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Mushrooming Smart Cities in ASEAN Countries and the Risk of Unhealthy Multi-actor Competition

Masaaki OKAMOTO
(Professor, Center for Southeast Asian Studies, Kyoto University)

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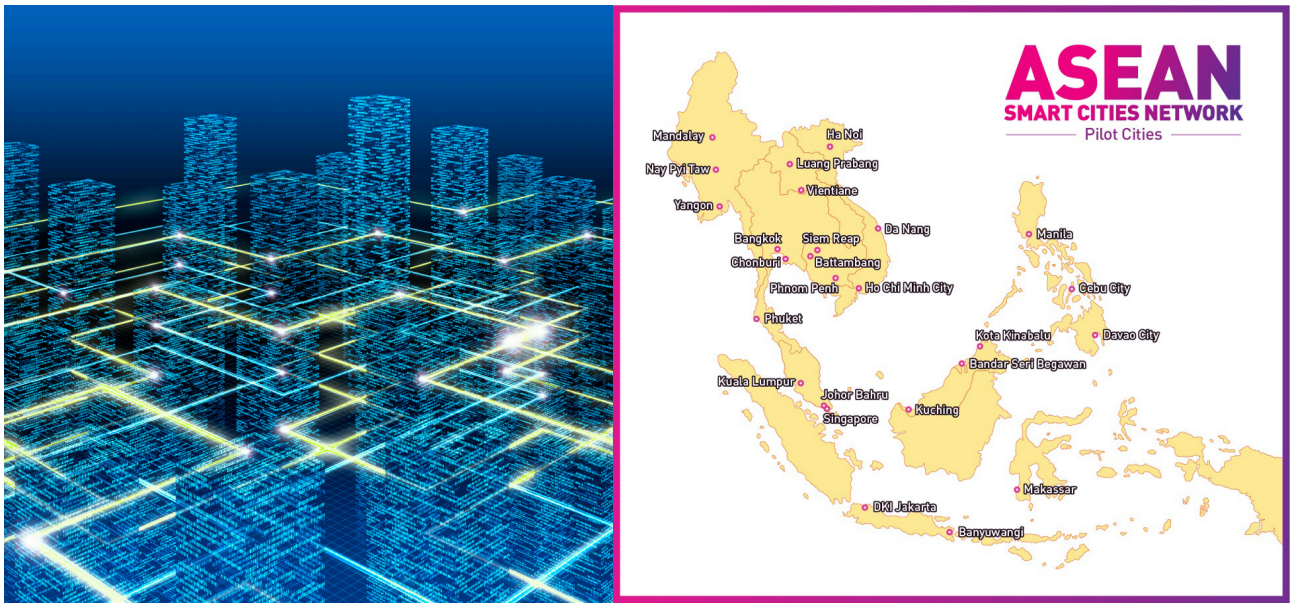
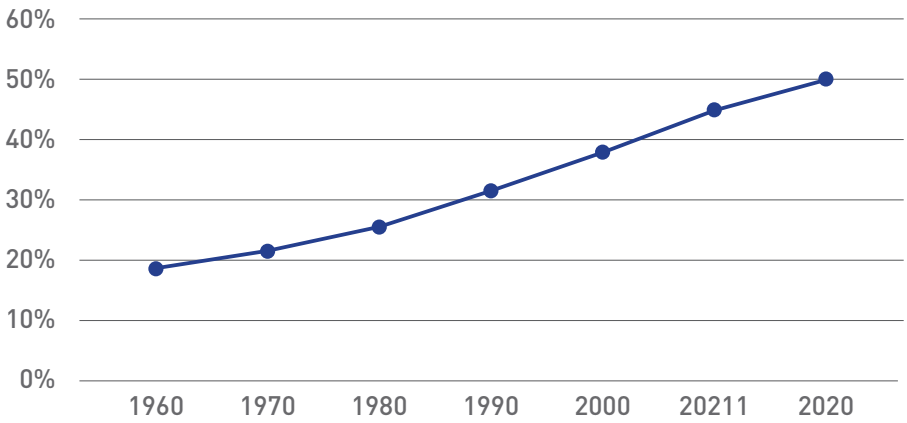
1 The term “ASEAN countries” refers to ten ASEAN member states (Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam).



