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Reconfiguring Urban Governance: Paradiplomacy and Triple Helix Dynamics in ASEAN–Republic of Korea Smart City Collaboration

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Abstract

Established in 2018, the ASEAN Smart Cities Network (ASCN) places cities at the forefront of regional cooperation for smart and sustainable urban development. While smart city initiatives in Southeast Asia are often framed as technocratic responses to rapid urbanisation and environmental pressures, their implications for governance restructuring and regional power dynamics remain insufficiently examined. This article analyses how the ASEAN–Republic of Korea (ROK) smart city partnership reshapes subnational governance and regional cooperation, and investigates why its outcomes vary across participating cities. Drawing on paradiplomacy as an analytical lens and the Triple Helix model as a governance framework, the study shows that ASCN expands the external engagement of city governments while institutionalising the participation of private firms and knowledge institutions in urban development processes. However, implementation remains highly uneven. The findings indicate that disparities in institutional and political capacity among ASEAN cities constitute the principal constraint shaping cooperation outcomes. Although technological and financial limitations are relevant, a more decisive factor is the limited capacity of many municipal governments to coordinate stakeholders, develop bankable projects, and sustain political commitment over time. This institutional unevenness both enables and conditions external engagement. It creates opportunities for middle-power actors such as the Republic of Korea to deepen their regional role—particularly through initiatives like the New Southern Policy—while simultaneously reinforcing asymmetric dependencies and fragmented governance patterns across the region. Positioned as a governance and regional political economy study rather than a technical assessment of smart city performance, this article conceptualises ASEAN–ROK smart city cooperation as a contested arena in which authority, capacity, and external influence are continuously renegotiated. In doing so, it contributes to scholarship on subnational diplomacy, middle-power engagement, and the political foundations of digital urban transformation in Southeast Asia.

Keywords: ASEAN Smart Cities Network, Paradiplomacy, Subnational Governance, Triple Helix Model, ASEAN–Republic of Korea Relations

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Introduction

Rapid urbanisation has emerged as one of the most pressing governance challenges in Southeast Asia. As ASEAN cities expand in scale and complexity, urban governments face mounting pressures to address environmental degradation, infrastructure deficits, and socio-economic inequality, often within fragmented institutional settings. In response, smart city initiatives have been increasingly promoted as a solution to reconcile economic growth with sustainability through digital innovation, data-driven governance, and cross-sector collaboration (Kong & Woods, 2021). However, despite their growing prominence, smart cities in Southeast Asia remain unevenly implemented and politically contested, raising questions about who drives these initiatives, whose interests they serve, and how they reshape governance at both national and regional levels (Matsumoto, Crook, & Tanaka, 2019). These urban challenges are not only technical or managerial. They expose structural limits in how authority, resources, and decision-making powers are distributed between national and subnational governments, often leaving cities responsible for implementation without corresponding control over financing, regulation, or international cooperation.

The establishment of the ASEAN Smart Cities Network (ASCN) in 2018 marked a significant attempt to coordinate urban transformation at the regional level. Rather than operating solely through national governments, ASCN places cities at the centre of cooperation, encouraging direct engagement between subnational actors and external partners (Prayogo & Juned, 2025). However, ASCN operates within ASEAN's soft institutional framework, where cities have limited formal authority, financial autonomy, and agenda-setting power. As a result, smart city cooperation often reflects uneven political commitment, disparities in local capacity, and dependence on external actors for technological and financial support. These governance gaps raise questions about whether ASCN redistributes authority to cities or merely layers new initiatives onto existing state-centric structures.

Among ASEAN's dialogue partners, the Republic of Korea (ROK) has emerged as a particularly active participant, aligning its smart city cooperation with the broader objectives of its New Southern Policy (Botto, 2021; Wongi, 2021). Through its New Southern Policy, the ROK frames smart city cooperation not only as development assistance but also strengthen the ASEAN's middle-power diplomacy agenda, enabling it to shape regional norms, technical standards, and partnership models (Costoya, 2022: 121). The ASEAN–ROK smart city partnership reflects more than functional cooperation; it represents an intersection of Southeast Asia's urban governance constraints and South Korea's strategic pursuit of diplomatic relevance beyond the Korean Peninsula (Botto, 2021). Through financial assistance, knowledge exchange, and pilot projects, the ASEAN–ROK partnership positions smart city development as both a development strategy and a form of regional engagement. Existing studies on ASCN and smart cities in Southeast Asia have largely emphasised their technological dimensions, policy design, or economic potential (Tan et. al, 2021; Crumpton et al, 2021; Prayogo & Juned, 2025). While valuable, such approaches tend to underplay the political and institutional dynamics that shape smart city implementation, particularly the role of cities as diplomatic actors and the uneven capacities across ASEAN Member States. Moreover, the growing involvement of middle powers such as South Korea raises important questions about how external partnerships influence ASEAN's urban governance norms and regional centrality.

This article uses paradiplomacy as an analytical lens to examine how subnational governments engage with external actors and as a process through which city-level authority is incrementally expanded within ASEAN's state-centric regional order. To examine how this expanded agency is exercised in practice, the article also employs the Triple Helix model as a governance framework that highlights interactions among government, industry, and academia in producing and applying urban innovation. This perspective helps trace how smart city cooperation is organised not only through formal state channels but through cross-sectoral networks that shape which knowledge, resources, and interests influence urban development. The paper asks: how does the ASEAN–ROK smart city partnership reshape subnational governance and regional cooperation in Southeast Asia, and what structural constraints limit its effectiveness? The study aims to analyse the political, institutional, and capacity-related challenges that shape smart city collaboration under ASCN, with particular attention to urbanisation pressures, disparities among ASEAN cities, and variations in political will.

