

COVID-19 Smart Management System(SMS)

< Formally named 'Epidemic Investigation Support System(EISS)' >

Leveraging Data Hub developed
under the Korean National Strategic
Smart City Program(NSSC Program)



Ministry of Land,
Infrastructure and Transport



What is COVID-19?

Definition	Coronavirus(CoV) is a RNA virus with 27-32kb in size, infecting humans and various kinds of animal
Symptom	Main symptoms include fever, fatigue, cough, shortness of breath, pneumonia and various respiratory symptoms such as difficulty breathing. Less commonly, sputum, sore throat, headache, hemoptysis, nausea and diarrhea may be seen
Fatality rate	Known 1-2% but not confirmed. The elderly and the patients immunosuppressed or with underlying diseases are particularly vulnerable, mostly led to death or grave conditions

Transmission



Spread by **droplets produced** when **coughing** and **sneezing**



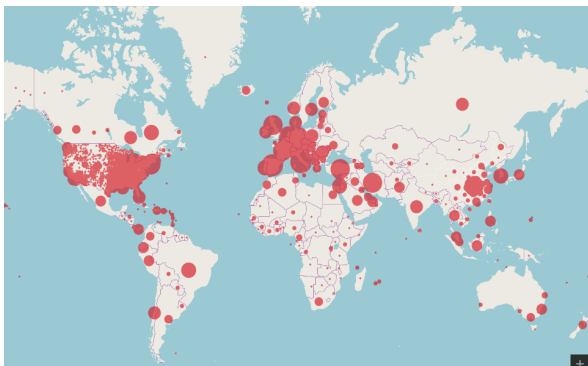
Touching nose, mouth or eyes after **touching a contaminated surface** of goods



1-14 days
(average 4-7 days)



COVID-19's Spread Worldwide



(Units: people)



Number of confirmed cases
1,346,000



Number of death
75,000

※ Source: Johns Hopkins CSSE(2020.04.08)

01 Government Response to COVID-19



**Social
distancing**



**Supplying
face masks
to public**



**Operating
drive-through
testing stations**



**Opening
schools online**



**Tracing movements
of confirmed cases
and making it public**



**Using
'Self-quarantine
Safety Protection App'**



**Operating
designated
isolation facilities**



**Sending
safety guidance
text messages**

02 COVID-19 Smart Management System(SMS)

Epidemiological Investigation

Basic activities that need to be done to prevent the spread of COVID-19 as per 'the Act on the Prevention of Infectious Diseases'



COVID-19 SMS

01

A system enabling the automation of the epidemiological investigation process specified in 'the Act on the Prevention of Infectious Diseases'

02

Developed through the application of Smart City technologies to collect, process and analyse a huge volume of urban data

COVID-19
SMS
developed

Pilot
Operation
16 March

Official
Launch
26 March

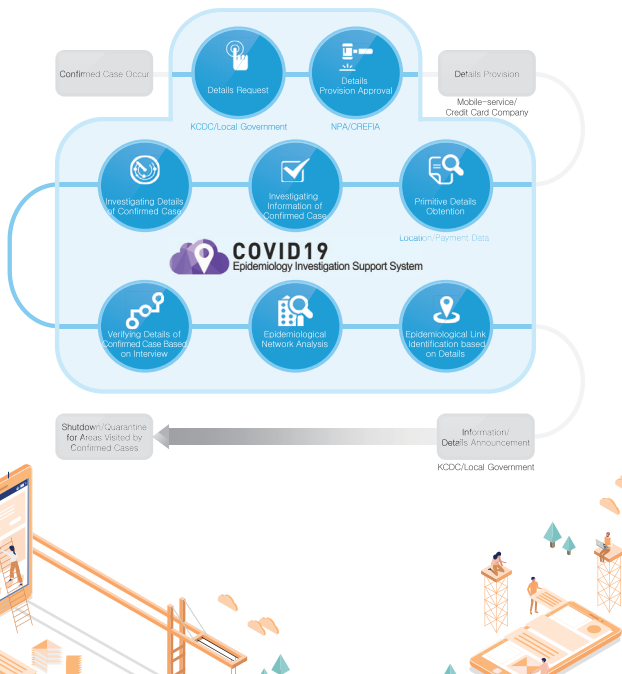
MoLIT, MSIT and KCDC are in close coordination with 28 agencies and companies to provide real-time data feeds on the confirmed cases through big data analysis to locate transmission routes and places. Strict rules and procedures are in place to manage and control the collected personal information.