Left/ https://www.aflo.com Right/ ASEAN Smart Cities Network(https://asean.org/our-communities/asean-smart-cities-network/)

The smart city concept is now emerging as a panacea for various urban issues in both developed and developing countries, and ASEAN cities are no exception. The region has enjoyed continuous economic growth, and urbanization in ASEAN has not been limited to national capitals and their surroundings, such as the metropolitan areas of Bangkok, Manila, and Jakarta, but has spread across ASEAN countries. With the growing number of small- and medium-sized cities, half of the total population in ASEAN is now living in urban areas (see Figure 1 below). ASEAN metropolitan areas are facing severe and diverse urban issues such as heavy traffic jams, mountains of trash, air pollution, floods, ground subsidence, high crime rates, and widespread drug consumption. The deepening and spatial expansion of urbanization has caused these issues to spread to other areas in these countries. As a result, urban governance has emerged as one of the most pressing and urgent issues to address across the region. In this context, the "smart city" idea has emerged as a technologically rational solution to these issues, and rapid digital transformation (DX) has fostered the feasibility of smart city creation in Southeast Asia.

Figure 1: Urban Population Rates in ASEAN Countries (1960-2020)



[Source: World Bank 2018[2]] .

2 World Bank, Urban Population: World Development Indicators, 2018, http://data.worldbank.org/indicator/SP.URB.TOTL (accessed November 1, 2021).

Google, Temasek, and Bain & Company reported in 2019 that Southeast Asians are the most engaged mobile Internet users globally. There are 360 million Internet users in the region, and 90% of them connect to the Internet primarily through their mobile phones. Powered by these fundamental changes in consumer behavior, the Internet economy continues to grow at an unprecedented pace. It soared to 100 billion USD for the first time in 2019, more than tripling in only four years. Simultaneously, e-commerce and ride-hailing services continue to beat the most optimistic predictions; online media and online travel also continue to grow steadily, with ample room to expand further. By 2025, the Internet economy is expected to grow to 300 billion USD[3]. Moreover, the COVID-19 pandemic accelerated this trend as Southeast Asia saw a surge in Internet use. Compared to other regions, Southeast Asians appear to be the most hooked to the net [4].

The definitions and characteristics of smart cities vary, but the utilization of information and communications technology (ICT) for urban governance is the core of any definition of smart cities[5]. In that sense, cities and other urban areas in Southeast Asia might be suitable candidates for implementing the smart city concept as the future urban governance model. After describing the emergence and development of smart cities globally and in ASEAN, this paper considers the possible risks associated with the smart city creation in Southeast Asia. The risks discussed here are not limited to rising surveillance power, the decline in the quality and value of democracy, the acceleration of neoliberal inequality, the loss of rights to a city, or the total neglect of informality[6] in the envisioned smart city[7]. Instead, the focus of this study is on the risks related to the international and multinational dimensions of smart city creation in the ASEAN context, following the line of argument such as that of Ekman (2019)[8] in a broader global context. The ambiguity and versatility of the smart city concept allows any country and company, irrespective of its regime, ideology and strategy, to promote smart city visions, policies, and practices to smart city candidates. Thus, without its own strong vision and technological perspective, a smart city candidate might receive anything "smart" from various actors and faces severe financial difficulty to maintain the smartness. Or a smart city space tragically turns itself into the space of global conflict and compartmentalization.

3 Google, Temasek, and Bain & Company, *e-Conomy SEA 2019: Swipe Up and to the Right: Southeast Asia's $100 Billion Internet Economy,* 2019, Temasek and Bain & Company, https://www.thinkwithgoogle.com/intl/en-apac/consumer-insights/consumer-trends/e-conomy-sea-2019-swipe-up-and-to-the-right-southeast-asias-100-billion-internet-economy/ (accessed October 29, 2021).

4 We Are Social, *South East Asia: Digital Life Intensified,* 2021, https://wearesocial.com/sg/blog/2021/03/southeast-asia-digital-life-intensified/ (accessed October 29, 2021).

5 Hollands, Robert. G., "Will the Real Smart City Please Stand Up? Intelligent, Progressive or Entrepreneurial?", *City,* Vol. 12. No. 3, 2008, 303-320; European Parliament (Directorate-General for Internal Policies), *Mapping Smart Cities in the EU*, 2014, 21-23, http://www.europarl.europa.eu/RegData/etudes/etudes/join/2014/507480/IPOL-ITRE_ET%282014%29507480_EN.pdf (accessed November 8, 2021); Townsend, Anthony M., *Smart Cities: Big Data, Civic Hackers, and the Quest for a New Utopia*, WW Norton & Company, 2013, 15; Halegoua, Germaine R, Smart Cities, The MIT Press, 2020, 4-5.

6 Informality means an umbrella term for a variety of unregulated human activities that go under the radar, stay above or beyond the low, or circumvent the law through loopholes. Informality is quite normal in Global South, especially in the urban areas. The smart city concept tends to conceptualize a city without due attention to this informality. See the Global Informality Project on informality (https://www.in-formality.com/wiki/index.php?title=Global_Informality_Project).

