



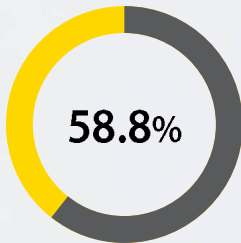
When riding the escalator, do you hold on to the escalator's handle?

Escalator handles are susceptible to various infectious diseases and bacterial infections.
Weclean provides you with a clean environment

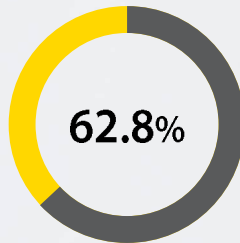


Currently, the number of escalators is increasing at an annual rate of 5% in Korea and 7% in the world.

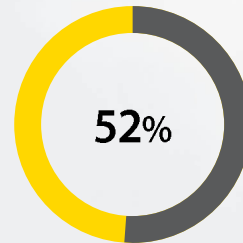
Escalators are surely a convenient means of transportation, but safety accidents are happening often with the increase rate of use.



The share of escalator accidents out of total people-mover-related accidents



Percentage of the users' accidents caused by neglect-of-attention and not holding the handle



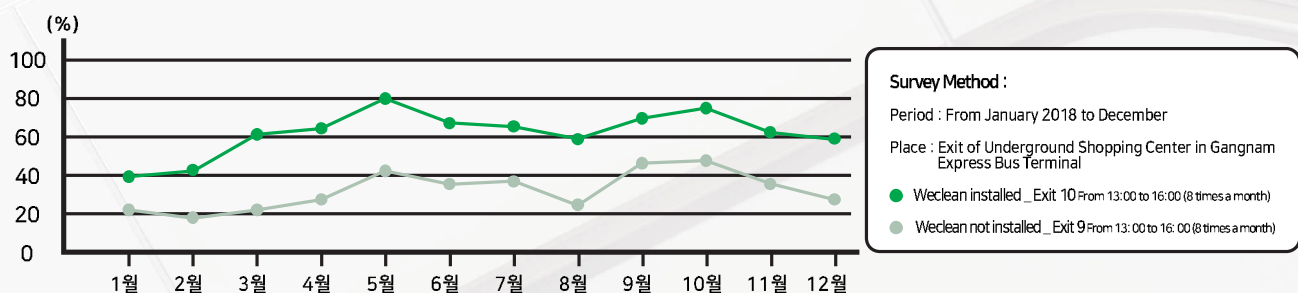
52% of the accidents occurred in distribution and sales facilities

Why do you need Weclean?

The world's first escalator handle cleaning and sterilization system creates an environment in which the handle can be held voluntarily.

It creates a clean sanitation environment for the building and lays the foundation for preventing accidents.

Survey on the utilization of the handles with Weclean installed on them / the utilization of the handles with Weclean not installed on them



Why people do not hold escalator handrails?

1	Unsanitary, Concern about infection	7-matters which be contacted viruses by touching	Detection quantity of virus for each public-facilities
		Based on : 2016.05 중앙일보	Based on : Korea consumer agency
2	Using phone	Escalator handrail	Cart's hand1100
		Bus handle	PC Café's Mouse690
		Beverage cans	Escalator handrail580
		Public toilet	Bus' grip380
		desk	Toilet240
		ATM keypad	Elevator button130
		Mobile Phone	
3	Baggage transfer		

FUNCTION



Consumable goods
(cleaning roller + cleaning liquid)

Sterilization & Cleaning

99% removal by sterilizing liquid (1st cleaning and sterilization)
+ UV LED (2nd sterilization)

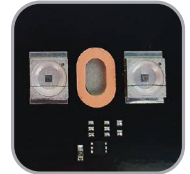
- Powerful disinfection to remove germs and viruses
- 3-stage cleaning roller rotating to remove contaminants



3-stage cleaning roller



Eco-friendly cleaning liquid



UV LED

Visual promotion and marketing

Visual communication through monitor

- Monitors visually indicating sterilization and cleaning are in progress.
- Indicators showing moving direction of escalator and announcement



Sterilization & Cleaning Guide



Advertising



Promotion

Efficient management

Efficient management through control solution

- Quick A/S check by real-time monitoring using web functions and apps
- Adjustable height that enables it to be installed on all manufacturers' escalators
- Motion sensor that ensures it only works when the escalator is running



Web/App Control Solution



All E/S compatible

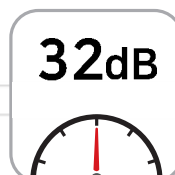


Motion sensor

Safety and convenience

Product safety

- Free from noise problems in indoor use (no noise)
- Easy removal and attachment for easy maintenance
- Prevent accidents such as getting jammed