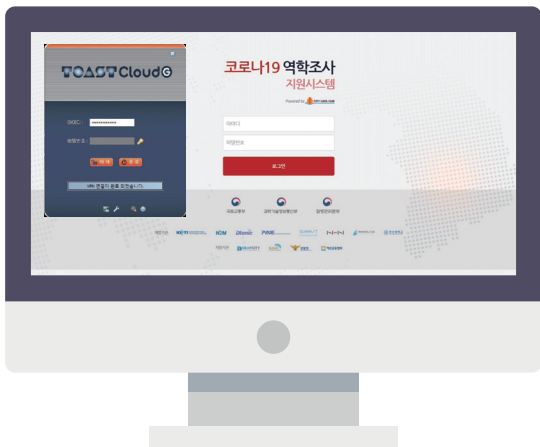
Operating Structure



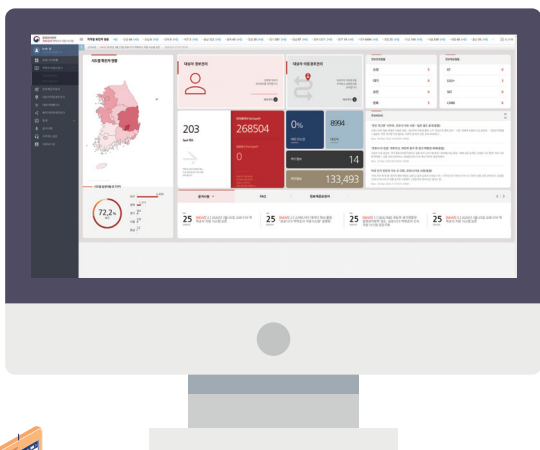
Structure Supporting Epidemiological Investigation



