


Testbed Seoul(Global) Innovative Technology Demand Survey Form (TG26-1)

1. Requestor Information

Demonstration Institution	Person in charge	Organization Name : TÜV SÜD Product Service GmbH	Contact Information	Office Phone : +82 2 67152 804
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		Name : Hong-in Jin		Email : Hong-In.Jin@tuvsud.com
Colaborating Institution	Person in charge	Organization Name : FITI Testing & Research Institute	Contact Information	Office Phone : (02) 3299-8049
		Department : ESG Certification Center		Mobile : (010) 4057-1926
		Name : Yun-Ki kim		Email : yunki@fiti.re.kr

2. Requested Technology Overview

Technology Name	<ul style="list-style-type: none"> - AI-based real-time analysis of spatial and facility usage patterns and operational optimization technology
Related Projects	<ul style="list-style-type: none"> - Spatial efficiency and AI operational optimization projects for smart buildings, factories, logistics facilities, etc.
Core Required Technologies	<ul style="list-style-type: none"> - AI-based real-time spatial usage pattern analysis - Sensor-camera fusion occupancy detection technology - Integration with facility data platforms such as BMS and BIM - AI reliability verification technology for EU AI Act compliance
Current Issues & Innovations	<ul style="list-style-type: none"> - Building and facility managers face difficulties in real-time monitoring of space utilization, resulting in inefficient operations and energy loss - Rapid increase in demand for AI system reliability verification following the enforcement of the EU AI Act - Need for AI spatial analysis technology universally applicable to various facility types beyond buildings, including factories, logistics centers, and hospitals
Detailed Requirements of the Technology	<ul style="list-style-type: none"> - Real-time analysis capability for space utilization status (data refresh cycle within 5 minutes) - Technical level capable of achieving occupancy detection accuracy of 90% or higher - Anonymization processing structure compliant with GDPR - Open architecture enabling integration with existing facility infrastructure (BMS, sensors, etc.)
Currently Applied Technologies	<ul style="list-style-type: none"> - Manual visitor counting and access card-based occupancy tracking (Low accuracy). - Independent operation of BMS, preventing integrated analysis.
Related Diagrams	

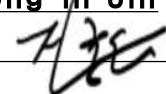
3. Demonstration Plan

Demonstration Area and Facility	<ul style="list-style-type: none">- Utilization of TÜV SÜD's test laboratories and demonstration infrastructure located within Europe- Integration with building data environments based on TÜV SÜD's cooperative network- Target facilities and detailed equipment to be finalized through consultation with participating companies and local institutions
Demonstration Objective	<ul style="list-style-type: none">- Verify the applicability of AI spatial analysis solutions in real facility environments in Europe- Acquire AI system reliability data in accordance with EU AI Act standards
Scope of Demonstration	<ul style="list-style-type: none">- Spatial: Multiple floors including conference rooms and common areas within the building- Technical: Real-time spatial monitoring, AI optimization algorithms, and AI reliability verification- Duration: 12 months
Expected Effects	<ul style="list-style-type: none">- Improvement of spatial operational efficiency by 20% or more- Acquisition of AI reliability references for EU AI Act compliance- Establishment of global references applicable to various facility types including buildings, factories, and hospitals

Date: 2026. 04. 23

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Signature:




Testbed Seoul(Global) Innovative Technology Demand Survey Form (TG26-2)

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Colaborating Institution	Person in charge	Organization Name : FITI Testing & Research Institute	Contact Information	Office Phone : (02) 3299-8049
		Department : ESG Certification Center		Mobile : (010) 4057-1926
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2. Requested Technology Overview