By situating smart city development within debates on regional governance, middle power diplomacy, and subnational agency, this article intervenes in three strands of scholarship. First, it engages debates on smart cities that have predominantly framed them as technical or managerial solutions by foregrounding how authority, power distribution, and institutional hierarchy shape urban digital transformation. Second, it contributes to literature on paradiplomacy and subnational diplomacy by showing how city-level external engagement in Southeast Asia remains structurally mediated by ASEAN's norms of sovereignty and non-interference. Third, it speaks to discussions of middle-power diplomacy by demonstrating how South Korea's urban cooperation operates within — and is constrained by — the uneven governance landscape of ASEAN regionalism. The puzzle, therefore, is not simply whether smart city cooperation works, but how far subnational agencies can expand within a regional order in which authority remains state-dominated, and capacities are deeply uneven.

Literature Review

Distributed Governance

Rodrigo Tavares argues the globalisation and rapid urban growth have gradually pushed city governments into roles that go beyond traditional local administration (2016: 2). Many of the pressures that define contemporary governance are felt most immediately in urban areas, where environmental stress, population movement, and informal or illicit economic activity take on concrete social and spatial forms. Cities deal with these consequences first, often before national policy catches up. This does not mean that central governments are absent; their responses are not always fast or locally grounded enough to match conditions on the ground. As a result, cities worldwide increasingly look sideways as well as upward, building connections with one another to exchange experience, technical knowledge, and policy approaches (Tavares, 2016: 6). Still, learning from other cities is one thing; acting on that knowledge is another. Municipal governments frequently find that their responsibilities expand in practice while their formal authority remains tightly defined. Budget rules, legal mandates, and political sensitivities can narrow what cities are allowed to do, even when expectations continue to grow. In that sense, strengthening the capacity of city governments is less about a dramatic redistribution of power and more about adjusting how

governance actually functions. When cities have more room to manage resources or coordinate with external partners, they can respond more effectively, and national governments face less pressure to intervene in every local issue.

The tension between responsibility and capacity echoes a broader insight from research on governance and redistribution. Bilyana Petrova (2021) shows that the effectiveness of redistributive policy depends not only on political will but also on the quality of government, which requires administrative capacity, integrity, and institutional effectiveness to implement policies in practice. While the latter research focuses on national welfare states, the underlying logic applies well to the urban level: without capable institutions and room to operate, formal commitments do not easily translate into real outcomes. In a similar vein, work on regional governance highlights how subnational authority shapes what lower tiers of government can actually achieve (Petrova, 2021: 378). Alper Kaitlin (2022) finds that regional governments influence redistribution most when they possess meaningful authority, fiscal space, and alignment with higher levels of government. Together, these perspectives suggest that what matters is not only who is responsible but also whether institutions at that level have the authority and capacity to act.

The gradual stretching of urban roles can be understood through what the OECD described as distributed public governance (OECD, 2002). The term refers to the practice of assigning certain public functions to bodies that operate with some distance from traditional ministerial structures, often with greater managerial flexibility. These arrangements recognise that some tasks require organisational forms that can work across institutional boundaries and respond more continuously than standard bureaucratic hierarchies allow. For cities operating within tight institutional constraints, such arrangements offer a practical way to manage expanding responsibilities. They allow local governments to build capacity and cooperate more widely without turning the question of formal authority into an immediate political confrontation.

The Concept of Paradiplomacy

For decades, states have taken most of the responsibilities for conducting international affairs. Nevertheless, with the rise of transnationalism, the study of International Relations began to acknowledge the cross-border relations among city governments. These are called “paradiplomacy” (Duchacek, 1990: 25). By definition, paradiplomacy is “transborder engagement, networking, or simply put, the involvement of the constituent units of national states in international affairs” (Kuznetsov, 2015 in Wu, 2014: 18). The status quo of the state’s role in international affairs might prompt us to ask: why does subnational paradiplomacy matter when the state is already engaged in diplomacy?

Paradiplomacy is important for bridging subnational interests with foreign actors. Central governments are overwhelmed by the complex subnational interests. States cannot bring all local problems to the international level. According to Tavares (2016: 42), they are often too “*big, dehumanised, and over-bureaucratized as well as far too distant when it comes to issues concerning local and regional difficulties*”. Decentralisation and paradiplomacy are thus necessary to enable cities to engage directly with international affairs and pursue their specific interests. Paradiplomacy activities should be supported by the institutionalisation process. Wu (2014: 21) added such institutionalisation can be achieved by joining international organisations, conferences,

and associations as platforms for cities to engage in paradiplomacy. This concept may also establish liaison officers, project staff, or special units abroad specifically responsible for international cooperation and exchanges.

In this paper, paradiplomacy is understood as a governance practice shaped by the frictions of multi-level authority, where subnational initiatives unfold within political structures that formally privilege state control over foreign affairs. The increasing international engagement of cities reflects how locally situated policy concerns intersect with global flows of capital, knowledge, and norms, while national diplomatic structures remain oriented toward state-level priorities. In this sense, paradiplomacy signals an ongoing renegotiation of who is entitled to represent territorial interests beyond the state, a process that is neither automatic nor uncontested. This contestation is particularly salient in regions where sovereignty norms and state-centric diplomatic traditions remain strong. Subnational international engagement often depends on tacit approval, legal ambiguity, or selective delegation from central governments, making paradiplomacy a politically mediated form of authority rather than a simple extension of decentralisation. Institutional participation in international networks, city-to-city cooperation frameworks, and specialised administrative units abroad thus represent not merely technical arrangements, but negotiated spaces in which the boundaries of diplomatic practice are subtly reworked. The understanding of paradiplomacy provides the conceptual basis for examining ASEAN–Republic of Korea cooperation in the ASEAN Smart Cities Network, where subnational initiatives unfold within, rather than outside, state-led regional frameworks.