7 Green, Ben, *The Smart Enough City: Putting Technology in Its Place to Reclaim Our Urban Future*, The MIT Press, 2019; Greenfield, Adam, *Against the Smart City: A Pamphlet*, Do Projects, 2013.

8 Ekman, Alice, *China's Smart Cities: The New Geopolitical Battleground*, 2019, https://www.ifri.org/sites/default/files/atoms/files/ekman_smart_cities_battleground.pdf (accessed November 10, 2021).

Smart City: Emergence and Development

Broadly speaking, the idea of a smart city comes from the two urban planning concepts or ideas: technology-driven planning and New Urbanism. The first city that pursued computer-assisted data and policy analysis for urban problems might have been Los Angles in the late 1960s. The LA government established a Community Analysis Bureau that used computer databases, cluster analysis, and infrared aerial photography to gather data and produce reports on neighborhood demographics and housing quality[9]. The basic assumption behind this approach is that technology and data analytics can solve the urban issues effectively.

Then, in the 1980s, the concept of Smart Growth was developed within the framework of New Urbanism with the aim of improving the urban environment and the quality of life in cities by promoting communitarian ideas and limiting urban sprawl, land consumption and the proliferation of forms of development inspired by the logic of the automobile and personal mobility. The idea of Smart Growth is, therefore, a new planning strategy aimed at making cities more compact, less greedy and less land-consuming[10].

These two concepts were subsequently merged to be conceptualized as a "smart city". When the term "smart city" itself first appeared in the mid-1990s, however, it was mainly used in self-congratulatory ways, according to the analysis of the English-language international newspapers by Söderström and Klauser[11]. The cities labeled themselves as "smart" when they introduced functioning ICT infrastructure or e-governance or attracted high-tech industries to foster economic growth.

The actual start of the current smart city narrative originated in the business sector. In 2006, Cisco, a rising computer networking product company, participated in the Clinton Global Initiative launched in 2005 by President Bill Clinton. The company supported the initiative by starting the Connected Urban Development Program (CUD) in 2006 to utilize ICT and help reduce carbon emissions and improve energy efficiency in cities with a pledge of 15 million USD for five years[12].

IBM began embryonic smart city projects in 2008. IBM faced difficult times in the 1990s and the early 2000s, losing the competitive edge in hardware design and production, and thus decided to concentrate on consultancy and software. Senior IBM staff conducted a study in the early 2000s and identified cities as a vast untapped market with the estimated profit of 35.9 billion USD by 2016. Based on this possible huge profit from cities, IBM created a vision of smarter cities[13] and started the smarter cities campaign in 2009. The two critical elements of the campaign are 1) full-scale contracting for city governments and 2) pro bono consultancy by experts in 100 municipalities. This campaign paid off, generating some 3 billion USD of income and representing 25% of IBM's operations[14]. A visually impressive expression of a smart city is the creation of the "Operations Center." The first center was created in Rio de Janeiro, Brazil, in late 2010, gathering data from 30 agencies to coordinate city governance[15]. The

9 Vallianatos, Mark, *Uncovering the Early History of "Big Data" and the "Smart City" in Los Angeles*, 2015, https://boomcalifornia.org/2015/06/16/uncovering-the-early-history-of-big-data-and-the-smart-city-in-la/ (accessed November 4, 2021).
10 Vanolo, Alberto, "Smartmentality: The Smart City as Disciplinary Strategy," *Urban Studies*, Vol. 51. NO. 5, 2014, 886-887.
11 Söderström, O., Paasche, Till, and Klauser, Franciso, "Smart Cities as Corporate Storytelling," *City* Vol.18. No. 3, 2014, 310.
12 Villa, Nicola, and Wagener, Wolfgang (Cisco Internet Business Solutions Group), *Connecting Cities: Achieving Sustainability Through Innovation: An Overview of the Connected Urban Development Plan. Witten Specially for Connected Urban Development Global Conference 2009*, 2008, 5, https://www.Cisco.com/c/dam/en_us/about/ac79/docs/innov/Connecting_Cities_Sustainability_Through_Innovation_IBSG_1021FINAL.pdf (accessed November 4, 2021).
13 Dirks, Susanne, and Keeling, Mary, A Vision of Smarter Cities: How Cities Can Lead the Way into a Prosperous and Sustainable Future, 2009, https://www.ibm.com/downloads/cas/2JYLM4ZA (accessed May 21, 2021).
14 Söderström, O. et. al., "Smart Cities as Corporate Storytelling," *City* Vol.18. No. 3, 2014, 311-312.
15 Singer, Natasha, "Mission Control, Built for Cities," *The New York Times*, March 4, 2012, 1.

data are visually projected at the large display in front.

