

2015

Safe City: Industry Overview



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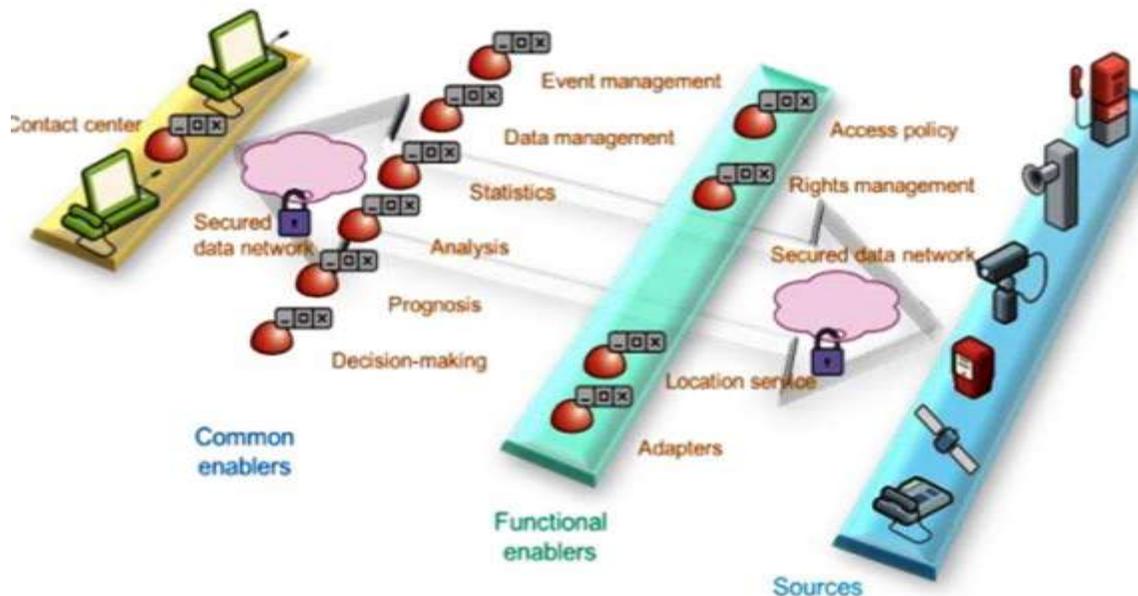
1 Key Facts

- ❑ Urban Crime, terror and natural disasters have long been recognized as a major challenge to sustainable cities, and have a significant impact on quality of life and economic development.
- ❑ The existence of large cities continues to dominate the urban landscape. This phenomenon is expected to expand further. Mega-hubs are shaped primarily in the following forms:
 1. **Megacities** which have a minimum of ten million inhabitants such as Greater London, New York, Metropolitan Paris, Shanghai, Sao Paulo
 2. **Mega Regions** which combine with suburbs to form regions such as the combination of Johannesburg and Pretoria with the surrounding suburbs to create a population of over 15 million
 3. **Mega Corridors** which connect two major cities or mega regions such as Hong Kong-Shenzhen-Guangzhou in China (Population 120 million)
 4. **Towns** which have a population of up to 0.5 million
 5. **Neighborhoods, Communities & Suburbs**
- ❑ For the first time in human history, as many people now live in cities as in rural areas
- ❑ By 2030, 60% of the world's population will live in cities – in what is defined as “The Urban Century”.
- ❑ With a third of all urban dwellers living in ghettos, slums, favela, rapid urbanization is also reshaping the family, the school and the community
- ❑ Ensuring safety and security of citizens in cities is one of the key challenges for governments, mayors and policy makers. "Safe City" is an open and reliable solution that provides a variety of integrated operational services for a highly complex operational chain and effective deployment, not only at an individual level of a municipality, but also integration into a single, government structure. "Safe City" with its single set of information-management tools, offers a multi-dimensional coverage for complex and multi-functional operational tasks, a diversity of integrated systems (video surveillance and video analytics, chemical control, emergency communications, public address and general alarm, media, etc.) and support for a sustainable expansion of the present and future services (e.g., eCall, connection of public objects, telephone notification).
- ❑ A safe city solution builds a comprehensive and intelligent view of what happens in the city by unifying and integrating various events and

contextual information from heterogeneous information systems into a single information space by visualizing such information and opening communications with other systems.

- ❑ The decision-support subsystem makes it possible in its automatic mode to estimate the parameters of the system as a whole and respond efficiently to changes in the operational environment. "Safe City" is a future-oriented solution that is prepared for further adaptations according to the market and regulatory needs.

