

국외출장 결과보고서

기 간: 2024.12.16.(월)~12.20.(금) (2박 5일)

출장지: 아시가바트(투르크메니스탄)

출장자: 김익희 연구위원

1. 출장개요

1. 출 장 자: 아시가바트 (투르크메니스탄)
2. 출장기간: 2024. 12. 16. (월) ~ 12. 20. (금)
3. 출 장 자

소속	직급	성명	비고
도시연구본부	연구위원	김익희	12. 16. ~ 12. 20. (2박 5일)

4. 출장목적

- 투르크메니스탄 아시가바트의 오구즈 한 공과기술 대학교 스마트도시 전문가 초청 대응
- 오구즈 한 대학에서 개최한 “하이브리드 국제 과학 및 실무 컨퍼런스” 참석 및 한국 스마트도시 정책과 솔루션 발표
- 오구즈 한 공과기술 대학교 및 향후 투르크메니스탄 정부와의 스마트도시 협력 추진을 위한 업무 협의

II. 출장일정

일정 (요일)	출발지	도착지	업무수행내용	접촉예정인물 (직책포함)
12월 16일(월)	인천	이스탄불	(00:10) 인천 출발 (06:15) 이스탄불 도착	
	이스탄불		(21:06) 이스탄불 출발	
12월 17일(화)		아시가바트	(02:50) 아시가바트 도착 (09:00~14:00) 오구즈 한 대학교 총장 미팅 및 한-투르크메니스탄 스마트도시 협력 관련 논의 (14:00~18:00) 한-투르크메니스탄 스마트도시 협력을 위한 한국인 관계자 후속 미팅	Allaberdy Ashirov, Gurbanmyrat Mezilov, Caryyew Sageldi, Yslam Orazow(Oguz han University) 강성주 교수(세종대), 이종근 회장(DSTi)
12월 18일(수)			(9:00~18:00) 하이브리드 국제 과학 실무 컨퍼런스(주제: Smart City: Management, Digital, Smart and Artificial Intelligence Technologies, Security and Economics) 참석 및 한국의 스마트도시 정책과 솔루션 발표	오구즈 한 대학교 관계자, 해외 스마트도시 전문가 등 강성주 교수(세종대), 이종근 회장(DSTi)
12월 19일(목)	아시가바트	이스탄불	(09:00) 아시가바트 출발 (11:20) 이스탄불 도착	
	이스탄불		(17:10) 이스탄불 출발	
12월 20일(금)		인천	(09:05) 인천 도착	

Ⅲ. 수행사항

1. 한-투르크메니스탄 스마트도시 협력 관련 업무협약 및 관련 후속 미팅

1) 한-투르크메니스탄 스마트도시 협력 관련 업무협약

□ 일 시: 2024. 12. 17. (화) 09:00 ~ 14:00

□ 장 소: 오구즈 한 대학교

□ 참석자(오구즈 한 대학교) Allaberdy Ashirov, Gurbanmyrat Mezilov, Caryyew Sageldi, Yslam Orazow (세종대학교) 강성주 교수, (DSTi) 이종근 회장 등

□ 주요 내용:

○ 한-투르크메니스탄 스마트도시 협력 MoU 준비

- 한국의 스마트도시 해외 협력 프로그램인 K-Smart City 네트워크를 소개하고 아시가바트 또는 아카닥의 스마트도시 마스터 플랜, 공공와이파이 설치 등 향후 협력 방향 및 MOU 초안 내용 논의
- 한국 기업의 투르크메니스탄 진출을 위한 방안 논의



▲ 한-투르크메니스탄 스마트도시 협력 관련 업무 협의

2) 한-투르크메니스탄 스마트도시 협력 추진을 위한 한국 관계자 업무 협의

□ 일 시: 2024. 12. 17. (수) 14:00 ~ 18:00

□ 장 소: 아시가바트 호텔

□ 참 석 자: (세종대학교) 강성주 교수, (DSTi) 이종근 회장


□ 주요 내용

- (MOU 초안 작성) 오구즈 한 대학과 회의를 토대로 MOU 초안을 위한 회의록 작성
 - (기술협력) 양측은 아카닥 스마트도시 인프라 건설과 관련하여 공동 연구 및 기술 협력 추진
 - (인적교류) 스마트도시 인력 양성을 위한 협력 프로그램 강구
 - (마스터플랜) 아카닥의 스마트도시 마스터플랜 수립을 위한 협력 추진
 - 오구즈 한 대학교와 국토연구원·세종대학교 등은 양측 정부의 협력을 끌어내기 위해 노력하기로 함