The Triple Helix Model

Smart-city development is inseparable from the role of stakeholders who have the authority to formulate and implement policies and map potential threats. Among actors interested in developing smart cities, there are at least three parties that play significant roles in innovation-based growth: government, business, and academia. This development model is commonly referred to as the triple-helix. As emphasised by Ranga and Etzkowitz (2013: 238), the main function of the Triple Helix system is, in a broader sense, the generation, diffusion, and utilisation of knowledge and innovation. This function is realised not only by the techno-economic competencies described in innovation systems theory but also by the entrepreneurial, social, cultural, and policy competencies embedded in what we call the “Triple Helix space,” namely, the knowledge, innovation, and consensus space. Soo Jeung Lee and Thanh Ha Ngo explain the Triple Helix concept by emphasising the importance of utilising knowledge for community development in the competitive environment of globalisation. Previously, government social policies and efforts focused solely on the creation and production of knowledge. However, the quantitative increase in knowledge production is not always accompanied by the growth of qualitative and utilitarian knowledge. This highlights the importance of generating useful knowledge and understanding the context of knowledge capitalisation for community development (Lee & Ngo, 2012: 161)

This paper used the Triple Helix framework as a mechanism lens to examine how authority, resources, and expertise are distributed among actors involved in smart city projects. The model highlights how innovation agendas are shaped through negotiation among state agencies, technology firms, and universities, each with unequal capacities, interests, and forms of influence.

As a result, Triple Helix configurations often reproduce hierarchies rather than flatten them, privileging certain forms of knowledge and certain actors over others. This perspective is particularly relevant to ASEAN–Republic of Korea smart city cooperation. Such projects bring together Korean technology providers, ASEAN local governments, and academic or research institutions within frameworks that are formally collaborative but structured by asymmetries in finance, technical expertise, and agenda-setting power. Government actors frequently retain regulatory and coordinating authority, but private firms may shape project priorities through control over technological systems and investment flows, while universities and local knowledge institutions often occupy more limited, advisory roles. Examining these dynamics allows the Triple Helix model to illuminate not just who participates in smart city development, but whose knowledge counts, whose interests are advanced, and how governance authority is redistributed — or recentralised — through these innovation partnerships.

Method

This study employs a qualitative case study approach to examine the ASEAN–ROK partnership in the ASCN. Data were collected from primary sources, including official reports, memoranda of understanding, and policy documents from ASEAN, the Republic of Korea, and participating pilot cities, as well as from secondary sources such as academic literature, news articles, and think tank publications. A combination of sources is needed to acknowledge the limitations of relying on policy documents and elite-driven sources. This is essential because the sources help connect policy rhetoric and implementation, reduce elite-centred bias, and help avoid the omission of marginalised perspectives (Sparks & Wagner, 2025).

The analysis examines the political, institutional, and capacity-related dimensions of smart city development, highlighting how subnational governments engage in paradiplomacy and how middle-power strategies shape regional urban governance. The study prioritises cities that serve as pilot projects under ASCN, providing insight into variations in implementation and the structural constraints that influence partnership outcomes. Analytically, the paper draws on the concepts of paradiplomacy and the triple helix model to interpret the data. Paradiplomacy frames cities as active actors in international cooperation, enabling them to pursue local interests while engaging with external partners such as the Republic of Korea (Duchacek, 1990; Soldatos, 1991; McMillan, 2017). The triple helix model complements this perspective by examining interactions among government, business, and academic actors in the development and implementation of smart city initiatives (Etzkowitz & Leydesdorff, 2000). Through this lens, the study investigates how knowledge transfer, capacity-building, and collaborative innovation occur within ASEAN–ROK partnerships, and how these processes contribute to sustainable urban development, inclusive green economy ecosystems, and improved subnational governance.

Results and Discussion

ASEAN Smart Cities Network: Promoting Sustainable Infrastructure through Partnership

ASEAN is a region with rapid population growth. Nearly 50% of the ASEAN population lives in urban areas, and more than 25% lives in cities with more than one million inhabitants (ASEAN.org, n.d.). Without proper urban planning, ASEAN may enter a critical stage of "urbanisation without growth" with a dense population that no longer aligns with significant economic outcomes and rising living standards (Muhammad, 2019). The dense population that does not go hand in hand with proper urban planning causes many problems, such as traffic congestion, air pollution, lack of housing land, inadequate access to infrastructure, and poor waste management (Muhammad, 2019). These issues will undoubtedly increase the risk of climate change that threatens the safety and security of the ASEAN Member States. Moreover, Southeast Asian countries are among the regions most affected by climate change (ADB, 2021). In urban areas, the cities of Jakarta, Ho Chi Minh City, and Bangkok are sinking due to rising sea levels caused by climate change (Valer, 2022). Therefore, in response to climate change and improving citizens' socio-economic conditions, smart city development is a suitable solution to reduce the impacts of climate change and population density in urban areas while advancing quality of life and promoting economic growth.