Figure 1 - Safe City ICT Flow

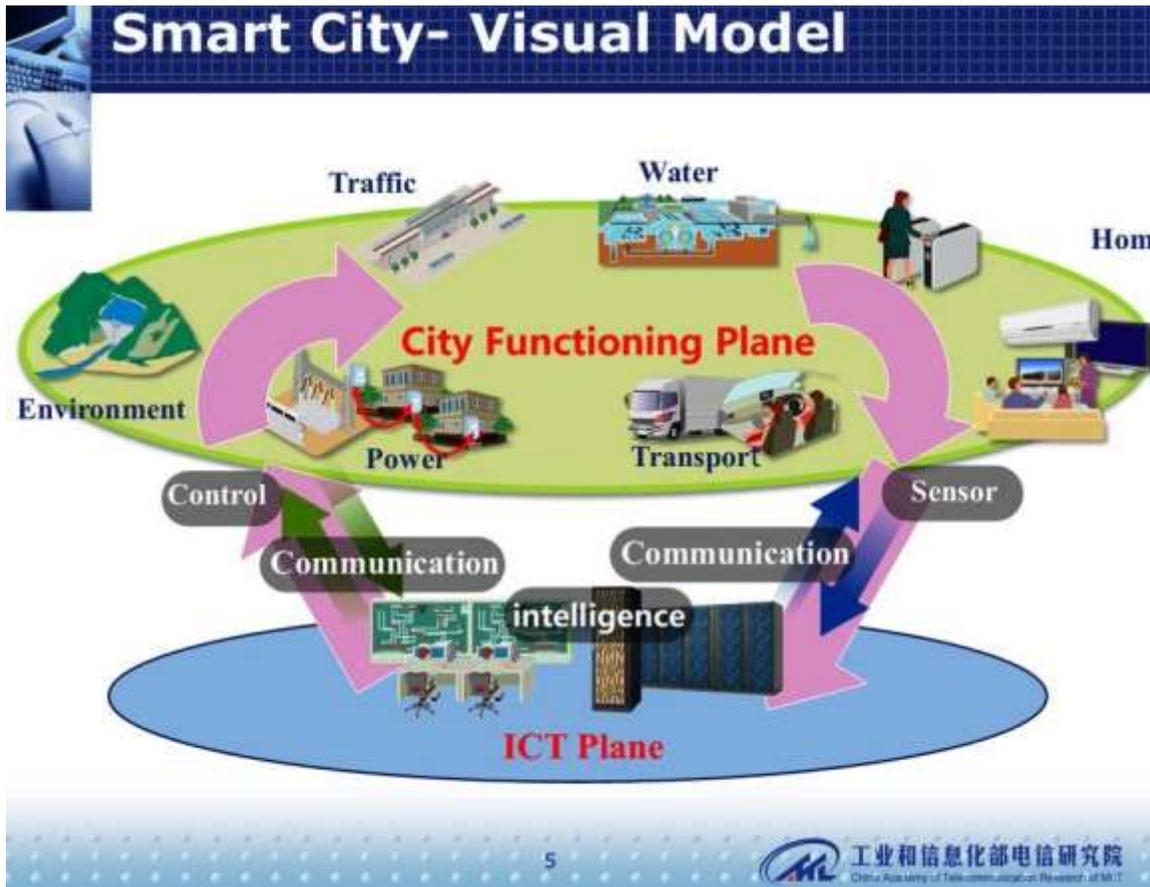


(Source: F Vitalij et al)

- ❑ The real-time safe city concept is actually real! The increasing deployment of sensors and mobile devices in recent years has set a new approach to the implementation of the secure municipality. The way we describe and understand cities is being radically transformed alongside the tools we use to design them and impact on their physical structure.
- ❑ To combat terrorism, crime and other threats, municipalities must gather intelligence they can put to use. With today's technology, city officials can access a massive amount of information—however, not every piece of information is relevant or helpful. They must sift through incoming data to glean those crucial insights that help them anticipate an incident, respond effectively and quickly take action.

