

ROAD

Smart Cities Domain

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Smart Cities



- SmartCity is a concept that appeared around two decades ago
- **70 percent** of the world's population will live in cities by 2050
- Cities consume **75 percent** of the **world's energy** and produce **80 percent** of its **greenhouse gas emissions**
- By 2050 the number of **people over the age of 60** is expected to triple
- Smart Cities require more than just technological solutions; they must be **human-centric** and built for the sustained, optimal livelihoods of their inhabitants



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- **CPS benefits:** CPSs can boost the smart city vision by using information and communication technologies for more efficient and effective resource management
- **Challenges in Europe:** standardisation; interoperability; platforms; human factor; open data; security and privacy; policy changes; financial aspects

Domains in a nutshell



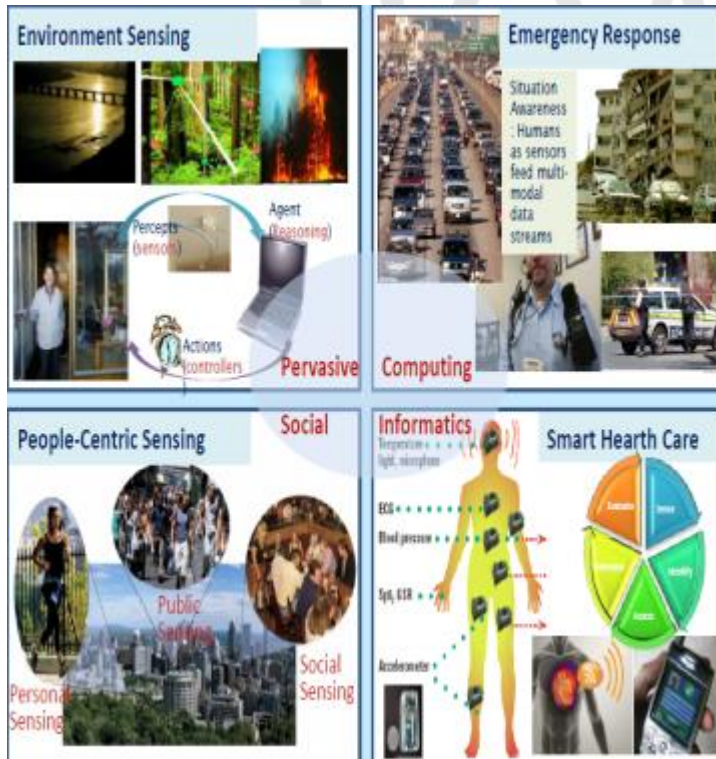
Governments, organizations, and technology industries are rising to the challenges of **increased urbanization**, working to **improve urban life** by offering improved **efficiencies** (e.g. energy utilizations or services)

CPS will contribute by:

- Transforming the way we live
- Driving economic prosperity
- Underpinning security
- Enhancing societal well-being
- Users can bet their life on

Smart cities can be seen as wide-scale cyber-physical systems, with sensors monitoring cyber and physical indicators and with actuators dynamically changing the complex urban environment in some way

CPS benefits in a nutshell



- CPS allows to better manage resources and therefore, reduce costs
- Smart Cities represent a set of global solutions for cities whose deployment involves a set of technical and technological needs, but it is also a process that is linked to human factors
- CPSs often support real life processes and provide operational control of Internet of Things objects, which allow physical devices to sense the environment and modify it.

Additional dimensions: CPS enable ubiquitous technologies and applications. CPS allow responsive, secure, reliable and efficient systems

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CPS

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