In this regard, ASEAN Member States (AMS) established the ASEAN Smart Cities Network (ASCN) in 2018 as a collaborative program among ASEAN cities to achieve smart and sustainable urban development. A report from the Global McKinsey Fund shows that smart cities are expected to create 1.2–1.5 million new jobs, prevent 260,000 to 270,000 kilotons of greenhouse gas emissions, and give rise to US$9 billion to US$16 billion savings on the cost of living across ASEAN (CNA, 2021). In addition, smart city development will boost economic growth in ASEAN by creating green jobs, improving the quality of life through enhanced service quality and accessibility, and mitigating the impact of climate change by building sustainable infrastructure using innovative technologies and data analysis. Therefore, the development of Smart Cities in ASEAN embodies the 3P (People, Planet, and Prosperity) principles. These projections do not merely describe anticipated outcomes but actively shape policy narratives around smart cities as engines of efficiency, growth, and climate governance. By foregrounding measurable gains in job creation, emissions reduction, and cost savings, such figures help align ASCN with donor priorities and development finance logics that privilege scalable, technology-driven interventions. In doing so, they also structure expectations about what smart city initiatives should deliver, subtly narrowing the space for alternative urban priorities that are less readily quantifiable.

Overall, ASCN encourages pilot cities and external partners to collaborate in six sectors, namely: (1) civil & social, (2) health & welfare, (3) safety & security, (4) quality environment, (5) built infrastructure, and (6) industry & innovation. ASEAN Member Countries will collaborate with partner countries in six sectors, referred to as "dialogue partners." The Republic of Korea (ROK) is one of the ASEAN dialogue partners interested in collaborating on smart city development. At the 2019 ASEAN-ROK Commemorative Summit in Busan, the ROK established bilateral relations with ministerial-level consulting agencies for smart city cooperation and MoUs with ASEAN members. ROK also invests in Southeast Asian countries through the Global Plant, Infrastructure and Smart City (PIS) program, the ASEAN Korea Cooperation Fund (AKCF), and other channels (Kim, 2022).

New Southern Policy: Strengthening the ROK's Middle Power in ASEAN

Under former South Korean President Moon Jae-in and his administration, Seoul initiated its first diplomatic policies to deepen ties with ASEAN and India. This initiative is known as the New Southern Policy (NSP). NSP is a strategic policy aimed at diversifying the ROK's economic and diplomatic alignments with other countries to protect its middle-power leadership and influence in the region (Wongi, 2021). The three pillars of NSP are people, prosperity, and peace. Of these pillars, the prosperity pillar has received the most emphasis because of the direct benefits that the ROK can gain (Botto, 2021).

First, ROK will secure new markets and new sources of growth for South Korea amidst the uncertainty of the US-China trade war. While the US is the leading and trusted security partner that reassures South Korea by deterring potential military attacks from North Korea, China is South Korea's largest trading partner, which is important for the ROK's economic prosperity (Kim, 2022). By initiating regional cooperation to strengthen its economic relations and strategic partnership with the AMS, South Korea can reduce the risk of an economic and political downturn amid the US-China trade war. Therefore, economic diversification through NSP with ASEAN as a region with immense economic potential, evidenced by its position as a significant global manufacturing and trade hub with a fast-growing consumer market, can work as an engine to run the economy of South Korea (Ferguson & Keat, 2021).

Second, the NSP reflects the ROK's middle-power ambition by actively taking on international responsibilities and roles to promote its status as a "good international citizen" and align with its capabilities in a global society (Wongi, 2021). These responsibilities are projected through "NSP Plus", which emerged during the COVID-19 pandemic. Within NSP Plus, the Moon administration expanded the NSP agenda to include more non-traditional policies, such as global health, digital innovation, smart cities, and climate change (Kim, 2022). Specifically, one of the prosperity pillar's tasks within the NSP Plus aims to establish "cooperation on future industries for common prosperity, that focuses on supporting rural villages and urban infrastructure development through sustainable infrastructure projects (Botto, 2021). This cooperation is achieved through the ROK's active involvement in developing the ASCN, thereby enhancing South Korea's participation as an ASEAN dialogue partner.

For AMS, the ROK could contribute various IT knowledge-sharing programs to support ASCN initiatives promoting smart and sustainable urban development (Thomas, 2019). Additionally, the ROK focuses on education in enhancing smart city partnerships with the ASEAN Member States. By focusing on education, this partnership primarily supports collaborative projects, such as exchanging experiences in smart city development and basic design. Therefore, ASEAN sought to deepen its partnership with the ROK to share best practices that ASEAN's smart cities can adopt.

The NSP can also be understood as a middle-power strategy that operates through uneven economic and institutional relationships with ASEAN. Lee (2022) shows that South Korea's middle-power identity under the NSP worked as a diplomatic resource, strengthening Seoul's leverage in negotiations by presenting the ROK as a cooperative and non-threatening partner. This framing eased deeper forms of economic and sectoral engagement that align closely with South Korea's industrial and technological priorities. From this angle, cooperation in smart cities becomes part of a broader outward push by Korean firms, technical standards, and urban solutions into rapidly

expanding Southeast Asian markets. ASEAN cities gain access to funding channels, expertise, and project implementation support, yet the structure of these partnerships often places strategic control over technology, design, and data systems outside local hands. What appears as a partnership is therefore embedded in wider hierarchies of capital, knowledge, and agenda-setting power that shape whose visions of "smart" urban development travel across the region.