Seen as a promising market with a big potential, other prominent companies also joined the bandwagon and promoted smart city projects in different cities worldwide. For example, in 2009, Cisco launched a holistic blueprint called "Smart + Connected Communities." While the previous CUD program was limited to the environmental dimension by promoting innovative practices using ICT to reduce CO2 emissions in cities, the new program's aim was far broader, delivering innovative and sustainable models for urban planning and economic development[16]. In 2005, General Electric introduced two new concepts: Ecomagination and Healthymagination. Siemens opened the first center for sustainable urban development called the Crystal in London in 2012, presenting it as a showcase for the Siemens' version of the smart city[17] and promoting the cloud based IoT operating system, MindSphere, to make cities smart. Meanwhile, Ericson uses the term "connected city" to merchandise its smart city-related solutions, while Oracle named its initiative the City Platform Solution[18]. Chinese companies have also rushed to join the smart city boom, and Alibaba is a leading company for smart city creation in and beyond China. Japanese companies such as NTT Data, Hitachi and Toyota have also been involved in different smart city projects in and outside Japan. After Yokohama city started the smart city project in 2010, various stakeholders established Yokohama Urban Solution Alliance (YUSA) to provide solutions to urban issues in developing countries and to export Yokohama City's urban solutions as a smart city package.

Major countries also saw the smart city concept as viable city planning and geared up to start their own smart city projects. Cities in the EU countries, such as Barcelona in Spain and Amsterdam in the Netherlands, have been going smart since the 2000s. Barcelona has hosted an annual Smart City Expo World Congress since 2011. The EU has been intensely engaged with smart city creations. In 2011, the European Commission (EC) launched the European Initiative on Smart Cities as part of the Strategic Energy Technology Plan. The following year, the EC launched Smart Cities and Communities European Innovation Partnership[19]. With these initiatives, the idea of smart city has become widespread in Europe. In fact, as of 2014, 240 (51%) of the cities with more than 100,000 residents in EU28 countries implemented or proposed smart city initiatives, and almost 90% of cities with over 500,000 inhabitants were "smart"[20].

Several cities in the US also started smart city projects in collaboration with the private sector, while the National Institute of Standards and Technology started IoT-oriented programs - the Smart America Challenge in 2013 and the smart-city-oriented Global City Teams Challenge in 2014. The federal government under then US President Barack Obama also launched the federal "Smart Cities" Initiative with USD 160 million investment in 2015.

In Asia, South Korea was one of the first countries to start a smart city project in the 2000s. Since 2003, ubiquitous computing has gained interest from academia, industry and policymakers, and the agenda of a ubiquitous city called U-city emerged in the political arena in 2004. The term "u-city" refers to an envisioned futuristic city that

16 Villa, Nicola, and Mitchell, Shane (Cisco Internet Business Solutions Group), *Connecting Cities: Achieving Sustainability Through Innovation. White Paper*, 2010, 3, https://www.Cisco.com/c/dam/en_us/about/ac79/docs/innov/Connecting_Cities_Sustainability_Through_Innovation_IBSG_1021FINAL.pdf (accessed November 4, 2021).

17 Siemens, "Siemens Opens Urban Development Center - The Crystal - in London," Press Release, September 19, 2012, https://press.siemens.com/global/en/pressrelease/siemens-opens-urban-development-center-crystal-london-worlds-largest-exhibition (accessed November 7, 2021).

18 Rondon, Marcio, Egydio S., Fonseca, Fabio L., Maximo, Andre., Costa, Felipe M., Macía, Isela, Rodrigues, Paulo G., and Blois, Marcelo, "An Industry Perspective on Smart Cities: A Smart City Process Framework", Proceedings of the 40th Integrated Software and Hardware Seminar, 2013, 298-300, https://sol.sbc.org.br/index.php/semish/article/view/16964 (accessed October 30, 2021).

19 Mosannenzadeh, Farnaz, "Smart Energy City Development in Europe: Towards Successful Implementation," Ph.D. Dissertation, The University of Trento, 2016, 3.

20 European Parliament (Directorate-General for Internal Policies), *Mapping Smart Cities in the EU*, 2014, 9, http://www.europarl.europa.eu/RegData/etudes/etudes/join/2014/507480/IPOL-ITRE_ET%282014%29507480_EN.pdf (accessed November 8, 2021).

offers a high quality of life for residents in terms of security, welfare and technology. In u-city environments, virtually everything is linked to an information system through technologies such as wireless networking and radio frequency identification (RFID) tags[21]. Moreover, the Korean government enacted the Act on Ubiquitous City Construction in 2008.