2. 하이브리드 국제 과학 실무 컨퍼런스 참석 및 발표

- 일 시: 2024. 12. 18. (수) 09:00 ~ 18:00
- 장 소: 오구즈 한 대학교
- 참 석 자: (오구즈 한 대학교) Allaberdy Ashirov, Gurbanmyrat Mezilov, Caryyew Sageldi, Yslam Orazow, (İzmir Institute of technology) Mustafa Emre Ilal, (Chinese Academy of sciences) Xiao Bao, (Moscow engineering physics institute) Dmitry Savkin, (University of Lincoln) Ian Scowen, (Belarusian State university) Dmitry Likhachevsky, (Chitkara University) Chitkara Madhu, (Samarkand State university) Mohd Nazish Khan, (Tenaga National university) Abdul Aziz Bin Mat Isa, (National university of science and technology politehnica Bucharest) Vladimir Tanasiyev, (세종대학교) 강성주 교수, (DSTi) 이종근 회장 등
- 컨퍼런스 주제: Smart City: Management, Digital, Smart and Artificial Intelligence Technologies, Security and Economics

<p>ACADEMY OF SCIENCES OF TURKMENISTAN OGUZ HAN ENGINEERING AND TECHNOLOGY UNIVERSITY OF TURKMENISTAN</p>  <p>«SMART CITY: MANAGEMENT, DIGITAL, SMART AND ARTIFICIAL INTELLIGENCE TECHNOLOGIES, SECURITY, ECONOMICS» International scientific-practical conference</p> <p>PROGRAMME</p> <p>December 18, 2024</p> <p>Ashgabat – 2024</p>	<p>Agenda of the International scientific-practical conference «SMART CITY: MANAGEMENT, DIGITAL, SMART AND ARTIFICIAL INTELLIGENCE TECHNOLOGIES, SECURITY, ECONOMICS»</p> <p>Ashgabat, December 18, 2024 <i>(International scientific-practical conference is held in the format of hybrid)</i></p> <p>December 18, Wednesday</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 20%;">Time</th> <th style="text-align: left;">Events</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;">09:00 – 09:05</td> <td style="vertical-align: top;">The song «The most beautiful city of Arkadag» performed by the «Oguzlar» creative group of the Oguz han Engineering and Technology University of Turkmenistan. <i>Note:</i> During the song, a video about the Arkadag smart city on a large monitor will be showed.</td> </tr> <tr> <td style="vertical-align: top;">09:05 – 11:30</td> <td style="vertical-align: top;"><i>Venue:</i> «Oguz han» scientific and technology center of Oguz han Engineering and technology university of Turkmenistan Opening of the International scientific-practical conference and speeches of speakers in the plenary session. <i>Note:</i> During the plenary session, it is planned to solemnly present certificates from foreign institutions, enterprises and higher education institutions to the Arkadag city.</td> </tr> </tbody> </table>	Time	Events	09:00 – 09:05	The song «The most beautiful city of Arkadag» performed by the «Oguzlar» creative group of the Oguz han Engineering and Technology University of Turkmenistan. <i>Note:</i> During the song, a video about the Arkadag smart city on a large monitor will be showed.	09:05 – 11:30	<i>Venue:</i> «Oguz han» scientific and technology center of Oguz han Engineering and technology university of Turkmenistan Opening of the International scientific-practical conference and speeches of speakers in the plenary session. <i>Note:</i> During the plenary session, it is planned to solemnly present certificates from foreign institutions, enterprises and higher education institutions to the Arkadag city.
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<p>▲ 컨퍼런스 프로그램 북</p>							

□ 프로그램

시간	행사
09:00 - 09:05	(공연) "The most beautiful city of Arkadag" 투르크메니스탄 오구즈 한 공학 기술 대학의 Oguzlar 그룹 합창
09:05 - 11:30	개회식 및 본 행사
11:30 - 13:00	Coffee break.
13:00 - 15:00	(세션1) 스마트도시 관리를 위한 디지털 기술
13:00 - 15:00	(세션2) 스마트 인공 지능 기술과 스마트 시티의 보안
13:00 - 15:00	(세션3) 스마트 시티의 경제학
15:00 - 15:30	양해각서 서명식: 1. 오구즈 한 공대와 벨라루스 국립 정보 및 방사선 전자 대학 2. 오구즈 한 공대와 모스크바 국립 연구 원자력 대학 3. 오구즈 한 공대와 부쿠레슈티 공학 및 기술 대학
15:30 - 16:00	폐회
16:00 - 16:05	(공연) "We will lay down our heads for Arkadag and Arkadagly Serdar" 투르크메니스탄 오구즈 한 공학 기술 대학의 Oguzlar 그룹 합창
16:05 - 19:00	오구즈 한 대학 스마트도시 전시회 방문