Challenges of Distributing Development Roles through Paradiplomacy and Triple Helix in ASCN

Urbanisation and Urban Sustainability Problems in ASEAN

Development in Southeast Asia's big cities can spur economic growth. As a result, these cities will become magnets for residents seeking work and a place to live, or to urbanise. However, this urbanisation raises various problems due to the lack of control and balance in population growth rates. This problem is currently being faced by ASEAN member countries, namely, the growth of high population concentrations. Worse still, it is not being followed at a pace commensurate with the development of industrialisation. This problem eventually leads to excessive urbanisation, resulting in unsustainable development.

Cities	2015	2025	Change
Manila	12.9	15.2	17.4%
Jakarta	10.3	12.6	22.0%
Bangkok	9.3	11.0	18.2%
Ho Chi Minh City	7.3	9.2	27.4%
Kuala Lumpur	6.8	8.7	27.3%
Singapore	5.6	6.3	12.7%
Yangon	4.8	6.0	24.3%
Ha Noi	3.6	5.0	37.5%
Surabaya	2.9	3.4	19.2%
Bandung	2.5	3.1	22.0%
Samut Prakan	1.8	2.9	62.3%
Medan	2.2	2.7	21.1%
Phnom Penh	1.7	2.3	30.7%
Batam	1.4	2.2	60.8%
Davao City	1.6	2.0	21.9%

*In millions

Figure 1. ASEAN cities with more than 1 million inhabitants in 2025
Source: ASEANup. Top cities' urbanisation in ASEAN.

Urbanisation has a negative impact by reducing the availability of vacant land in urban areas. The city's population growth is so rapid that it is difficult to keep up with its carrying capacity. Currently, vacant land in urban areas is very rare. Space for living quarters, space for smooth vehicle traffic, and parking spaces are very minimal. In fact, the land for green open space no longer exists. Empty land in urban areas has been widely used by urban residents for both legal and illegal residential, commercial, and industrial purposes (Hye, 2019). Buildings built for trade and industry are generally owned by immigrants. In addition, urbanites who lack housing often use vacant land as squatter settlements. This leads to a lack of vacant land in urban areas. In addition, urbanisation increases pollution. People who urbanise, whether to find work or to obtain an education, generally have vehicles. This is also influenced by the low standard of public transportation in many ASEAN member states. The increase in two- and four-wheeled motorised vehicles that flood the city continuously causes various forms of pollution, including air and noise pollution. Ecology in urban areas no longer has a balance that can maintain the harmony of the urban environment.

In developing countries, their cities are, for the most part, unprepared to provide adequate housing for the entire population. Moreover, migrants are mostly low-income groups who cannot afford to build or buy adequate housing (Hye, 2019). As a result, slums emerged on government land. This also undermines urban planning and exacerbates sustainability problems. Pollution of a social and economic nature can also occur. The departure of villagers to the city to try their luck is not a problem if the community has the skills needed there. However, in reality, many of them came to the city with no skills other than farming. Therefore, it is difficult for them to get a decent job. This will eventually increase the number of unemployed in the city, leading to prolonged poverty.

Capacity Gap of ASEAN Member States in Implementing ASCN

The second major challenge, besides urbanisation and sustainability, is capacity gaps among the AMS. Capacity gaps among ASEAN Member States should not be understood purely as technical deficiencies in finance, technology, or administrative skill. These gaps are also shaped by political–economic structures that influence how resources are distributed, which sectors are prioritised, and whose interests are embedded in smart city agendas. In many ASEAN countries, urban development strategies are closely tied to growth coalitions involving national elites, property developers, and foreign technology firms. As a result, investments in smart city initiatives tend to concentrate in already-advantaged metropolitan areas, while secondary cities struggle to attract funding and policy attention. Capacity disparities, therefore, reflect not only unequal technical readiness but also uneven political incentives and market-driven logics that structure urban governance.

Crumpton et al. (2021) argue that the development of Smart Cities in ASEAN produces "winners and losers". Smart City development is expected to benefit cities with the economic, technological, and institutional capacity to implement Smart City initiatives. Eventually, Crumpton et al. (2021) argue that rich cities become more prosperous, while poorer cities are left behind in Smart City development because the initiative and processes are largely dictated by large multinational corporations and by unclear local interests. Specifically, the "winners and losers"

paradigm is reflected in the three capacity gaps between AMS: technological, financial, and institutional.

Within the technology gap, there are differences in the technological capacity to meet basic urban service requirements to become a Smart City. For example, Figure 2 shows Singapore scored 25 out of 37 in the smart technology base. Meanwhile, Bangkok and Jakarta are at the bottom of the list for a smart technology base. Another example is the Sustainable Urban Water Index, which ranks the world's 50 cities; Jakarta is 47, Manila 48, and Singapore 22 (Arcadis, in Crumpton et al., 2021). The differences in ratings indicate differences in the technological capabilities required to provide public services across fields such as clean water supply, wastewater treatment, and disposal.

Moreover, Crumpton et al. (2021) note that wider gaps exist between ASCN cities when current digital capacity is considered when introducing Smart City technology. The Economist's 2017 Safe Cities survey ranked the digital security dimension of ASCN cities; Singapore ranked only behind Tokyo among the 60 cities included. Meanwhile, other cities are far behind Singapore: Bangkok (52nd), Ho Chi Minh City (56th), Yangon (57th), Manila (59th), and Jakarta (60th). Therefore, it can also be assumed that smaller/poorer cities among the ASCN group have even less technological capacity to meet the digital requirements for Smart City technology (Crumpton et al., 2021). Furthermore, because the ASEAN-ROK Partnership in ASCN mainly focuses on education, the technology transfer activities will cover only information on the technologies South Korea uses and implements, serving as a guide for ASCN cities. For this reason, the authors argue that ASEAN-ROK Partnership technology transfer, particularly in the information sector, needs to be revised to support sustainable infrastructure development among ASEAN cities.

