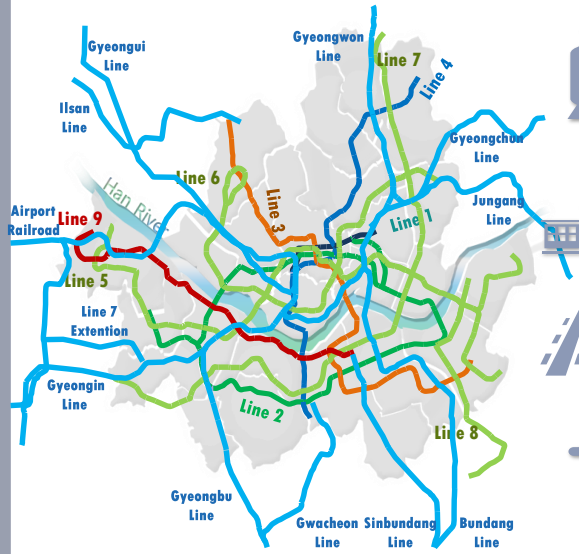
The evolution of Metro Station : SMART STATION

서울교통공사
Seoul Metro

2021.10

Operating Status



9 Metro lines

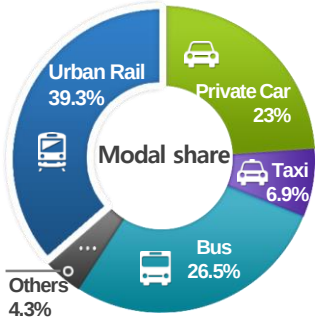
280 stations

305.9 km

7.3 mil/day

Metro Systems in Seoul Metropolitan Area

Metro	9 lines 315 stations 340 km	
Regional Rail	5 lines 93 stations 164 km	
LRT	1 line 13 stations 11 km	



Rolling Stock	Staff	Transport Share	Fare Revenue
3,583 cars	17,077	39%	15,389 Bil won (Bil US$ / y)

History of Seoul Metro

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Line 1	1974	10 stations, 7.8 ㎞
Line 2	1980	50 stations, 60.2 ㎞
Line 3	1985	34 stations, 38.2 ㎞
Line 4	1985	26 stations, 31.7 ㎞
Line 5	1995	51 stations, 52.3 ㎞
Line 6	2000	38 stations, 35.1 ㎞
Line 7	1996	51 stations, 57.1 ㎞
Line 8	1996	17 stations, 17.1 ㎞
Line 9	2009	13 stations, 13.6 ㎞

1970 1980 1990 2000 2010 2020

1981~2017
Seoul Metropolitan Subway Corp.

2017.5.31~
SeoulMetro

1994~2017
Seoul Metropolitan Rapid Transit Corp.

Seoul Metro
AM05:00
AM07:00
AM10:00
PM01:00
PM03:00
PM06:00
PM09:00
PM11:00
AM01:00

Core Values of Seoul Metro

서울교통공사 Seoul Metro

Safety & Convenience

Customers

Staff

SAFETY CONVENIENCE

For Customers & Staffs

SCM : Smart Connected Metro

서울교통공사 Seoul Metro

Direction

SMART Connected Metro

Key Strategy

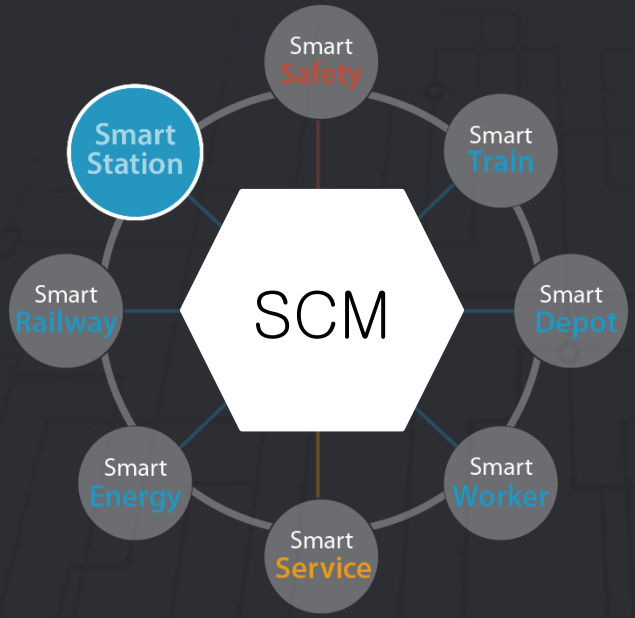
"Customer-Centered Process Innovation"	"Perfect Urban Railway Operate"	"Safety First"
SMART Connected Service	SMART Connected Operation	SMART Connected Response