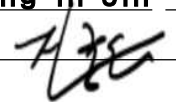
Technology Name	<ul style="list-style-type: none"> - IoT sensor-based real-time monitoring and anomaly detection technology for industrial equipment and products
Related Projects	<ul style="list-style-type: none"> - Remote monitoring of industrial equipment, and performance verification projects for IoT devices and modules
Core Required Technologies	<ul style="list-style-type: none"> - Real-time data collection of equipment and product status based on IoT multi-sensors - Edge computing-based anomaly detection algorithm - Cloud-integrated remote management platform - Support for industrial communication protocols such as OPC-UA and MQTT
Current Issues & Innovations	<ul style="list-style-type: none"> - Frequent unexpected downtime due to aging equipment at European industrial sites - Limitations in early anomaly detection under the current on-site inspection-based approach - Growing demand from IoT module and device manufacturers for on-site product performance verification in Europe
Detailed Requirements of the Technology	<ul style="list-style-type: none"> - Real-time data collection capability for equipment and product status via IoT sensors (collection cycle within 1 minute) - Technical level capable of achieving anomaly detection accuracy of 85% or higher - Support for at least one major industrial communication protocol (OPC-UA, MQTT, etc.) - Includes remote monitoring and alert functions
Currently Applied Technologies	<ul style="list-style-type: none"> - Manual periodic on-site inspection method - Individual local sensor operation per equipment with insufficient inter-system integration
Related Diagrams	

3. Demonstration Plan

Demonstration Area and Facility	<ul style="list-style-type: none">- Utilization of TÜV SÜD's test laboratories and demonstration infrastructure located within Europe- Integration with building data environments based on TÜV SÜD's cooperative network- Target facilities and detailed equipment to be finalized through consultation with participating companies and local institutions
Demonstration Objective	<ul style="list-style-type: none">- Performance and stability verification of IoT-based equipment and product monitoring systems- Measurement of anomaly detection algorithm accuracy and false positive rate
Scope of Demonstration	<ul style="list-style-type: none">- Technical: IoT sensor installation, platform establishment, and anomaly detection operation- Duration: 5 months of data collection + 3 months of verification
Expected Effects	<ul style="list-style-type: none">- Expected reduction of equipment downtime by 30% or more- Acquisition of European on-site performance verification references for IoT products and modules- Establishment of a foundation for entry into the global industrial IoT market

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Testbed Seoul(Global) Innovative Technology Demand Survey Form (TG26-3)

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2. Requested Technology Overview

Technology Name	- Smart Energy Management and Carbon Data Integrated Monitoring Platform
Related Projects	- Energy and carbon management automation and efficiency improvement projects in response to EU CBAM and CSRD
Core Required Technologies	<ul style="list-style-type: none"> - Real-time energy consumption monitoring and analysis - Carbon emission calculation functionality based on energy data - IoT and smart metering-based data collection - Architecture compatible with international standards such as ISO 14064 and 14067
Current Issues & Innovations	<ul style="list-style-type: none"> - Rapidly growing demand for energy and carbon data management among European export companies following the enforcement of EU CBAM and CSRD - Decreased data reliability and reporting efficiency due to manual aggregation methods - Need for automation and international standard compliance through an integrated energy and carbon management solution
Detailed Requirements of the Technology	<ul style="list-style-type: none"> - Real-time energy consumption data collection and analysis capability - Carbon emission calculation functionality based on energy consumption (referencing standards such as ISO 14064) - Automatic generation of monthly and annual data reports - Integrated processing of two or more energy sources (electricity, gas, etc.)
Currently Applied Technologies	<ul style="list-style-type: none"> - Manual energy data aggregation based on spreadsheets - Carbon data managed through annual external consulting
Related Diagrams	

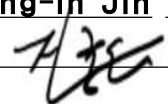
3. Demonstration Plan

Demonstration Area and Facility	<ul style="list-style-type: none">- Utilization of TÜV SÜD's test laboratories and demonstration infrastructure located within Europe- Integration with building data environments based on TÜV SÜD's cooperative network- Target facilities and detailed equipment to be finalized through consultation with participating companies and local institutions
Demonstration Objective	<ul style="list-style-type: none">- Verification of real-time energy monitoring accuracy and carbon data calculation functionality- Confirmation of linkage feasibility with TÜV SÜD verification based on international standards such as ISO 14064
Scope of Demonstration	<ul style="list-style-type: none">- Technical: Smart metering, data collection, analysis platform, and automated report generation- Verification items: Energy consumption data, carbon emissions, and CBAM/CSRD compliance data
Expected Effects	<ul style="list-style-type: none">- Acquisition of international verification references including ISO 14064, LCA, and EPD- Establishment of a foundation for entry into the European market as an EU CBAM and CSRD compliance solution- Reduction of operational costs through energy and carbon management automation

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Testbed Seoul(Global) Innovative Technology Demand Survey Form (TG26-4)