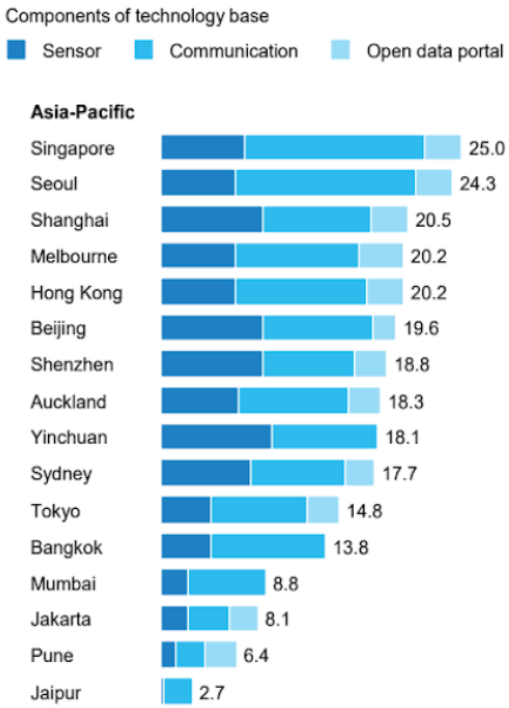

Figure 2. Strength of the smart city technology base
Source: Smart Cities: Digital Solutions for A More Liveable Future. (2018). McKinsey Global Institute.

Second, the existing technology gap among ASCN cities also contributes to the fact that most ASEAN countries still need sufficient financial capacity to implement Smart City projects. Due to limited funds and the development of new smart city ideas, Smart City adoption has been relatively slow in many ASEAN countries (Tan et al., 2021). As a result, many ASEAN countries need more funding for smart city projects. Several AMS are currently in an MoU with South Korea. Malaysia signed an MoU in 2019 on city development; Indonesia is considering an MoU on cooperation in Smart city development with the Korea Research Institute (KRIHS); and Thailand is issuing an MoU to promote smart tourism. However, Memoranda of Understanding (MOUs) to date have not led to specific projects due to ambiguity in partner sourcing (Tan et al., 2021).

Lastly, the limited funding is also the result of a need for more institutional capacity, with a significant disparity between the institutional capacity of the ASCN proposing cities, namely Singapore and other ASCN cities. The lack of adequate policies is evident in ASCN cities' inability to articulate smart city issues coherently and effectively. This is the lack of the ability to produce bankable proposals that attract donors, due to the bureaucracy's deficit of analytical capacity (Tan et al., 2021). In addition, there is still a need for greater clarity in the national policy framework and the existing legal infrastructure to facilitate smart city initiatives across several ASEAN countries (Tun et al., 2021). So far, there has been no cooperation between ASEAN and the ROK to increase the educational institutional capacity of each ASEAN city.

These financial and institutional limitations are not politically neutral. The difficulty many ASCN cities face in producing "bankable" proposals, for instance, reflects not only administrative weakness but also the growing influence of private-sector financing models that prioritise commercially viable projects. Cities with lower revenue bases or weaker ties to international investors are therefore structurally disadvantaged in attracting smart city funding. In this sense, institutional capacity becomes intertwined with political economy dynamics that favour market-ready cities over those with greater developmental needs.

Lack of Political Will from ASEAN Member States

Another problem related to the development of ASCN is the lack of strong political will from ASEAN Member States to intensify the ASCN initiative. The uneven levels of political will observed across ASEAN Member States should not be understood solely as an independent cause of ASEAN's limited progress. They may also be read as a symptom of institutional constraints within ASEAN's governance structure. Because ASCN operates without binding commitments, dedicated funding mechanisms, or strong monitoring instruments, city governments face few incentives and limited capacity to prioritise their agenda over more immediate domestic concerns. In this sense, weak political engagement reflects not just a lack of motivation but the absence of institutional arrangements capable of sustaining long-term coordination and accountability at the regional level.

As previously stated, ASCN was initiated under the Singapore presidency, with the Ministry of Finance Singapore leading the strategic direction and the Centre for Liveable Cities serving as the knowledge partner (Tan et al., 2021). ASCN has been perceived with mixed perceptions. Despite its good branding as a collaborative platform to tackle similar urban problems among AMS, ASCN is also seen as the "soft power extension for Singapore." (Tan et al., 2021, p. 10). Singapore has a strong commitment to ASCN and will position itself as the ASCN leader and a responsive

global city in Southeast Asia. Not only will it serve political interests, but ASCN will also create opportunities for Singapore's private companies and start-ups to expand their businesses across the region. Today (2019), ASCN argues that it will formalise the ASEAN region as a market for Singaporean businesses, particularly in the smart technology sector (Kong & Woods, 2021). While Singapore has logical reasons to encourage the ASCN initiative, the other AMS have only a few. It is considerably difficult for AMS to gain political acceptance and the willingness of all stakeholders to be involved in realising and sustaining the ASCN vision (Tan et al., 2021). To date, ASEAN has not placed much importance on smart cities as a response to urban problems. Alleging ASEAN's lack of political will without an examination based on indicators tends to be nonsense. This paper thus presents a closer assessment of political will using specific indicators.