China has made efforts to digitalize and informatize cities since the late 1990s, using the terms "Digital Cities" and "Information Cities" in the mid-2000s, and "Smart Cities" in 2009[22]. Based on this development, President Xi Jinping raised the smart city as a part of the national development strategy in 2015, and the concept "New Smart City" has been used since the mid-2010s for the adoption of IoT, cloud computing, pervasive mobile networks, and big data systems to improve the level of intelligence and automation in urban planning and governance[23]. Since then, the central government has massively encouraged the development of smart cities across Chinese territory and claimed to have 500 smart city pilot projects either ready or under construction as of January 2019[24]. Major IT companies, BATH (Baidu, Alibaba, Tencent, and Huawei) have aggressively joined these projects.

In Japan, smart city projects were initiated by local governments and the private sector circa 2000. However, these initiatives were sectoral and independently implemented without strong horizontal and vertical coordination. In 2019, the central government showed a strong will to promote the smart city in Japan[25] and it created a new term, “Super City,” and enacted the Super City Act in 2020. There is no significant difference between a “smart city” and a “super city” except that the super city concept seemingly emphasizes the people's participation and the will to create a futuristic city as a whole. Furthermore, the government received proposals from 31 local governments collaborating with private companies to transform their cities into super cities by 2030.

Smart City in ASEAN

Smart city initiatives have seen rapid proliferation across regions not limited to the Global North but also the Global South[26]. The governments of ASEAN countries have also launched smart city projects. The first official government initiative came from Singapore’s city-state. In 2012, the Singaporean government collaborated with Siemens for digital transformation. Siemens implemented the City Cockpit project in Singapore to ensure that all available data, results, possible influencing factors, and causal relations are to be recorded, analyzed, and used to arrive at a holistic picture of the inner workings of the city[27]. Furthermore, in 2014, the prime minister, Lee Hsien Long, gave a speech "Smart Nation: Better Living, More Opportunities, Stronger Communities", emphasizing the

21 Shin, Dong Hee, and Kim, Tayang, “Enabling the Smart City: The Progress of U-City in Korea,” *ICUIMC ’12: Proceedings of the 6th International Conference on Ubiquitous Information Management and Communication*. article No. 105, 2012, 1-7.

22 Digital cities policies foucesd on the geographic systems (GIS), global positioning systems (GPS) and remote sensing (RS) to expand the range of data available to government policy makers. Information cities focused on infomatizing cities by bringing a wider range of existing government systems such as those for municipal administration and urban infrastructure, into the digital age, including those systems with information technology and modernizing telecommunication infrastructure (Atha et. al. 2020: 14)

23 Atha, Katherine, Callahan, Jason, Chen, John, Drun, Jessica, Francis, Ed, Green, Kieran, Lafferty, Brian, McReynolds, Joe., Mulvenon, James, Rosen, Benjamin, and Walz, Emily, *China’s Smart Cities Development*, Research Report Prepared on Behalf of the U.S.–China Economic and Security Review Commission, 2020, 12-16, https://www.uscc.gov/research/chinas-smart-cities-development (accessed May 17, 2021).

24 Ekman, Alice, and Picard, Cristina de Esperanza, *Towards Urban Decoupling?: China’s Smart City Ambitions at the Time of Covid-19*, Brief 10. Luxemburg: Institute for Security Studies, 2020, https://www.iss.europa.eu/content/towards-urban-decoupling-china’s-smart-city-ambitions-time-covid-19 (accessed November 8, 2021).

25 The Japanese Cabinet. 2019. Integrated Innovation Strategy 2019. The Cabinet Decision on. Accessed on June 21, 2019. https://www8.cao.go.jp/cstp/togo2019_honbun.pdf. Accessed on November 8, 2021.

26 Joss, Simon, Sengers, Frans, Schraven, Daan, Caprotti, Federico, and Dayot, Youri, “The Smart City as Global Discourse: Storylines and Critical Junctures Across 27 Cities,” *Journal of Urban Technology*, Vol. 26. No. 1, 2019, 3.

27 Siemens, *Cooperativity in Motion: Networking Is Key to the Traffic of the Future*, 2013, 6, https://assets.new.siemens.com/siemens/assets/api/uuid:e6d4f0d6ac7b3df9ee402860dc234cd52c7ee4c7/cooperativity-in-motion-en.pdf (accessed November 8, 2021).

importance of further digital transformation and aiming to digitize all aspects of urban life in Singapore[28].