Detailed Strategy

Structure	*Service Innovation For Customers*	Connected	*Connection / Integration / Creating Synergy*	Sense	*Monitoring Everything*
Quality	*Improving Service Quality*	Intelligence	*Automation/Intelligence*	Predict	*Predict & Respond In Advance*
Diversity	*Maximize Customer Experience*	Efficiency	*Operational Efficiency*	Act	*Perfect Response System*

Smart Connected Metro

Seoul Metro is digitizing the urban railways in many areas



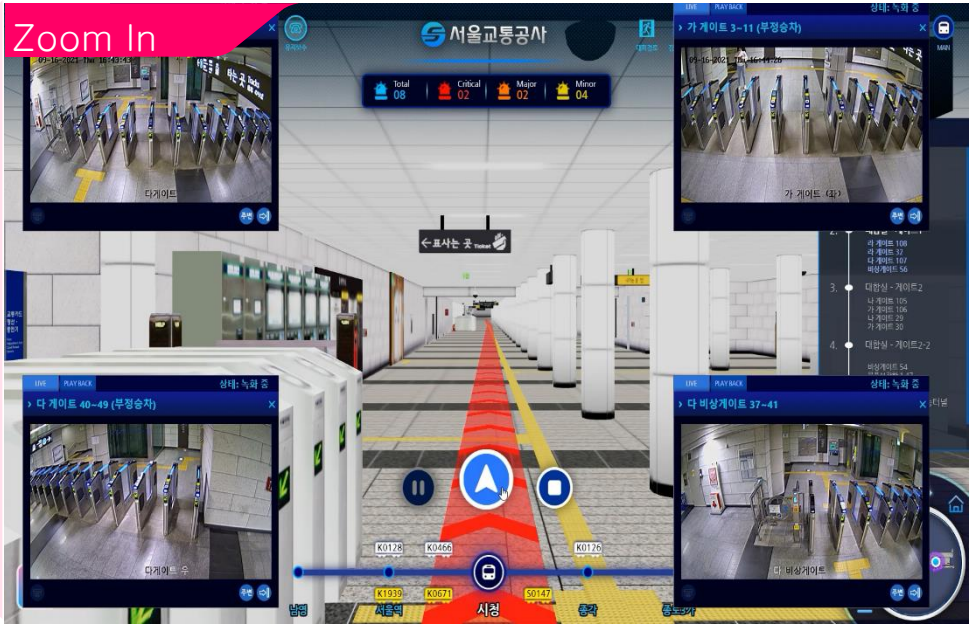
subway station evolution

SMART STATION

SMART STATION

3D Digital twin System

Improves the safety and convenience of urban railways through the 3D-based 'Digital Twin' system