□ Plenary Session

- (발표 1) **Korea's smart city policy and solutions (Ick-Hoi Kim Korea Research Institute for Human Settlements, Korea)**
- (발표 2) Integration of BIM and GIS for the smart city(Mustafa Emre Ilal, İzmir Institute of technology, Turkiye)
- (발표 3) Energy systems and gas turbines in the concept of smart city (Xiao Bo, Chinese Academy of sciences, China)
- (발표 4) Smart Cities in Global Economy: The Case of Moscow (Dmitry Savkin, the National research nuclear university, Russian Federation)
- (발표 5) Designer functional materials - bridging structural hierarchy, disciplines and innovation steps (Ian Scowen, the University of Lincoln, UK)

- (발표 6) Methods for detecting potential threats in smart city systems (Dmitry Likhachevsky, Belarusian State university of informatics and radioelectronics, Belarus)
- (발표 7) Chitkara University's social impact focus in ESG led world (Chitkara Madhu, Chitkara University, India)
- (발표 8) Communication as the heart of smart cities: bulding bridges to competitiveness and connectivity (Sergey Stanovkin, the European news academy at Oxford, UK)
- (발표 9) The rise of AI in remote sensing and its social and ethical challenges (Mohd Nazish Khan, Samarkand State university, Uzbekistan)
- (발표 10) AI and human values: navigating the intersection of technology and ethics (Abdul Aziz Bin Mat Isa, Tenaga National university, Malaysia)
- (발표 11) Integration of centralized and decentralized systems for enhancing energy efficiency in tertiary buildings (Vladimir Tanasiyev, the National university of science and technology politehnica Bucharest, Romania)



▲ 컨퍼런스 Plenary Session

Korea's Smart City Policies and Solutions

KIM, Jek Hoi
(kimikhoi@krihs.re.kr)

Director of Smart City Research Center
Korea Research Institute for Human Settlements

Relationship between the National Land Comprehensive Plan and the Smart City Comprehensive Plan

- Presenting a national master plan every 5 years with the goal of realizing a smart city to improve urban competitiveness and quality of life (ACT on the PROMOTION OF SMART CITY DEVELOPMENT AND INDUSTRY (SMART CITY ACT), Article 4 and Article 8 of the Enforcement Decree of the Same Act)
- SMART CITY ACT, Article 4, Clause 4 The comprehensive plan shall be in accordance with the comprehensive national land plan in accordance with the Framework Act on National Territory.

제4차 스마트도시 종합계획	제3차 스마트도시 종합계획	제2차 유비쿼터스도시 종합계획	제1차 유비쿼터스도시 종합계획
<p>PDF 다운로드</p>	<p>PDF 다운로드</p>	<p>PDF 다운로드</p>	<p>PDF 다운로드</p>

Development of Smart Cities in Korea

	09-13 The 1st Ubiquitous City Comprehensive Plan	14-18 The 2nd Ubiquitous City Comprehensive Plan	19-22 The 3rd Smart City Comprehensive Plan
Vision and Goals	<ul style="list-style-type: none"> Realization of a high-tech information city that improves the quality of life of citizens and urban competitiveness Efficiency of urban management Nurturing as a new growth engine Advancement of city services 	<ul style="list-style-type: none"> Safe & Happy Realization of a high-tech creative city U-City Expansion Revitalization of the Creative Economy U-City Industry Strengthening support for entering overseas markets 	<ul style="list-style-type: none"> Changing the daily lives of citizens Smart City, a Platform for Innovation Solving various urban problems Creating an Inclusive Smart City Strengthening global cooperation through the establishment of an innovation ecosystem
Strategies	<ul style="list-style-type: none"> Establishment of institutional foundation Core Technology Development Support for U-City Industry Promotion Creation of U-Service for the people 	<ul style="list-style-type: none"> Establishment of a public safety net for the realization of a safe city Expansion of U-City and development of related technologies Support for private companies for the realization of creative economy industries Strengthening support for entering overseas markets through international cooperation 	<ul style="list-style-type: none"> Create a customized model for each stage of growth Establishment of a foundation for the spread of smart cities Creation of a Smart City Innovation Ecosystem Strengthening global initiatives
Key Results	<ul style="list-style-type: none"> Establishment of infrastructure such as integrated operation center and private network Establishment of institutional foundations such as completion of relevant guidelines Integrated Platform Development Convergence Human Resource Development 	<ul style="list-style-type: none"> Establishment and expansion of an integrated platform and 5A-level service-oriented national safety nets Securing governance among public institutions 	<ul style="list-style-type: none"> Intro of bottom-up demonstration projects for new cities and existing cities Expanding citizen and private enterprise involvement Laying the foundation for urban information utilization such as data hub development Introduction of innovative systems such as regulatory sandboxes Expanding Overseas Cooperation

National Smart City Vision and Strategy (2024-2028)