Pham et al. (2019) propose five key dimensions of political will: initiation, assessment, mobilisation, allocation, and enforcement. The first dimension asks who took the initiative to put the issue on the formal policy agenda. In the ASCN context, the initiative originates in Singapore, underscoring the need for ASEAN smart city development as a regional concern. The initiation was followed by a set of meetings, the creation of the ASCN Concept Note, the ASCN Framework, and the ASCN Terms of Reference. ASCN has successfully attracted 26 pilot projects in its nascent stage. In summary, there is a strong interest in ASCN from Singapore, and AMS has agreed to begin ASCN projects.

The second dimension, assessment, asks whether there is a common understanding of ASCN (Pham et al., 2019). It relates to aligning perceptions of meaning, expected goals, and explicit variables for monitoring and evaluation. ASEAN has established its own definitions, strategic outcomes, focus areas, reporting mechanism, and action plans, as outlined in the ASCN Framework and ASCN Concept Note. However, ASEAN defines a smart city in general terms, implying that different cities may have different views on which systems are necessary and fit their specific visions. Each pilot project has a unique vision and focuses on specific areas. By doing so, city governments can articulate their own needs in paradiplomacy with external parties. While it seems good, this particularity will diminish AMS's ambition to set the measurable parameters.

The third is mobilisation, which asks whether sufficient efforts are made to mobilise public support, either through public statements or discussions (Pham et al., 2019). ASEAN has an annual agenda of summits, conferences, and exhibitions ("ASEAN Smart Cities Summit," 2020). This agenda brings together all key stakeholders to promote public-private partnerships and leverage knowledge, technology, and financial resources. Nevertheless, public support is still relatively low due to the high-level nature of this agenda. The low public support is reflected in the lack of research projects among academics and in the low levels of public awareness, participation, and dialogue. As a result, there is insufficient pressure on city governments to be more innovative, nor is there transparency for the public.

The fourth dimension is resource allocation to implement the policy. It asks whether there are committed human, financial, and other resources to support the mechanism (Pham et al., 2019). The allocation for human resources in the ASCN has been sufficient. Each AMS is represented by a National Representative, while each city is represented by a Chief Officer (Martinus, 2020). They submit project proposals to the ASEAN Secretariat annually. Facilitated by the Joint Consultative Meeting, they hold meetings to report progress to the ASEAN Coordinating Council (ACC) and the ASEAN Summit (Martinus, 2020). These hints are high-profile committees responsible for

executing and overseeing the pilot projects. However, city governments experience difficulty in securing funds. Therefore, they tend to be slow in adopting ASCN (Tan et al., 2021).

From the previous elaboration, it can be concluded that there is a lack of political will among AMS city governments. Despite its robust initiation and moderate resource allocation, ASCN still lacks assessment, public support, and enforcement. The lack of strong political will to increase political capacity not only slows the adoption and enhancement of smart cities in each pilot project, but also undermines ASEAN centrality in managing the ASCN, which involves many external parties.

Strengthening Paradiplomacy and Triple Helix Implementation: Policy Recommendations

Distributed Agency as a Response to Rapid Urbanisation

Earlier sections showed that many ASCN cities remain positioned primarily as project implementers, with limited influence over agenda-setting, financing design, and partnership structures. This institutional positioning constrains their ability to tailor smart city initiatives to local needs and reduces incentives for sustained engagement. Strengthening distributed agency through paradiplomacy, therefore, responds directly to the governance imbalance identified in ASCN's current structure.

The ASEAN–ROK smart city partnership reshapes subnational governance by re-scaling authority from a predominantly state-centric model toward city-centred implementation. Rapid urbanisation places cities at the frontline of governance challenges, yet existing smart city networks often limit cities to the role of policy implementers rather than active decision-makers. Through cooperation with the ROK, cities gain more direct access to technological expertise, financing, and platforms for policy experimentation, allowing them to design and implement context-specific solutions. This reconfiguration strengthens subnational governance by aligning authority with proximity to urban problems, while national governments retain agenda-setting and regulatory oversight, preserving sovereignty and policy coherence.

At the same time, the partnership institutionalises paradiplomacy as a functional component of regional cooperation. City-to-city engagements between ASEAN and Korean municipalities enable horizontal learning, policy diffusion, and joint problem-solving beyond formal intergovernmental channels. Rather than competing with national diplomacy, this form of subnational engagement operates within nationally defined interests and ASEAN frameworks, translating high-level cooperation into tangible urban outcomes. Paradiplomacy thus becomes a governance tool that enhances responsiveness and flexibility in managing urbanisation, while remaining embedded in state-led regional architecture.

At the regional level, the ASEAN–ROK smart city partnership transforms cooperation from primarily intergovernmental coordination into networked, problem-oriented regionalism. By redistributing agency toward cities without diluting state capital, the partnership generates bottom-up momentum for regional norms, standards, and best practices in urban governance. Cities function as nodes of regional integration, turning smart city networks into laboratories for governance innovation. In this sense, power through the city enables ASEAN–ROK cooperation

to respond more effectively to rapid urbanisation while redefining regionalism as a multi-level and city-driven process in Southeast Asia.

Narrowing Capacity Gaps through Integrated Technology, Financial, and Human Capital Development

The previous analysis showed that capacity gaps in ASCN are not only technical but also stem from uneven access to investment networks, limited experience in structuring bankable projects, and weak institutional linkages between local governments, universities, and industry. The following recommendations, thus, target these specific constraints rather than treating capacity-building as a purely educational exercise.

