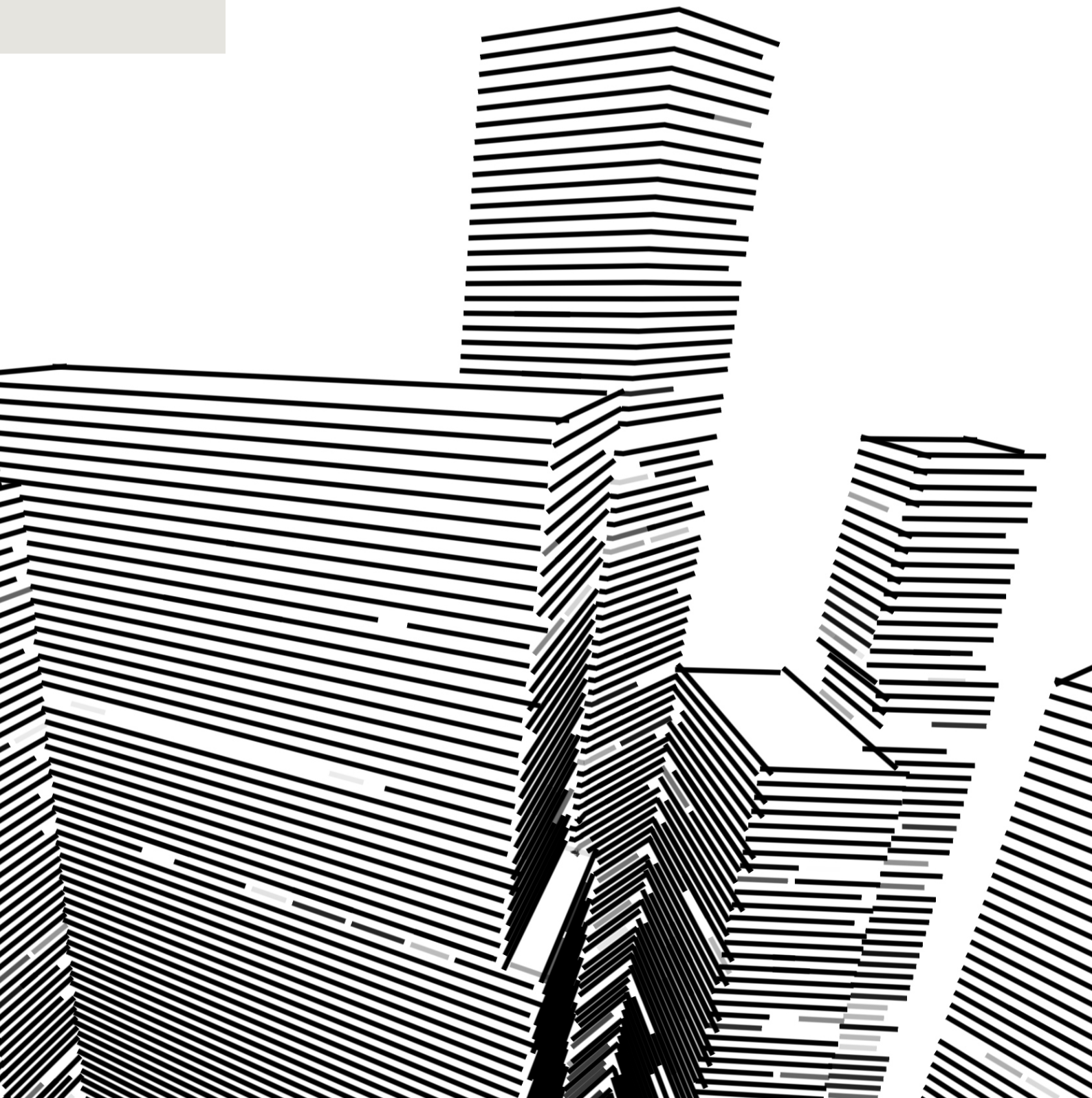


Smart Cities

iso360.io resource



Smart cities use information and communication technology (ICT) to improve operational efficiency, share information with the public and provide better quality of government service and citizen welfare. Using different types of electronic methods and sensors, they are able to collect specific data – this can be used to manage assets, resources and services to improve operations across the city. Its main aim is to optimise how the city functions to promote economic growth whilst improving the daily life of its residents.

The city's smartness can be determined by characteristics including:

- The infrastructure based around the technology
- Environmental ingenuity
- Efficient and more functional public transport
- Assured and continuing city plans
- The ability of society to work within the city, using its own resources

The city can only be dependable on by its citizens if communication between the private and public sectors can build strong relationships. This means if they fail to work together the structure of the city can easily fall apart, and therefore it is vital that everyone's interests for the city align.

How it works

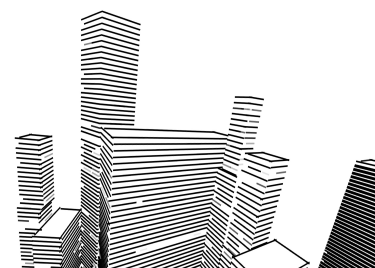
Four manageable steps allow the government to improve the way of life for everyone in the city, encourage economic growth, and allow expansion in all areas, especially in technological sectors.

Collection – smart sensors gather real time data, the daily actions of people and how the average person's day is structured around the city

Analysis – data is analysed to gain insight into city services and operations, seeing where they are effective and where they lack in efficiency

Communication – the results of data analysis are transferred to decision makers (those in power)

Action – improvements are put in place to better operations, manage assets and enhance the quality of life of its residents



The technology used

The internet of things (IoT) is the main method of delivering connected solutions to the public. This is a network of connected devices that communicate and exchange data, this data is stored in the cloud or on multiple servers and is further reviewed for developments to be made in both the private and public sectors.

Alongside IoT solutions, other technologies include:

- Application Programming Interfaces (APIs) – software that allows two applications to communicate with each other.
- Artificial intelligence – the ability for a computer to think and learn to complete tasks typically done by people
- Cloud Computing Services – delivery of computing services including servers, databases, software, analytics and intelligence
- Dashboards – a visual display of all your data to provide information at a glance, that receives details from a linked database
- Machine Learning – a subsection of artificial intelligence, which is the capability of a machine to imitate intelligent human behaviour
- Machine-to-machine Communications – used for automated data transmission and measurement between mechanical or electronic devices
- Mesh Networks – a group of connectivity devices that act as a single network

Why are smart cities needed?

Because of the nature and goals of smart cities, the urban environment can provide a very high quality of life for its residents; arguably the most important reason for them, as well as generating economic growth.

Decreased infrastructure costs are becoming increasingly vital as the population in urban areas skyrockets. The efficiency of a smart city means infrastructure costs are heavily cut whilst value of assets soar. As well as improving the way its residents circulate, it creates new streams of revenue, therefore adding to the growth of the economy.