Smart City Development in Indonesia and Asian–African Nations
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Hi, all of IEICE members and general readers of IEICE Global Plaza! I would like to overview the fundamental scheme and global activities of Smart City where I have been devoted to take the initiative of the social innovation in Asian–African region. I believe that the Smart City will be one of the driving forces for the worldwide improvement of life quality of citizens. I am grateful if this article would be useful for your academic activities, directly or indirectly and the future fruitful global collaborations.

Urgent Problem: Overpopulated Cities

The current distribution of the world’s population is having a tendency to move into city areas, thus causing the cities to change into highly populated areas, in some cases even making them overpopulated. For instance, in this 2015, more than 50% of the world population live in the cities, while, in 1955 when The Asian-African Conference was held for the first time, the rate of the world cities’ total population was around 30% of it in average (Fig. 1). The urgent problem at that time was to promote the unity and solidarity between the newly-independent nations, therefore to strengthen them to be developed and self-sustaining countries.

![Urban population trend](image)

Fig. 1 World trend of urbanizing population (from the data of UN 2014)

Sixty years have passed after the first Conference was held, and now the urgent problem has shifted. There are plenty of cities in Asian–African countries facing multi-aspect problems that directly affect their citizens: Severe traffic jams, unregulated street vendors, low supply on energy, waste processing, and even high criminality rates have haunted the sustainability and comfort of the cities.

An imbalance of life quality has come out between an efficient, advanced, comfortable and safe city, and a city that is still facing such aforementioned classic problems (Fig. 2). Quite many cities have been built without balancing the real supporting capabilities of a city with its requirements or its capacity.

Thus, it is necessary to explore and develop the well-defined city governance to provide appropriate services within its goals and roadmap, even under pressure from other parties covering business, politics, or other sectors’ interests. Some concepts about a well-planned city including green city, livable city, digital city, have been introduced by several industries that would be active in this business area.

In this sense, the smart city is also a concept which strives to seek solutions to the city’s problems comprehensively. Several multinational organizations, mainly based on EU or in USA, have proposed a measurement model or a model of a smart city itself. In answering such global trend and adapting it to the needs of Indonesia, Bandung Institute of Technology (ITB) in collaboration with the nation’s foremost media group “KOMPAS” (http://www.kompas.com/), currently performs a nationwide smart city measurement.

City Anatomy

A city can be stated as one of systems intertwined with the underlying systems in many ways. As an example, all of transportation system, commerce system and waste management system are connected each other, sometimes in ways that cannot be comprehended through the usual observation.

To unravel this connection between the systems that make a city, there is a multinational organization called “City Protocol Society” that proposes a city anatomy which categorizes a city into three main parts: Structure, Interaction and Society. The Structure can be further divided into three layers which are environment, infrastructure and physical structures. The Interaction can be further divided into livelihood and informational context. The Society is consisted of citizens, industries and government (Fig. 3).

With the proposed city anatomy, an action or a decision made by the government in managing and operating a city can be truly justified. The capacity of resources to support positive human

![City anatomy breakdown](image)

Fig. 3 City anatomy breakdown (Source: City Protocol Society)
activity can be ideally measured, while self-interests of a party can be set aside to provide a greater good. For example, it will be expected to preserve the environment in a sustainable way.

**Smart City Concept**

What is called as a “smart city” is a city that is able to optimally manage its resources to provide the comfort, safety and sustainability for its development. Even if a smart city cannot be separated from intensive implementations of state-of-the-art information and communication technology (ICT), the effectiveness of such technologies’ implementation depends on how far the implemented technology can help solve the city’s problems proportionally.

The good governance practice (GGP) would have the highest significance in a successful smart city, because smart and accurate executive decisions need to be made and carried out to create a comfortable and sustainable city. The accurate decision making and smart governance were done through the real understanding about the current problems, requirements and opportunities happening in a city. In a more practical way, however small the implementation of ICT will be, it will still support the improvement in the effectiveness of city governance.

**Garuda Smart City Maturity Model**

In Indonesia, ITB has developed the maturity measurement model of a smart city, called by “Garuda Smart City Maturity Model” or GSCMM in short (Fig 4). This measurement model consists of three enabling parameters, and three clusters that can characterize a city. The three enabling parameters are human factor, governance, and technology, while the three clusters are environment, social and economy, respectively.

The environment cluster consists of energy management, city planning, and environmental preservation efforts. Main parameters of the social cluster include security and safety, health and hygiene, public services and transportation. The economy cluster can be measured with human resources capability, education, economic growth centers and industry management.

**Announcement**

*Let’s Join English Session BS-6 in 2015 IEICE Society Conference*

2015 IEICE Society Conference will be held at Tohoku University in Sendai, Japan, on September 8–11, 2015. The English Session BS-6 entitled “Network and Service Design, Control and Management” will be organized by Technical Committee on Information Communication Management (ICM) of IEICE Communications Society and provided during the Conference.

**Topics of interests**: Network, Service, Wireless or Optical issues

**Paper length**: 2 pages in principle (one page is acceptable as well)

**Proceedings**: To be published and quotable through I-Scover

**Paper submission deadline**: 17:00, July 1, 2015

(See it at [http://www.toyoag.co.jp/ieice/BS_5_top/e_s_top.html](http://www.toyoag.co.jp/ieice/BS_5_top/e_s_top.html))

**Message from TFIPP Secretariat**

This issue is delivered also by a free mail magazine “IEICE Global Plaza on Line” with updated news of interest for you. Please contact Prof. Takahashi, TFIPP (Task Force for International Policy and Planning) at global@ieice.org, if you need. Back numbers are available in archives at [http://www.ieice.org/eng/activities/ieice_global_plaza.html](http://www.ieice.org/eng/activities/ieice_global_plaza.html)

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**Note by the Editor, Prof. Kenzo Takahashi**

The author, Prof. Suhono has taken the global initiative of Smart City development and set up the Asia–Africa Smart City Summit on the occasion of the 60th Anniversary of Bandung Conference, remembering the initiatives taken by the great world leaders. This article will encourage the general readers, above all, younger generation who will be involved in the socio-economic development through evolving ICT.

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