3D Digital twin System

Easy to manage Facilities at the station using the 3D Map

Intelligent CCTV System

서울교통공사 Seoul Metro

SMART STATION

Functional Demonstration

Integrated Management

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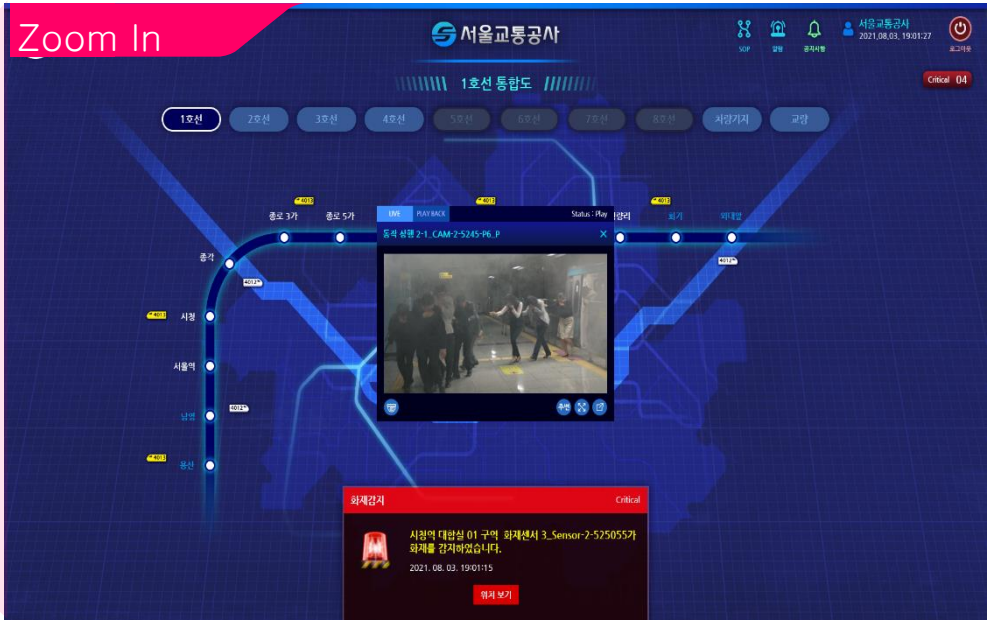
Integrated Management of Risk Situations at the entire station

Zoom In

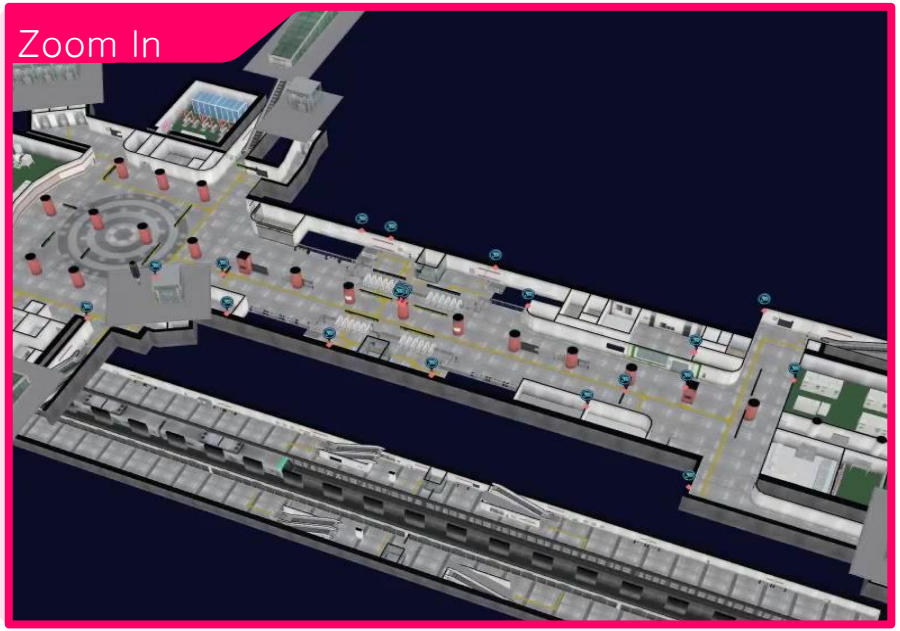


Train operation check

Check the train operation status in real time

Check inside the train

Respond quickly in the event of a situation by checking CCTV inside train in real-time at the station



Fire situation check

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Immediately Check and Cope in the event of a fire situation

