由物聯網虛擬介接看智慧城市合作

Beyond Bamboo Networking-
Wiring Smart City Virtual Bridges

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Abstract

The purpose of this work is to introduce and examine Taiwan's next technological leap relating to upper segments of the IT sector involving software and digital service development supported by Smart City initiatives such as CitySDK. My approach in this work is to introduce CitySDK as a means for encouraging global collaborations and to advance strategies in interoperability in APP/Service creations.

Research shows Taiwan has a number of key arrangements in place to support innovative approaches in Smart City development and collaborations. Taiwan has effectively established an environment conducive for continual success in Smart City advancement. The key arrangements in place includes a diverse, adaptive and a strengthened IT sector, sound public governance in IT that is nourishing, and previous smart city success to support and promote new approaches in Smart city development. Essentially, Taiwan is a ripe environment for introducing CitySDK based on these factors.

The implications are a unique configuration of Smart City collaborations that are transboundary in scope and taking national initiatives in Smart City development to a new global context through CitySDK services and international partnerships. A CitySDK project initiative, if adopted, will be enabling for Smart City evolution where application programming interfaces have an opportunity to harmonize in an international context among European cities. The benefits are dual, both Smart Cities and digital service/software industries in Taiwan will have new opportunities to explore upgrades and innovation in their local strategies.

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In recent decades Taiwan has been able to build a successful IT sector by forging international partnerships and housing incubation strategies within its local strategic IT industry collaborations. This success has been achieved by leapfrogging in strategic segments of its IT industry— from OEM/ODM manufacturing for companies such as Dell or Microsoft's Windows 10 notebooks[1]— to developing its own "Brand Building" success stories under flagships such as ACER and ASUS computer— to IT system and service provider capacities, – to cutting edge design work through the UK's ARM microprocessor design center based in Hsinchu[2], or Apple's strengthening business relationship with TSMC on its A10 mobile chipset series[3], and recent strategic investments by the US Micron Technology in Inotech Memories chip manufacturing based in Taiwan.[4] These advancing trends serve as testimony to Taiwan's seamless IT evolution. And finally, to achieve a new context in the global IT space, Taiwan's next leap involves creating innovative ways to integrate Smart City applied technologies into its urban fabric by evolving in upper segments of the IT sector involving software and digital service development. To accomplish this, ongoing support for Smart City development and exploring new Smart City strategies will be key. One step being given consideration and support by Taiwan's Industrial Technology Research Institute (ITRI), in part commissioned and co-funded by the Taiwan Ministry of Economic Affairs, involves enabling Taiwan's industry leaders in telecommunications and local governments an opportunity to take a closer look at the possibilities of "Smart CitySDK" by hosting a focused event for Smart CitySDK keynote speakers at the upcoming "Smart City Summit & Expo" this coming March in Taipei.[5] This event will highlight how a strengthened digital medium through 4G mobile communication technologies coupled with CitySDK can optimize digital services through Smart City initiatives and will be a boon for bridging global partnerships in interoperability strategies in APP/service creation.

Smart CitySDK a Virtual Bridge

Smart CitySDK, partially source funded by the European Union's Parliament Seventh Framework Programme, is a Service Data Kit, essentially, a programing package enabling the development of applications for a specific platform promoting the harmonization of application programing interfaces

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[1] Chien, Joanne. "Digitimes Research: Microsoft to partner with Acer, Lenovo and Inventec for US $169-245 Widows 10 notebooks" June 2, 2015 Retrieved form http://www.digitimes.com

[2] "Arm Established World-Class CPU Design Center in Taiwan" June 2, 2014. Retrieved from http://www. Arm.co

[3] Balanci, Mary. "Apple to Ditch Samsung For TSMC as Their Chipset Maker." December 3, 2015. Retrieved from http://www.mobilenapps.com

[4] Clark, Don & Zheng, Anjie. "Micron Technology to Buy All of Taiwanese Chip Company Inotera." Wall Street Journal. December 14, 2015. Retrieved at http://www.wsj.com

[5] "ITRI Host 'Smart City Common API Innovative Technologies' forum to promote Smart CitySDK." Press Release. February 2, 2016 Retrieved from http://www.smartcity.org.tw

(APIs).[6] This programing package enables and fosters interoperability in application services in transboundary capacities, implementation across Taiwan's Cities would mean new opportunities for collaborations through API harmonization with other cities in Europe. Essentially, a service data kit hoisting a virtual bridge capable of expanding and developing digital services through API harmonization strategies with other Smart Cities in Europe such as Helsinki, Lisbon, Amsterdam, Istanbul, and Rome. And on the Taiwan side, Smart CitySDK implementation would mean new opportunities for Taiwan's globally recognized Smart Cities Kaohsiung, Taichung, New Taipei City, and Tainan to explore and integrate creating new digital frontiers.