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Colaborating Institution	Person in charge	Organization Name : FITI Testing & Research Institute	Contact Information	Office Phone : (02) 3299-8049
		Department : ESG Certification Center		Mobile : (010) 4057-1926
		Name : Yun-Ki kim		Email : yunki@fiti.re.kr

2. Requested Technology Overview

Technology Name	- Smart Industrial Data Collection, Analysis, and AI-based Insight Generation Platform
Related Projects	- Integrated industrial data analysis and operational optimization projects in manufacturing, logistics, energy, and related sectors
Core Required Technologies	<ul style="list-style-type: none"> - Heterogeneous industrial data integration, collection, and normalization technology - AI-based data pattern analysis and anomaly detection - Industrial communication protocol integration (OPC-UA, MQTT, Modbus) - Cloud and edge hybrid data processing platform
Current Issues & Innovations	<ul style="list-style-type: none"> - Data silos arising from insufficient standardization of data integration between heterogeneous systems at European industrial sites - Inability to support real-time analysis and decision-making due to manual data collection methods - Widespread expansion of industrial data analysis demand across logistics, distribution, and energy sectors beyond manufacturing
Detailed Requirements of the Technology	<ul style="list-style-type: none"> - Integrated collection and analysis capability for three or more heterogeneous data sources - Near real-time analysis with data processing latency within 5 seconds - Experience in industrial site data processing or possession of relevant references - Includes data visualization and anomaly alert functions
Currently Applied Technologies	<ul style="list-style-type: none"> - Individual data storage per system and manual aggregation - Enterprise-wide operational optimization not possible due to absence of an integrated analysis platform
Related Diagrams	

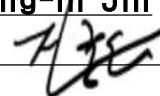
3. Demonstration Plan

Demonstration Area and Facility	<ul style="list-style-type: none">- Utilization of TÜV SÜD's test laboratories and demonstration infrastructure located within Europe- Integration with building data environments based on TÜV SÜD's cooperative network- Target facilities and detailed equipment to be finalized through consultation with participating companies and local institutions
Demonstration Objective	<ul style="list-style-type: none">- Performance verification of heterogeneous industrial data integrated collection and AI analysis platform- Confirmation of platform compatibility and stability in European industrial site data environments
Scope of Demonstration	<ul style="list-style-type: none">- Technical: Data collection platform establishment, protocol integration, and AI analysis algorithm operation- Target: Five or more types of industrial data including manufacturing, logistics, and energy- Duration: 2 months of platform establishment + 4 months of verification
Expected Effects	<ul style="list-style-type: none">- Acquisition of global demonstration references for industrial data analysis platforms- Establishment of a broad participation base extending to logistics and energy companies beyond manufacturing- Securing a foundation for entry into the European smart industry market

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Testbed Seoul(Global) Innovative Technology Demand Survey Form (TG26-5)

1. Requestor Information

Demonstration Institution	Person in charge	Organization Name : TÜV SÜD Product Service GmbH	Contact Information	Office Phone : +82 2 67152 804
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Colaborating Institution	Person in charge	Organization Name : FITI Testing & Research Institute	Contact Information	Office Phone : (02) 3299-8049
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		Name : Yun-Ki kim		Email : yunki@fiti.re.kr

2. Requested Technology Overview

Technology Name	- AI Facility Safety Monitoring System
Related Projects	- Safety management automation and AI safety solution projects for public facilities and industrial sites
Core Required Technologies	<ul style="list-style-type: none"> - Human detection and behavior analysis technology based on de-identification methods (selectively applicable: skeleton extraction, thermal imaging, mmWave, LiDAR, etc.) - AI behavior pattern analysis and automatic abnormal situation detection - EU AI Act High-Risk AI system reliability verification (linked with AIQURIS) - GDPR-fully compliant de-identified data processing architecture
Current Issues & Innovations	<ul style="list-style-type: none"> - Existing RGB image-based facial recognition is restricted from public application in Europe under the EU AI Act and GDPR - De-identification methods such as skeleton extraction, thermal imaging, and mmWave enable hazard detection without personal identification - TÜV SÜD Germany is scheduled to be designated as an official EU AI Act certification body in August 2025, enabling simultaneous certification linkage alongside demonstration
Detailed Requirements of the Technology	<ul style="list-style-type: none"> - Abnormal situation detection capability based on de-identification methods (skeleton extraction, thermal imaging, mmWave, LiDAR, etc.) - Target anomaly detection accuracy of 85% or higher for hazardous situations (falls, abnormal loitering, overcrowding, etc.) - Response time within 3 seconds from detection to alert generation - De-identified data processing architecture compliant with GDPR (no collection of personally identifiable information)
Currently Applied Technologies	<ul style="list-style-type: none"> - Human-operated RGB CCTV monitoring - Post-incident video analysis method with no real-time response capability
Related Diagrams	