Smart Cities that connect people and places to promote sustainable growth

Objectives: Cutting-edge digital space, Innovation space, Smart space

Strategies: Sustainable & Inclusive Cities, Urban Infrastructure based on AI and data, Private sector-friendly industrial ecosystem, International Cooperation

Actions: Platform City implementation, Responding to the climate crisis and enhancing digital inclusion, Provision of smart solutions for each region, Completion of the national pilot city projects, Environment for promotion of Data Hubs, AI-based Data Hub advancement, Smart cities based on Digital Twin technology, Revitalization of specialized tech-based urban complexes, Strengthening governance and regulatory innovation, Private sector-led industrial ecosystem, Support for smart city-related industries, Strengthening international cooperation network, Global expansion of K-Smart Cities

Smart City Safety Net Service

112 Emergency Video Support 112 Integrated Situation Room

112 Emergency Dispatch Support 112 Emergency Dispatch Patrol Car

119 Emergency Dispatch Support 119 Integrated Situation Room

Report Location, CCTV footage, Location info, Emergency Response Support, Subject location

Smart City Integrated Center

Ministry of Justice Emergency Video Support Location tracking control center of Ministry of Justice

Social Support for the Underprivileged 112 Integrated Situation Room

Emergency Response to Disaster Situations 112 Integrated Situation Room

Digital Twin

Collect real-time data to accurately locate tracking in disaster (electronic ankle)

High-precision Location Service

2024.04.04

2024.04.04

2024.04.04

Autonomous Vehicle

자율주행 미니버스 운행

Renewable Energy & Trading

Purchase of surplus power

GRID+

Small-scale Renewable Energy Trading Platform

Electricity Sales

Town-type Smart Hub

EV Charging

▲ 국토연구원 발표 내용 일부 발췌

□ Session 1

- (주제) DIGITAL TECHNOLOGIES FOR SMART CITY MANAGEMENT
- (좌장) Yang Yuxiang - Deputy director of the Human resources department of Hangzhou Dianzi University of China, professor
- (발표 1) Roadside perception and digital twin for intelligent transportation system (Yang Yuxiang, China)
- (발표 2) Smart city project management (Chong Keun Lee, Korea)
- (발표 3) Management of smart cities (Valeria Budko, Russian Federation)
- (발표 4) Reduction processes of silica sands for solar silicon towards carbon-neutral society (Itaka Kenji, Japan)
- (발표 5) Trends transforming telecommunications (Dmitry Konarev, Russian Federation)
- (발표 6) Prompt engineering for biomimicry design: a practical guide to leveraging AI for nature-inspired innovation (Mariam Chiburdanidze, Georgia)
- (발표 7) Automated system for processing angiographic images (Yuri Sukhomlinov, Russian Federation)
- (발표 8) AI technologies and the evolution of smart cities: efficiency, sustainability, and security (Aygozel Atayeva, Turkmenistan)

□ Session 2

- (주제) SMART, ARTIFICIAL INTELLIGENCE TECHNOLOGIES AND SECURITY OF THE SMART CITY
- (좌장) Dmitriy Lihachevskiy - Dean of the Faculty of Computer-aided design of Belarusian State University of informatics and radioelectronics, professor, Ph.D.
- (발표 1) Smart City and AI Policy in Korea (Seong Ju Kang Korea)
- (발표 2) Cybersecurity challenges in Smart City (Mohd Ezanee Bin Rusli, Malaysia)
- (발표 3) Low-dimensional material integrated piezoelectric and triboelectric nanogenerators for self-powered sensing (Mustafa Ordu, Turkiye)
- (발표 4) Fuzzy logical inference system for assessing the medical risk of osteochondrosis (Olga Knysh, Russian Federation)
- (발표 5) Smart traffic lights: revolutionizing traffic management (Azat Babayev, Turkmenistan)

□ Session 3

- (주제) DIGITAL TECHNOLOGIES FOR SMART CITY MANAGEMENT
- (좌장) Sergey Stanovkin – Program Director of the European news academy at Oxford
- (발표 1) Exploring the synergistic potential of miRNAs, plant stem cells, and exosomes in the skin care and cosmetics industry (Bakir Yakup, Eldem Vahap, Turkiye)
- (발표 2) Development of waste-free technology for processing of all types of limestone waste using solar energy (Zhienbek Sugirov, Kazakhstan)
- (발표 3) Intelligent perception and its application in urban water resources, Xu Jinghui, China)
- (발표 4) Cultural and technological adaptation for smart cities (Begench Garahanov, Japan)
- (발표 5) The importance of formation and development of human capital in green economy (Oguljeren Kulyyeva, Ayjahan Bashimova, Turkmenistan)



▲ 컨퍼런스 오후 세션