In Indonesia, the democratization and decentralization that started in 1998 has provided more opportunities for local government initiatives supporting good governance. Moreover, the central government promoted local initiatives. The two large cities of Bandung and Jakarta initiated smart city projects in 2015. Many other cities followed suit, and the central government started the 100 smart city building movement in 2017. The Thai government mentioned smart cities in the 20-year vision of Thai society, Thailand 4.0, in 2017 and created a Thailand Smart City Committee in 2018, aiming to create more than 100 smart cities and three world-class smart cities by 2022. In Vietnam, in 2015, the prime minister issued the decision to create at least 3 smart cities by 2020, and the Minister of Information and Communications issued the "ICT Fundamental Guidelines for Building Smart Cities in Vietnam" in 2018[29]. Meanwhile, although the Philippine government has no comprehensive policy on smart cities, it began transforming the ex-US military base at Clark to a smart city called New Clark City in 2016.

All these developments clearly demonstrate that ASEAN countries suddenly showed strong interest in smart city creation in the 2010s. The ASEAN also played a role in promoting smart city development in ASEAN countries by creating the ASEAN Smart Cities Network (ASCN) in 2018. Singapore initiated this network building as the host of the 32nd ASEAN summit. The ASCN is a collaborative platform for cities in ASEAN to achieve the common goal of smart and sustainable urban development with 26 cities chosen as pilot cities ranging from provincial cities to global and urban hubs[30]. Singapore aims to achieve the hegemonic position as an already "smart" city-nation and to export the "Singapore-model" or Singapore-designed technocratic "smart" solutions to other pilot cities by providing technopreneurs and start-ups with access to a broader ASEAN market[31].

It is true that the city of Singapore appears to be an inspiration for smart city projects in ASEAN countries. For example, the then Governor of Jakarta, Basuki Cahaya Purnama expressed the desire to make Jakarta comparable to Singapore in terms of infrastructure and technology in the 2017 gubernatorial election campaign. An executive on the Philippines' Smart City Project, New Clark City said blatantly that we are building a city that's like Singapore[32]. However, it is unlikely that Singapore companies can play a hegemonic role in smart city creation under the ASCN. International donors, countries, and companies have come to the ASCN and potential smart cities in the ASEAN. At the inaugural ASCN meeting in July 2018, the Japan External Trade Organization (JETRO) and the United Nations Development Program (UNDP) concluded a memorandum of understanding (MOU) to jointly support the ASCN[33]. Four months later, the United States concluded the US-ASEAN Smart City Partnership. In June 2019, China organized the China-ASEAN Smart City Cooperation and Exchange Conference (co-hosted by the Nanning Municipal Government and ASEAN-China Centre). Four months later, Japan held the 1st ASEAN-

28 Loong, Lee Hieng, *Speech at Smart Nation Launch*, November 24, 2014, https://www.pmo.gov.sg/Newsroom/transcript-prime-minister-lee-hsien-loongs-speech-smart-nation-launch-24-november (accessed November 8, 2021).

29 Le Duy Tien, "Building Smart Cities in Viet Nam", *4th Asia-Pacific Regional Forum on Smart Sustainable Cities and e-Government*, 2018, https://www.itu.int/en/ITU-D/Regional-Presence/AsiaPacific/Documents/Events/2018/ssceg2018/Presentation%20and%20Bio/Session1_Vietnam%20Presentation.pdf (accessed June 15, 2022)

30 Kong, Lily, and Woods, Orland, "Scaling Smartness, (De)Provincialising the City? the ASEAN Smart Cities Network and the Translational Politics of Technocratic Regionalism," *Cities*, Vol. 117, 2021, 1.

31 Jie, Woo Jun, "What Does the ASEAN Smart Cities Network Mean for Singapore?," *Today*, May 13, 2018, https://www.todayonline.com/commentary/what-does-asean-smart-cities-network-mean-singapore (accessed November 9, 2021).

32 Mouton, Morgan, "Worlding Infrastructure in the Global South: Philippine Experiments and the Art of Being 'Smart'," *Urban Studies*, Vol.58. No.3, 2021, 630.

33 JETRO, *Exchange of MOU with UNDP Regarding SDGs: Promoting Achievement of SDGs*, 2018, https://www.jetro.go.jp/en/jetro/topics/2018/1807_topics1.html, (accessed November 9, 2021); Ludher, Elyssa, Sharda, Nisha, La, Ruhi, Xu, Yuting, Chow, Clarice, and Ng, Jarrell, *ASEAN Smart Cities Network*, Centre for Liveable Cities, 2018, 7-9.

