



C-DOT-TSDSI Webinar Series

The National Standards for IoT Smart Cities Perspective

📓 5-8 July, 2021

③ 2:00PM to 4:00PM IST







C-DOT-TSDSI Webinar Series: The National Standards for IoT – Smart Cities Perspective IoT Standards and Smart Cities: Global Perspective

oneM2M in Korean Smart Cities

SeungMyeong Jeong Korea Electronics Technology Institute (KETI)



सी-डॉट Table of Contents

- oneM2M frontier cities in Korea
- Commercial follow-ups
- Smart city integration
- Lessons learned



oneM2M frontier cities in Korea Busan Global Smart City

• Type: Pilot Project

- Duration: '15.01 ~ '17.12
- Coordinator: SK Telecom
- Testbed: Haewoondae-gu (district)



Our instantion		On an Orman	Otherstein	
Service devices		Open Smart	City platform	
· ZigBee · RS-232C	HTTP	strates (IThingPlug)**		Open AF
· Bluetooth		Common platform	Application platforms	
· Wi–Fi · NFC	MQTT	Open API	Web development portals	
· LPWA		Common service functions	Application service functions	Existing u-C Open API
Device platform		Device protocols	Public data linkage	
ste			1	
Cube			City monitoring	

Testing prospective city services (26 services)

- CC	OMMUNITY SAFE	TY •	*IMPROVEMENT*	URBAN LIVING	ENERGY CONSERVATION
Smart streetlights	Relief services for the socially disadvantaged	Smart prevention services for lost/missing children	Smart crosswalks	Proximity beacons for small business location-based marketing services	Smart building energy conservation
Smart Maritime safety service (utilizing drones)	Situation-aware evacuation information system	Smart safety service for subway/LRT platforms	Smart parking	Mist-spraying at traditional markets	Smart store energy management
Smart subway ventilation management system	Trial of Smart City disaster prevention system	Smart traffic safety service in school zones	Pedestrian-responsive smart directional information signage service	Testing of situation-aware Smart Home service	Development of urban energy-self- sufficient smart farm service,
Secure location management service based on smart LED streetlights	Smart City platform-based safety advisory service for wet road conditions	SDeveloping & testing 'soft' smart ship service platform for passenger safety & convenience, using wireless integrated IoT sensor technology	CCTV video analytics for traffic data collection & alternative route info	Social care services utilizing IoT smart mirrors	linked with Smart City platform
Development of smart marine leisure services deploying IoT-based weather data collection devices			Enhanced image-based smart parking service	Visitor access control and monitoring system	

	rippiloalion of otom
Open API	 Smart streetlights Relief for the socially disadvantaged Smart store energy management Smart crosswalks Smart prevention of lost/missing children Smart parking Building energy savin Maritime safety (drones) Marketing for small enterpresented
	Context-aware evacuation

Application systems

https://k-smartcity.kr/english



Image: Second stateSecond stateSecond stateSecond stateGoyang – IoT Convergence Smart City

• Type: Pilot Project

- Duration: '16.01 ~ '17.12
- Coordinator: LG U+
- Environment-friendly Smart City Services





<Smart ECO City service>

	oneM2M-bas		Dashboards		
	Common F		Safe Parking		
	Authentication	M2MS I/F			
	Registration Announcement	Monitoring oneM2M		Park Environment	
	Access Control Policy Discovery	Log View	(HTTP(s))	Residence Area	
	Subscription Group	Management		Residence Area	
	/Notification Mgmt.	Statistics		Ecological Environ.	
oneM2N	Mgmt.	Firmware Management	Control		
(HTTP(s	App. Service Data Mgmt. Layer Mgmt. Repository	CSF Simulator			
MQTT)	Communication Mgmt. Delivery Handling	Authentication Simulator		Open Data	
	Application	Platform			
	Energy / Transport / Environme	nt / Infra / Safety Services		REST API Service	
	Common M	odules	DECT ADD	REST API Mamt.	
	Service Device	Service Service	REST APP		
				Data Collection Mgmt	
	Service Discovery Rule Engine	User Mgmt. Data Processing		JAVA/JSP HTML	
	Resource OAM		D-	CSS E- Governme	

Device

Safe

Parking

Park Environ.

Residence Area

> Smart Garbage

Ecological

Environ.



Commercial follow-ups Daegu Suseong Alpha City ('18)

- Strategies of Daegu: Testbed & PPP
- Smart city systems have been deployed w/ and w/o IoT standards
- Services: pedestrian safety, illegal parking mgmt., smart walking, EV charging, etc.

source: Daegu TechnoPark

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Daegu Smart City Roadmap



Commercial follow-ups Anyang City ('21)

- Sensor data integration with oneM2M-based platform
- Platform features: service mgmt. device mgmt. event mgmt. application mgmt. system mgmt. (e.g. user, system resource)
- Services: smart street lights, water metering, fine dust monitoring, etc.
- PS-LTE and Cat. M1 networks

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Management Portal

GIS Monitoring Application



री-डॉन Commercial follow-ups Anyang City





Smart City Data Hub

- National Strategic Smart City Program ('18 ~ '22)
- Data Hub collects data from external systems of city infrastructures
- oneM2M platforms provides standard APIs and Data Hub provides oneM2M adaptor
- Parking congestion prediction PoC with parking event data from oneM2M platform





Lessons learned

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- Device vendors easily interworked their devices to the oneM2M platform
 - Application vendors use data from the platform (no more silos)
- Cities prefer standard-based IoT solutions
 - Standard solutions help reducing time and cost
 - RFPs for commercial deployments require IoT standards



Thank You

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sm.Jeong@keti.re.kr