- ❑ Today's towns, cities and metropolitan areas feature incredibly vast and varied infrastructure serving millions of people. They are continuously vulnerable to threats and events, driven by crime, terror, and natural disasters. Such threats and events pose significant risk to the safety and well-being of citizens. To handle these enormous responsibilities, law enforcement, public safety, and intelligence agencies can consider a more comprehensive approach that includes new synergies between early warnings and real-time situations providing a complete cycle for intelligence, evidence, response, investigations, and de-briefing.
- ❑ The emergence of advanced ICT and sensors technologies enables the implementation of Safe Cities. Huge communication and sensor networks across cities enable first responders, law enforcement bodies and other city agencies to address citizen safety to gather large amounts of data interpret it and react efficiently. Greater interoperability allows technologies and networks to be linked and advanced analytics provides departments with the data they need to make effective decisions. Unmanned Autonomous Systems are beginning to emerge as a viable surveillance solution in countries with a positive legislative framework.
- ❑ Today's situation management technology provides needed intelligence by gathering and making sense of incoming data from up to hundreds of disparate sensors and platforms, such as social media, license plate recognition, video surveillance and analytics, and more.
- ❑ By integrating this vast amount of information into one cohesive, easy-to-use platform, situation management technology helps enable cities to gain real-time insights into a wide range of incidents and situations, improve investigation efficiency, help enable seamless cooperation among departments and various other entities, and allow video surveillance to be used to its full potential.
- ❑ In addition, city officials can proactively identify security problems and emergency situations before they develop—which helps save lives when every second counts.

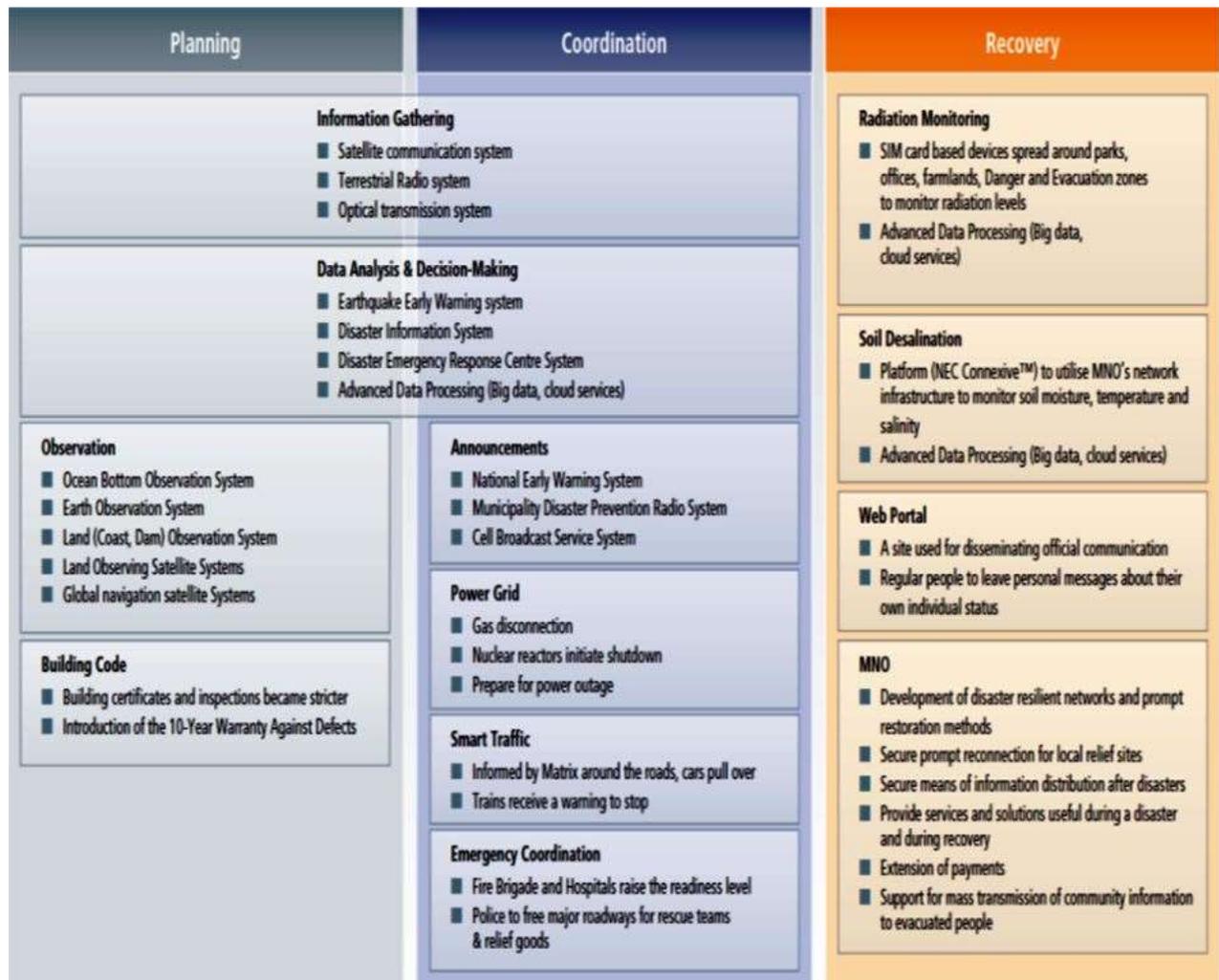
Figure 2 - Smart City Concept (China)