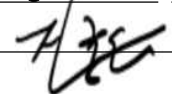
3. Demonstration Plan

Demonstration Area and Facility	<ul style="list-style-type: none">- Utilization of TÜV SÜD's test laboratories and demonstration infrastructure located within Europe- Integration with building data environments based on TÜV SÜD's cooperative network- Target facilities and detailed equipment to be finalized through consultation with participating companies and local institutions
Demonstration Objective	<ul style="list-style-type: none">- Verification of accuracy and false positive rate of the AI hazard detection system based on de-identification methods- Acquisition of reliability and transparency verification data in accordance with EU AI Act High-Risk AI standards- Confirmation of immediate certification linkage feasibility following TÜV SÜD's designation as an official EU AI Act certification body
Scope of Demonstration	<ul style="list-style-type: none">- Technical: Application of de-identification methods, AI anomaly detection, alert integration, and EU AI Act conformity assessment- Duration: 6 months
Expected Effects	<ul style="list-style-type: none">- Acquisition of AI safety technology verification references linked with the official EU AI Act certification body (TÜV SÜD)- Entry into European public and industrial markets with a dual GDPR and AI Act compliant safety monitoring solution- Reduction of operational costs and accident prevention effect compared to 24-hour human monitoring

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Testbed Seoul(Global) Innovative Technology Demand Survey Form (TG26-6)

1. Requestor Information

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Colaborating Institution	Person in charge	Organization Name : KCL	Contact Information	Office Phone : (+49) 681 938-2459
		Department : Germany Branch		Mobile : (+49) 177 666-3240
		Name : Youngsik Kim		Email : youngsik2@kcl.re.kr

2. Requested Technology Overview

Technology Name	- AI Skin Diagnosis Platform
Related Projects	- AI Digital Healthcare
Core Required Technologies	- AI Skin Diagnosis Technology - Technology for providing personalized skin condition analysis and management solutions
Current Issues & Innovations	- Demand for skin health diagnostics using AI-powered digital healthcare technology is surging - Germany's industrial structure is in the early stages of the digital healthcare transition - There is currently a lack of industrial applications for AI-based skin condition analysis technology - There is a shortage of personalized skincare information, and the utilization of skin health data remains inadequate
Detailed Requirements of the Technology	- Condition analysis based on facial and skin images (pores, wrinkles, pigmentation, blemishes, etc.) - Skin type classification (dry, oily, combination, etc.) - Predicting Skin Age and Level of Aging
Currently Applied Technologies	- Mobile App-Based Skin Analysis Service - Simple skin diagnosis services at cosmetics stores and Dermatology
Related Diagrams	 

3. Demonstration Plan

Demonstration Area and Facility	- Germany Fraunhofer Institute and major shopping malls
Demonstration Objective	- Precise skin analysis and evaluation of customized solutions reflecting local skin characteristics and environmental factors
Scope of Demonstration	- Evaluation of the quality of skin condition analysis data based on local populations - Review of data collection and utilization systems based on privacy regulations - Verification of AI reliability based on user analytics data and usability evaluation with local users
Expected Effects	- Expanding business ties through the growth of the local AI digital healthcare industry and mutual technological exchange - Establishing a testing and evaluation infrastructure that complies with German standards and regulations for skin health care technology

Date : 2026. 04. 17

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Testbed Seoul(Global) Innovative Technology Demand Survey Form (TG26-7)

1. Requestor Information

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2. Requested Technology Overview