Japan Smart City Network High-level Meeting. South Korea, Australia, and the EU followed suit just two and a half years after the establishment of the ASCN, as shown in Table 1 below.

Table 1: Major Powers' Approach to ASCN (2018-2020)

2018.07	JETRO and UNDP signed MOU to support ASCN
2018.11	The US-ASEAN Smart City Partnership Concluded
2019.06	The China - ASEAN Smart City Cooperation & Exchange Conference held
2019.01	The 1st ASEAN - Japan Smart City Network High-Level Meeting
2019.04	ASEAN Australia Smart Cities Trust Fund Established in ADB
2019.11	ASEAN - China Leaders' Statement on Smart City Cooperation Initiative
2019.11	ASEAN - South Korea Agreement on the Formation of Consultative Body at the Ministerial Level on Smart City Sector
2020.08	Cooperation between EU and ASEAN on Smart Green ASEAN Cities Project
2020.11	South Korea Established Smart City Cooperation Centers in Hanoi, Bangkok, Jakarta, and Istanbul.
2020.12	The 2nd ASEAN - Japan Smart City Network High-Level Meeting

[Source: Author's compilation]

In addition to inter-governmental cooperation, various companies are also joining or showing strong interest in joining ASEAN smart city projects. For example, Japanese companies have been or are willing to be involved in different smart city projects in ASEAN. The Nomura Research Institute listed 30 future smart city projects abroad in 2019, 21 of which are in ASEAN countries, and Japanese companies such as Mitsubishi Corporation, Tokyo Construction, Panasonic Homes, Nippon Koei, and Marubeni have already been involved in 13 projects[34]. The Chinese government, on the other hand, links the smart city project to the more prominent One Belt One Road initiative. Chinese capital flows to smart city projects in Forest City in Johor Bahru, Malaysia, New Clark City, and New Manila Bay of Pearl in the Philippines, the Thai government's flagship project of the Eastern Economic Corridor, Indonesia's new capital city in North Kalimantan, and New Yangon City in Myanmar. Chinese companies, such as Country Garden Group and China Construction Engineering Corporation, are investing or planning to invest in those smart cities[35].

34 Nomura Research Institute (NRI). 2019. The Research Report on the Needs of Smart City Development in Emerging Countries and the Possibility of Participation of Japanese Local Governments and Companies (in Japanese). The Report Submitted to the Ministry of Economy, Trade and Industry of Japan.

35 Maritunus, Melinda, "Stumbling Blocks to ASEAN-China Smart City Cooperation," *East Asian Forum*, 2021, https://www.eastasiaforum.org/2021/07/17/stumbling-blocks-to-asean-china-smart-city-cooperation/ (accessed November 9, 2021); He, Yujia, and Tritto, Anglea, *Chinese Invested Smart City Development in Southeast Asia - How Resilient Are Urban Megaprojects in the Age of Covid-19?*, Institute for Emerging Market Studies, 2021, 2, https://iems.ust.hk/publications/thought-leadership-briefs/tlb56-yujia-tritto-chinese-smart-city-covid19 (accessed November 10, 2021).

Conflict, Cooperation, or Compartmentalized Urbanism in ASEAN Smart Cities?

While scholars emphasize the ambiguity and versatility of the smart city concept, as mentioned above, they agree that the core of the idea is the efficient utilization of ICT for urban governance and the concept often includes social and environmental sustainability. For this reason, the smart city policy is easy to replicate so that it can be planned and implemented in any urban part of the world, and various multinational companies are assiduously promoting their own "smart" products. As far as ASEAN countries are concerned, urbanization and digitalization are two most critical sources of social transformation for all ASEAN nations. The smart city concept has thus emerged as the most appropriate or ideal concept that merges the above two phenomena. A smart city is envisioned as a new form of urban governance by digitalizing the whole city and raising the sustainable quality of life of all its citizens. It is different from the controversial concept of "good governance" that Western countries and donors have promoted as connoting democratic and participatory values. The smart city concept can be presented as a value-neutral concept. This fact makes it a reasonable choice for any political regime to promote a smart city. Democratic Indonesia, semi-authoritarian Thailand, military-ruled Myanmar, authoritarian Cambodia, and socialist Vietnam can initiate smart city projects and reach a consensus to create the ASCN under the ASEAN umbrella.

Table 2: Companies involved in the New Clark City Project

Companies	Countries
AECOM	the United States
Surbana Jurong	Singapore
Nippon Koei	Japan
Hitachi-Asia	Japan
KEPCO Philipppines Co.	Korea
MTD Capital	Malaysia
Gezhouba Group Corporation	China

[Source: Mouton 2021 etc.]