Smart CitySDK Implications

The implications of implementing Smart CitySDK-API Harmonization are abound. There are opportunities to develop digital services in tourism, mobility-transportation, and event reporting that promotes civic engagement. Furthermore, Smart CitySDK if successfully piloted island wide offers a host of opportunities for Taiwan that would include global collaborations with other cities and the international developer community. This vision, if successful, will bring about a number of unique features such as feedback loops on digital service trends in rapidly changing urban environments, optimized decision advantages through urban innovation in managing resources, a nexus for sharing ideas among cities working to advance their knowledge based local economies, new possibilities in innovation for IT hardware solutions in diverse urban landscapes that elevate city resiliency and adaptation strategies, and finally a forum for information exchange relating to industry and service upgrades for both industrialists and public-citizen domains. Lastly, a networked medium of harmonized APIs would enable public leaders to leverage digital services in a way that elevates public budget saving strategies.

Key Arrangements in Place

For this vision to find footing, key arrangements have to be in place. As an overview, Taiwan's wired landscape, dynamic IT start-up scene, and Smart City initiatives reflect some interesting things happening there today. Eighty-two percent of Taiwan's citizenry is wired, and there are diverse and creative forces in play within Taiwan's IT sector. The National Development Council's HeadStart program is an active policy prescription aiming to build a small Silicon Valley in Taiwan, or alternatively aptly referred to as "Green Silicon Island." This program embraces and cultivates entrepreneurial flair coupled with a business friendly regulatory environment with co-funded start-up opportunities.[7]

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[6] "CitySDK Cookbook." Forum Virium. 2016 Retrieved at http://wwww.citysdk.eu

[7] Wu, J.R. "Taiwan courts tech start-ups to drive economic growth." Reuters. July 11, 2015. Retrieved from http://www.reuters.com

In the area of Smart City achievement, according to the Intelligent Community Forum (ICF) rank listings, there is an abundance of Smart Community success stories emerging in Taiwan. Some of these successes have included in 2006 Taipei ranked first on ICF's intelligent community rankings and again in 2013 Taichung City made its way to first on ICF's intelligent community rankings.[8] And staying in stride, within the past two years Taiwan's intelligent communities have achieved a high number of placements on the ICF

Smart 21 listings.[9] In 2015, the "Most Intelligent Communities Finalist 21 List" included New Taipei City, Taitung County, Taoyuan County, and Changhua County, and in that same year for its higher scoring- the ICF's Top 7 List Taiwan's New Taipei City found its way on that list.[10] For 2016, the Smart 21 list includes Taiwan's- Kaohsiung, New Taipei City, Hsinchu County, Taitung County, and Taoyuan County. Finally, if we blend all these trends under a sound governance regime which cradles a freer digital data environment this ripens the scene for international developers--one where cross-border fertilization strategies and smart city services will continue to bloom.

All of these developments are a boon for a digital ecosystem anchored in an information based economy, one that exhibits readiness to embrace Smart CitySDK strategies. In Taiwan, its IT sector seems to be arriving at a conclusion with no end where a transformation of digital services via harmonized APIs may generate limitless opportunities for a sustainable urban landscape. With these possibilities in mind, it is likely Taiwan's Smart Cities will continue to be a roadmap for intelligent networking of infrastructure through

IoT(s) and a rapid expansion of smart services, and Smart CitySDK may be the bridge for that journey. A journey representing a rapid departure from its traditional know-how in hardware design and manufacturing and one leaning toward a new context embracing software and digital services within its urban landscape.

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[8] "Top7 By Year." Intelligent Community Forum (ICF). 2016. Retrieved from http://www.intelligentcommunity.org

[9] Ibid. ICF 2016

[10] Ibid. ICF 2016

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