Technology Name	- Personalized Custom Cosmetics Production Platform
Related Projects (if applicable)	- Beauty Tech Industry
Core Required Technologies	- Robot-based automated manufacturing systems
Current Issues & Innovations	<ul style="list-style-type: none"> - Issues with mass-production methods that fail to account for individual skin types - Limitations in reflecting skin conditions due to difficulties in accounting for individual dynamic factors (environment, hormones, age, etc.) - Insufficient linkage between consumer skin data and products - Growing demand for a hyper-personalized system in the cosmetics industry through on-demand manufacturing of personalized cosmetics
Detailed Requirements of the Technology	<ul style="list-style-type: none"> - Prescription of personalized cosmetics based on individual skin diagnostic data - Product customization based on user preferences - Dynamic prescription change process - On-demand production capabilities
Currently Applied Technologies	<ul style="list-style-type: none"> - Off-the-shelf Skin Mass production system focused on cosmetics - Product recommendation based on measurements (limited precision in formulation)
Related Diagrams	

3. Demonstration Plan

Demonstration Area and Facility	- Germany Fraunhofer Institute and major shopping malls
Demonstration Objective	- Evaluation of an on-demand service that instantly manufactures and provides cosmetics tailored to local residents
Scope of Demonstration	<ul style="list-style-type: none">- Installation of devices at local usability testing facilities and assessment of environmental impact- on-demand service system suitability assessment under environmental conditions- Usability and versatility evaluation of on-demand, custom-made cosmetics
Expected Effects	<ul style="list-style-type: none">- Expansion of the local beauty tech industry and expansion of business exchanges through mutual technology exchange- Establishment of testing and evaluation infrastructure compliant with domestic beauty tech standards and regulations

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Testbed Seoul(Global) Innovative Technology Demand Survey Form (TG26-8)

1. Requestor Information

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Colaborating Institution	Person in charge	Organization Name : KCL	Contact Information	Office Phone : (+49) 681 938-2459
		Department : Germany Branch		Mobile : (+49) 177 666-3240
		Name : Young-Sik Kim		Email : youngsik2@kcl.re.kr

2. Requested Technology Overview

Technology Name	- AI & AR Beauty Simulation Platform
Related Projects (if applicable)	- Beauty Tech Industry
Core Required Technologies	- AI facial recognition - AR real-time beauty content simulation
Current Issues & Innovations	- Limitations of recommendations tailored to consumers' face shapes and skin tones - Increased uncertainty in product selection during online purchases - Early stages of AR-based service adoption in the European beauty market
Detailed Requirements of the Technology	- Real-time facial recognition and AR rendering technology - Beauty content simulation (hair, makeup, fashion, etc.) - Before/After comparison and saving features
Currently Applied Technologies	- How to use test products in physical stores - Limited-use AR makeup app
Related Diagrams	

3. Demonstration Plan

Demonstration Area and Facility	- Germany Fraunhofer Institute and major shopping malls
Demonstration Objective	- Evaluation of AR beauty (makeup, fashion, etc.) virtual simulation services for European consumers
Scope of Demonstration	<ul style="list-style-type: none">- Evaluation of the accuracy of real-time facial recognition and tracking technology tailored to European consumers- Evaluation of the stability and match rate of AR simulation data for local users- Evaluation of the cultural applicability and local suitability of content utilizing the platform
Expected Effects	<ul style="list-style-type: none">- Expansion of the local beauty tech industry and expansion of business exchanges through mutual technology exchange- Establishment of testing and evaluation infrastructure compliant with domestic beauty tech standards and regulations

Date : 2026. 04. 17

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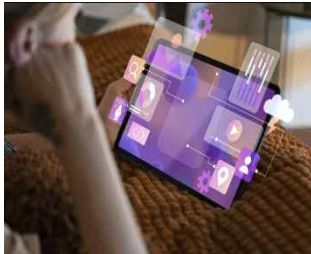

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Testbed Seoul(Global) Innovative Technology Demand Survey Form (TG26-9)

1. Requestor Information

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Colaborating Institution	Person in charge	Organization Name : KCL	Contact Information	Office Phone : (+49) 681 938-2459
		Department : Germany Branch		Mobile : (+49) 177 666-3240
		Name : Young-Sik Kim		Email : youngsik2@kcl.re.kr

