bring enduring benefits if they are embedded in a long-term, city-specific vision and strategy.

Based on several tried-and-tested approaches, user cases and best practices, we have developed a four-step framework approach to developing, implementing or adapting a Smart City project: Define, Organize, Engage, Improve.

These four steps span everything from Defining a city-specific vision to introducing 'Smartness' through networked governance and coordination across multiple areas, communicating a consistent vision across complex governance and stakeholder ecosystems and continuously learning from experiences and peers.

In each of these areas, a number of recommendations, critical success factors, focus points and best practices have been developed, which are highlighted in the document.

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