03 Key Functions of COVID-19 SMS

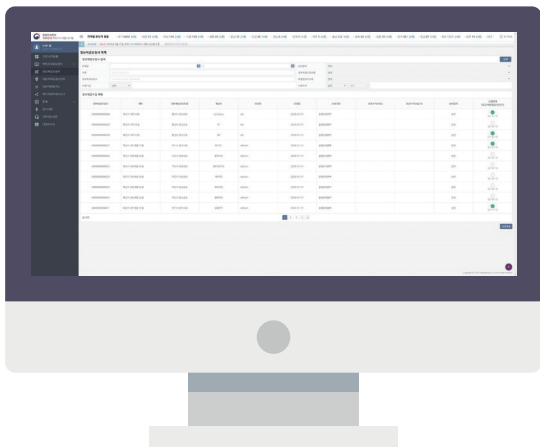


Access to be granted with approved ID
on a private network

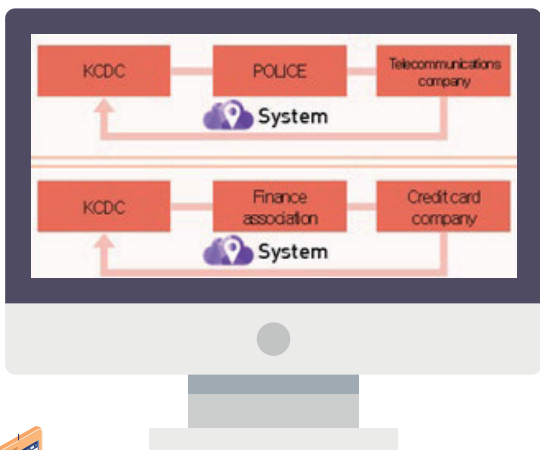


Operation Screen

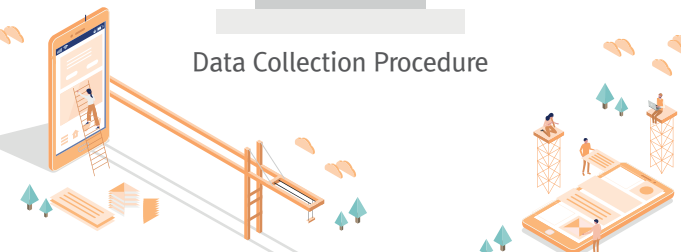
03 Key Functions of COVID-19 SMS



Management of confirmed cases requiring further information



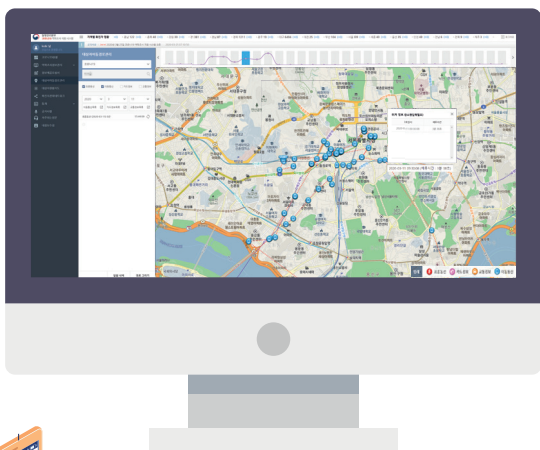
Data Collection Procedure



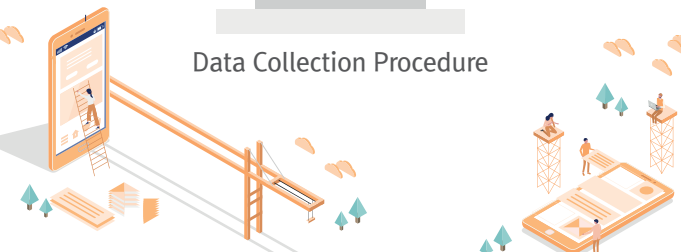
03 Key Functions of COVID-19 SMS

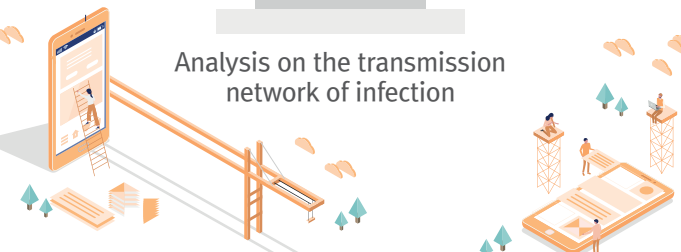
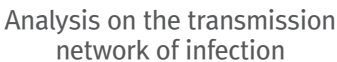
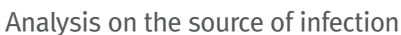


Final decision made by epidemiological surveyors after automatic analysis



Data Collection Procedure





04 Advantages of COVID-19 SMS



Tedious process



Speedy process



Potential inaccuracy



Guaranteed accuracy



Challenging to deal with widespread transmission



Agile response to large-scale viral outbreak

COVID-19 SMS

※ Paperwork and contacts needed amongst 28 organisations supporting KCDC have been replaced with the automatic system

Before application

After application

Analysis on the movement of confirmed cases



Manual analysis by officials
(taking 24 hours)



Automatic analysis via system
(less than 10 minutes)

Management of access to personal information



Inefficient management by **hand-written records**



Efficient management by **computerised records**

Coordination between organisations



Overloaded work and delayed contact



Real-time information interchange