Different companies from different countries are now involved in the same smart city projects. For example, the Thai leading developer Amata has started a smart city project in Chonburi of the Eastern Economic Corridor and aims to create a second Yokohama in collaboration with YUSA. Amata also invites Chinese, Korean and Taiwan companies to join the project[36]. Japan, the US and China are involved in the New Clark City project in

36 Amata, Amata Smart City, 2021, https://www.linkedin.com/pulse/amata-smart-city-amatacorp?trk=pulse-article_more-articles_related-content-card (accessed July 9, 2022).

the Philippines (see Table 2 above). With the globally deepening conflict between China and the US and its allies, any actual smart city site might get bogged down and become a place for a proxy war between the two blocs. Alternatively, a smart city might become functionally or spatially compartmentalized, a result that is quite far from the technology-driven form of urban governance that every government and company is envisioning. The made-in-China “smart” surveillance system, made-in-Japan “smart” transportation system, and made-in-the US “smart” electricity grid system are developed in uncoordinated ways. Hence, we come across a situation where each part of urban infrastructure might be "smart," but the results may be a city that, as a whole, is far from being "smart." Alternatively, a smart city is compartmentalized into several smaller areas allocated to different consortia to create their versions of smaller "smart" cities. City elites and dwellers are violently caught up in this conflict and compartmentalization. A smart city solidifies existing social cleavages or creates new cleavages in the city. Even if a smart city project proceeds well, coordinated by a single actor or consortium, there is a high risk of creating a modern panopticon given the current weak privacy protection scheme in all ASEAN countries. A smart city will quickly become a smart surveillance city.

Another potential danger is that a smart city project can be abruptly ended. In 2020, Cisco suddenly decided to stop sales and ceased supporting its flagship one-billion-dollar smart city program because of the local government’s limited ability to finance smart city projects under the COVID-19 pandemic[37]. Other companies might follow Cisco's lead. Cities once committed to smart city projects can be abandoned by private companies promoting the smart-city concept if they are not profitable enough for the companies. Even worse, the cities are sometimes obliged to abandon the program simply because they cannot afford it. As a result, the cities can morph into disconnected and uncoordinated urban congeries.

Conclusion: What Is to Be Done?

A smart city is an ambiguous, versatile, technocratic, company-driven concept from Europe and the US that quickly emerged as the globally accepted vision of future cities. As far as ASEAN is concerned, city issues have also been addressed at the regional level with the establishment of the ASCN. With the onset of New Cold War and the rise in importance of ASEAN, not only multinational companies but also the major global players such as the US, China, EU, Japan, Korea and Australia have rushed to support smart city projects in ASEAN. As a result, smart city projects have quickly become massive, multidimensional, regionalized, internationalized and transnationalized undertakings. This abrupt scale-up has the potential to significantly weaken the agency of a would-be smart city.

Smart city policy is easy to replicate and can be vertically transplanted from the international, regional, and national scales and horizontally from one locality to another. Nevertheless, this does not mean that all so-called smart cities will become like Singapore, nor that one single standardized type of technology-oriented and company-driven smart city is born in Southeast Asia. Each would-be smart city has a power and interest constellation or network at work. The extent of the involvement of transnational, regional, and national politico-economic

37 Tilly, Aaron, “Cisco Systems Pulls Back from Smart City Push,” *Wall Street Journal*, December 28, 2020, https://www.wsj.com/articles/Cisco-turns-on-lights-on-smart-city-push-11609178895 (accessed November 7, 2021).

actors vary from one city to another. Unfortunately, to date, the literature on the multilateral dynamics in smart cities in ASEAN from socio-political perspectives is quite limited[38]. There are no in-depth and comprehensive studies on 100 smart cities creation movement in Indonesia nor the Thailand Smart City Committee project to create 100 smart cities and the conflictual international involvement in those smart cities' creation. More critical analyses of ASEAN smart cities are urgently needed. Research might reveal diverse and unique power and interest constellations and interplays in different cities, and these constellations are naturally and inevitably different from an often-described simplistic global division between China and the US and its allies.

38 Two of the few works on this aspect are the one on New Clark City by Mouton and the one on ASCN by Kong and Woods. See Mouton, Morgan, "Worlding Infrastructure in the Global South: Philippine Experiments and the Art of Being 'Smart'," *Urban Studies*, Vol.58. No.3, 2021, and Kong, Lily, and Woods, Orland, "Scaling Smartness, (De)Provincialising the City? the ASEAN Smart Cities Network and the Translational Politics of Technocratic Regionalism," *Cities*, Vol. 117, 2021.