(Source: Ministry of Industry and Information Technology (MIIT), China)

- ❑ A minor interference in any of the city infrastructure operations (e.g., flood containment, cybersecurity traffic control, energy supply, mass transportation) turns into an exponential sized event, resulting in financial loss and security issues. This role of reducing and handling unforeseen security and safety events is increasingly making city authorities the key players in supporting national security, a function that was done in the past by governments.
- ❑ As city agencies strive to protect cities from a wide range of threats, many are turning to integrated Safe City technology to achieve situation awareness, as well as enhance decision-making and speed response.

Figure 3 - Safe City Disaster Recovery Functions



- ❑ Throughout the world, Safe City initiatives help to protect residents from crime and terrorism, as well as environmental disasters and other unforeseen events. By integrating the various systems and devices employed by different agencies throughout a city, collaborative technologies and shared networks not only better protect residents, but they also help improve the effectiveness of every agency and help eliminate common inefficiencies.
- ❑ This is a new market milieu given the various players from different industry sectors competing in this market as well as fragmented purchasing processes of other scales and environments. In short, mega-contractors entering the safe city marketplace will have to bring new business models, associations and alternate ways of creating a compelling ROI to the safe city customers.

- ❑ Intelligent, real-time alerting and real time responses: consolidates information from many different systems to provide intelligent, real-time alerting and streamlined responses. City-wide video surveillance can be seamlessly combined with public and private video management systems (VMSs) and accessed through one interface, allowing surveillance centers to significantly expand their intelligence assets and reach. In addition, gunshot detection, License Plate Recognition (LPR), weather systems, emergency/mass notification, traffic systems, and GIS can also be integrated. GIS integration for example, enables video cameras, sensors, and other assets to be overlaid on the same map to give operators a better visual picture of unfolding situations. Surveillance center personnel get complete information about an event and can manage events from one system. Responses are also streamlined through automatic correlation (e.g. between gunshot detection and video) and smart resource assignment based on specific resource attributes such as availability, skills, and location.
- ❑ First responders collaboration: Through Computer-Aided Dispatch (CAD) integration, a safe city system ICT enhances collaboration between city surveillance centers and Public Safety Answering Points (PSAPs), enabling them to share information during emergency situations. For example, in the event of a serious accident or shooting, a 110 dispatcher could access live video feed from a city surveillance network and provide additional details to first responders.
- ❑ The safe city concept integrates a wide range of interconnected disciplines such as risk management, crisis management, emergency management, continuity management, recovery, disaster management and resilience. In addition, safe city covers a range of integrated activities including anticipation, assessment, prevention, protection, mitigation, preparedness, response, and recovery before, during, and after a disruptive incident.
- ❑ Implementation of Safe City infrastructure affects the view of the public on the city and on the municipal politics and it will also have significant financial implications as it may limit the capability of the city to grow and prosper.
- ❑ Once a safe city system is deployed, the municipality can enjoy the added value of utilizing it to drive economic development by upgrading it to a Smart city level which attracts business investment, provides municipal services and ultimately improves quality of life for residents. Moreover, the same system that is ideal for safe city deployments offers compelling revenue-generating opportunities such as traffic control, transportation security, automatic meter reading, e-services for citizens and more.

Figure 4 - Safe City Situation Awareness



- ❑ Safe City contracts are long-term contracts typically in excess of one year and up to five years. In general, long-term contract awards have historically been in excess of \$20 million and have been entered into with municipalities, cities and governments. These long-term contracts are further defined by agreed-upon detail specifications that outline defined stages. Completion of a defined stage represents basic service and products delivered, such as the installation of specified surveillance, command & control systems and safety systems in defined locations within the project area. Stages are typically planned to be completed over defined three to six-month periods. Each stage represents a discreet, defined phase of the total contract for which completion can be readily determined. On completion of a stage and upon customer inspection, verification and acceptance of the work performed, the prime contractor recognizes revenue as the agreed-upon fixed price for the installation work completed in the respective stage including a warranty reserve.
- ❑ The Chinese government promulgated the “Safe City” (or “Plan 3111”) initiative which requires 650 cities throughout China to install and operate street surveillance via government-recommended Safe City vendors.

- ❑ Safe City industry revenues include four primary operating segments:
 1. Installation
 2. Manufacturing
 3. Distribution
 4. Service & Upgrade

More information can be found at:

[Global Safe City: Industry, Technologies & Market - 2015-2020](#)