PSD status check

Check the status of PSD in real time

Tunnel status check

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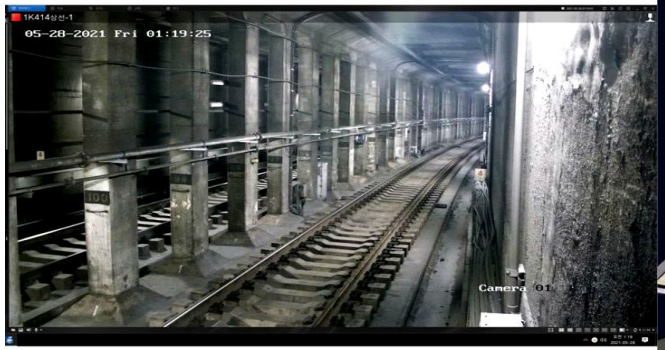
Immediately Check and Cope， Enter a tunnel without permission



Virtual Patrol

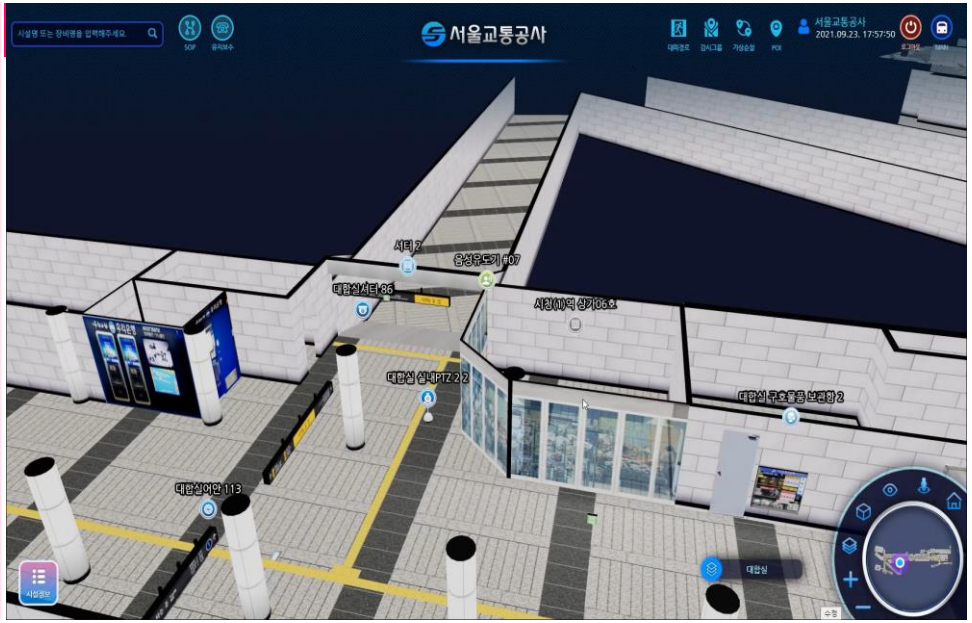
Verifying the safety of subway station facilities in the same order as an actual patrol

Access control

Control access by detecting those who are not wearing masks

Shutter control

Checking and controlling shutter abnormalities remotely



Smart Station Function

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Security management

- Virtual patrol
- Intrusion detection (intelligent type)
- Access management (Tunnel entrance)

Disaster management

- Fire/disaster management
- Evacuation route guidance
- Text message guidance
- Field image display
- Service SOP display
- Emergency manual display

Facility management

- Equipment condition monitoring
- PSD status monitoring
- Shutter control
- Lighting control
- Equipment control machine PSD
- Equipment condition management(FMS)aa

Customer service

- Air quality management (Fine dust/temperature /humidity)
- Bathroom evaluation

Others

- 3D map management
- CCTV video control
- Event management
- Log/statistics management
- Alarm management
- Event level management

Smart Station function and benefit 1

Reducing work time with smart monitoring

Patrol time
reduced by 60%

Smart Station function and benefit 2

Reducing response time with smart remote control

Emergency response time
reduced by 70 %

Conclusion

서울교통공사 Seoul Metro

Safe Subway

Securing the Safety of Customers and Staffs

Convenient Subway

Improving the Convenience of Staffs

Quick Subway

Rapid handling of situations and Preemptive response to obstacles

Smart Station

3D Digital Twin System + Intelligent CCTV System

Move the City