2. Requested Technology Overview

Technology Name	- AI Beauty Content Curation Platform
Related Projects (if applicable)	- Beauty Tech Industry
Core Required Technologies	- AI-based user analysis and personalized beauty content recommendation technology - Cultural content creation and curation technology
Current Issues & Innovations	- A one-way consumption structure driven by simple video and image-centric advertising content - A structure with limited ability to encourage sustained engagement due to factors such as content consumption and a lack of motivation to participate - The need for AI-based hyper-personalized content and enhanced user experience has emerged - Growing demand for the establishment of a participatory content ecosystem and a continuously evolving cultural convergence content platform
Detailed Requirements of the Technology	- Curation technology based on AI-driven user-centric algorithm analysis - User-centric, participatory content elements across various domains, including trends and cultural content - Real-time support platform architecture and traffic management technology
Currently Applied Technologies	- Consumption Patterns of Beauty Content on YouTube and Social Media - Provision of one-way marketing content centered on beauty brands
Related Diagrams	  <p>Collaborative Filtering Systems Content-Based Systems Knowledge-Based Systems Hybrid Recommendation Systems</p>

3. Demonstration Plan

Demonstration Area and Facility	- Germany Fraunhofer Institute and major shopping malls
Demonstration Objective	- Evaluation of an AI-powered beauty content platform service targeting European consumers
Scope of Demonstration	- Evaluation of usability among local European consumers and assessment of the effectiveness of user-centric AI algorithm recommendations - Evaluation of content recognition and usability among local users - Evaluation of the cultural applicability and local suitability of content on the platform
Expected Effects	- Expansion of the local beauty tech industry and expansion of business exchanges through mutual technology exchange - Establishment of testing and evaluation infrastructure compliant with domestic beauty tech standards and regulations

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Testbed Seoul(Global) Innovative Technology Demand Survey Form (TG26-10)

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		Name : Young-Sik Kim		Email : youngsik2@kcl.re.kr

2. Requested Technology Overview

Technology Name	- Low-cost automatic building thermal performance diagnosis technology based on virtual sensors	
Related Projects (if applicable)	-	
Core Required Technologies	- Building thermal performance diagnostic technology utilizing AI and IoT-based virtual sensors (including moisture penetration rate and thermal transmittance of the building envelope)	
Current Issues & Innovations	<p>Current detailed thermal performance assessments of buildings are costly, time-consuming, and require specialized personnel, making large-scale implementation impractical; long-term monitoring is also difficult to achieve in practice</p> <p>- There is a need for an advanced solution that utilizes small IoT sensors and AI to quickly and affordably assess the actual thermal performance of individual households without disrupting residents' daily lives, while enabling long-term continuous monitoring</p>	
Detailed Requirements of the Technology	<p>- Automatically calculates building thermal performance (heat loss rate, thermal transmittance of the building envelope) using IoT sensors and AI-based virtual sensors</p> <p>- Minimizes disruption to residents' daily lives and enables long-term continuous monitoring</p> <p>- Enables low-cost, non-expert diagnostics, ensuring applicability and scalability for large building complexes</p>	
Currently Applied Technologies	<p>- Reliance on precision diagnostics using specialized equipment and experts</p> <p>- Large-scale and long-term monitoring is not feasible due to high costs, lengthy durations, a shortage of specialized personnel, and inconvenience to residents</p>	
Related Diagrams		
	Ex) existing precision diagnostic equipment	

3. Demonstration Plan

Demonstration Area and Facility	<ul style="list-style-type: none">- Chambers and laboratory buildings at the Fraunhofer Institute in Germany
Demonstration Objective	<ul style="list-style-type: none">- Comparison of IoT diagnostic results with existing precision diagnostic results, achieving a target accuracy of 80% or higher- Cost and time savings of 80% or more compared to existing precision diagnostics
Scope of Demonstration	<ul style="list-style-type: none">- Simulation of various building envelope conditions within the chamber/laboratory building and performance of IoT sensor-based automatic diagnostics- Verification of the effectiveness of automatic diagnostics through comparison with measurements from precision diagnostic equipment
Expected Effects	<ul style="list-style-type: none">- Laying the groundwork for digital transformation in the building energy diagnostics sector and assessing export potential to the European market- Securing international competitiveness for low-cost, high-efficiency diagnostic solutions to address EU building energy regulations

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