Seoul is one of the world's smart cities, with advanced digital infrastructure and services that support community participation. Therefore, ASEAN-ROK can enhance infrastructure cooperation by developing technology that supports robust digital systems, enabling ASEAN to transform into a smart city. Education, in the form of lessons from the South Korean experience, needs to be complemented by South Korean efforts to harmonise and foster innovation across the region. After conducting education on South Korea's experience in ASEAN, the education was implemented collaboratively to build a "living lab". Living labs are real-world trials critical to the iterative process of upgrading a new technology before full commercialisation and subsequent deployment. They help address the earlier-identified gap between imported technological models and local implementation capacity by allowing cities with weaker technical ecosystems to experiment, adapt, and build hands-on institutional knowledge. For example, suppose ASEAN and South Korea collaborate in a laboratory to test the same technology. In that case, this could enable a faster process to refine the technology while testing its suitability and acceptance across various markets, including the ASEAN market. Education and implementation through a live laboratory are carried out with active paradiplomacy between ROK and AMS with three other actors, namely the government, stakeholders, and the academia In addition, South Korea can conduct paradiplomacy that involves the government as a regulator and educational liaison by ROK AMS, stakeholders as source of funding of living lab, and academia that innovate these technologies and provide input on its development.

A common problem in developing sustainable infrastructure is limited funding for ICT. In addition to funds provided by the South Korean government to ASEAN member states, funding can also be provided through a minor scheme among business actors. This addresses the difficulty many ASCN cities face in attracting finance because of limited experience in structuring projects that meet investor expectations. To overcome the financial gap in implementing Smart City initiatives, business actors need to increase capital to create sustainable infrastructure. ROK business actors can collaborate with business actors in AMS cities to advance the private sector's role in delivering public-sector services and projects for Smart City development.

Finally, to address institutional capacity, South Korea needs to bring an education project to ASEAN that goes beyond collaboration within the university sector. This addresses the previously noted lack of regulatory clarity and cross-agency coordination that limits cities' ability to convert smart city visions into implementable programmes. Education needs to be carried out at the institutions responsible for managing the Smart City itself. The need for greater awareness and

understanding of smart cities and their accompanying issues must be addressed. Many political leaders, government officials, and even experts still do not fully understand or appreciate the complexity of smart cities and the technologies required for successful implementation. Here, ASEAN-ROK cooperation can focus on advancing education on Smart Cities that includes all stakeholders, especially governments, academia, and the private sector.

Strengthening Political Commitment and Institutional Accountability in ASCN

Earlier assessment of political will showed that ASCN performs relatively well in agenda initiation but remains weak in assessment, mobilisation, and enforcement. The following measures focus specifically on strengthening these weaker dimensions of political commitment. Strengthening political commitment in the ASCN requires moving beyond formal endorsement toward sustained engagement by subnational governments and national stakeholders. While ASCN has benefited from strong initiation and agenda-setting, particularly by leading member states, uneven political will among AMS continues to limit effective implementation. To address this, ASEAN–ROK cooperation should place greater emphasis on institutionalising commitment through regularised reporting mechanisms, clearer performance indicators, and structured peer-review processes among participating cities. By establishing transparent benchmarks for progress and linking them to knowledge-sharing platforms, ASCN can encourage cities to maintain momentum while respecting ASEAN's principle of non-interference and flexible institutionalism.

Institutional accountability can be further enhanced by leveraging the triple helix model to broaden oversight and participation beyond state actors. Involving academic institutions and research centres in monitoring and evaluation processes can strengthen evidence-based policymaking, while private sector participation can improve transparency in financing and project execution. Joint ASEAN–ROK research initiatives and publicly accessible data platforms would not only support accountability but also foster public awareness and stakeholder engagement. Through these mechanisms, political commitment to ASCN can be reinforced by shared responsibility and distributed governance, ensuring that smart city cooperation evolves from symbolic participation into a durable framework for sustainable and inclusive urban development in Southeast Asia.

Conclusion

The understanding of smart city cooperation in Southeast Asia can be reframed by viewing the ASEAN–Republic of Korea partnership not as a primarily technological or developmental initiative, but as a governance experiment in distributed governance beyond the state. Within the ASEAN Smart Cities Network, cities are positioned as institutionalised actors in regional cooperation through structured paradiplomacy, while the triple helix model enables the alignment of municipal authorities, private-sector actors, and knowledge institutions across borders. Smart city collaboration, in this sense, functions as a mechanism through which regional governance is practized and negotiated at the subnational level, rather than simply implemented through national frameworks.

At the same time, the effectiveness of this reconfiguration is structurally constrained by persistent urban sustainability pressures, uneven technological and institutional capacities among ASEAN Member States, and fragmented political commitment at the city level. These constraints expose the limits of redistributing agency in a regional context characterised by soft institutionalism and significant development asymmetries. The resulting unevenness in smart city implementation reflects not technical shortcomings, but the political and institutional conditions under which subnational governance is embedded in Southeast Asia's regional order.

Thus, conceptualising ASCN as a contested governance space where middle-power diplomacy, subnational agency, and development paradigms intersect enables a more critical understanding of smart city cooperation in the region. The ASEAN–ROK partnership illustrates how external engagement can simultaneously enable new forms of regional coordination and reproduce existing structural limitations. This perspective shifts the analytical focus from policy outcomes to governance dynamics, positioning cities as key arenas in which regional cooperation, development priorities, and power relations are continually negotiated in an increasingly fragmented global economy.

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