Low noise



Easy removal and attachment



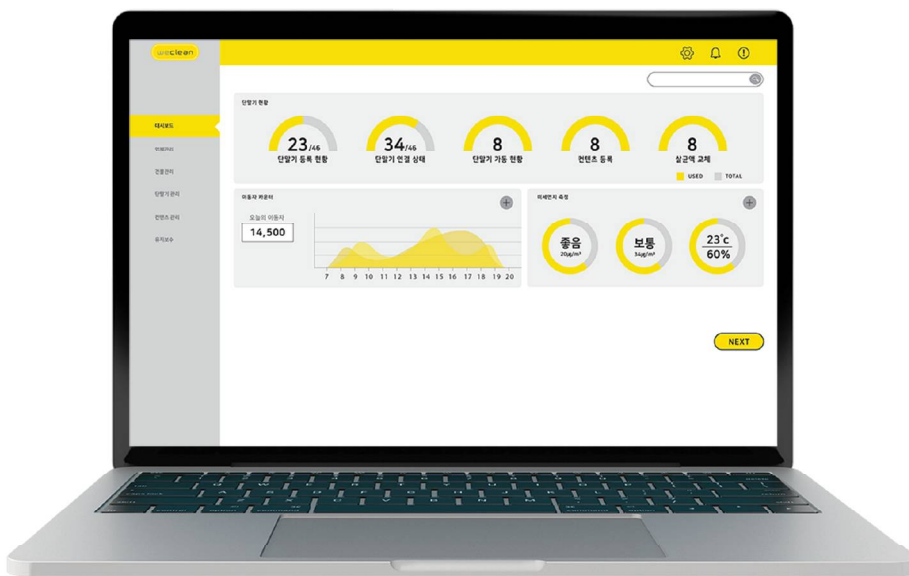
Design to prevent skin pinching

IoT-control solution

IoT-based control solution (SWIT-MSC 1.0)

MSC1.0 technology enables remote maintenance for when and how to replace the consumable components in Weclean and to ensure faster and smarter troubleshooting in the event of a failure by enabling the service engineer to check the cause of the failure and informing them how to repair it before arriving at the site. In addition, by measuring the user counter and indoor pollution level, data analyzed by state-based monitoring through big data analysis can be used as marketing materials.

Product monitoring and control



Can check the status of consumables and the replacement of consumables, A/S application, and processing details through the smartphone application.

Device registration, real-time monitoring of consumables, video content modification

SMART POLE



Can be connected to autonomous driving function



mover counter



fine dust measurement



temperature & humidity measurement

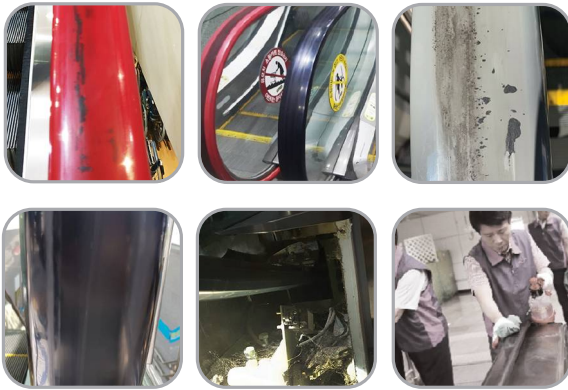


disaster prevention system (need to consult)



BEFORE & AFTER

- From a temporary show-off campaign to a real able-to-grab-handle campaign
- Get dirty handles cleaned
- Unmanned automation system to be combined with IoT technologies



Bacterial detection result and cleaning roller condition before and after installation



Bacterial detection count : 273



Bacterial detection count : 0



Roller before cleaning



Roller after one month



Mop that wiped handles before installatio



Mop that wiped handles after installation



Handle before cleaning



Handle after cleaning

Installation case

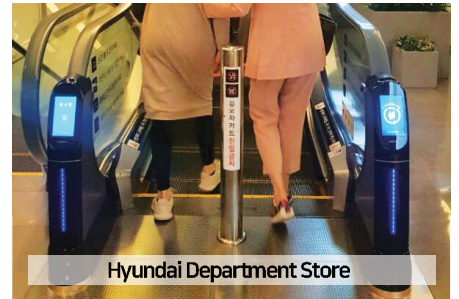
- Increased service satisfaction of customers
- Enhanced overall image of the building



Gachon University Gil Medical Center



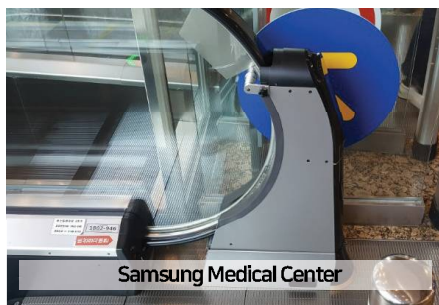
Kyunghee University Healthcare System



Hyundai Department Store



Seoul Facilities Corporation



Samsung Medical Center



Jonggak Station



HONGKONG_MOKO MALL



Hyundai Knowledge Industry Center



CANADA_Parq Casino



Seoul Agro-Fisheries & Food Corporation



HONGKONG_cyberport



RUSSIA_Lokomotiv Stadium Station

A necessary place



Hospital



Department Store



Subway



Airport



Mart



Hotel

CERTIFICATION

Patents

Cleaning and sterilizing apparatus for escalator handles (No. 10-1413217) and 2 other types / PCT international patent application



Certification

Certificate of Excellent Technology Company / KC Certification / CE Certification / IOS 9001, IOS14001



Registration

Design Registration Certificate / Trademark Registration Certificate / Factory Registration Certificate / Certificate of Direct Production



Award

Participated in 2018 Thailand Invention Day <The Best International of Industry Award> and 7 other awards
The 4th Korea Leading Company Product Innovation Award of 2018





Spec

ITEM	WECLEAN - E	WECLEAN - G
Main Board	ARM CortexTM-A7 Dual- Core / DDR3 1G	
Storage	eMMC(4.5) 4GByte / MICRO SD CARD 16GByte	
Operartion System	ANDROID 4.2.2 (Jelly Bean)	
Management Program	SWIT-MSC 1.0	
Display	7inch LCD panel 800 * 480	
Speaker	SPEAKER OUT(2.0W)	
WiFi & USB	WLAN 802.11 b/g/n 2.4GHz / 5GHz & USB2.0	
UV LED	UV-C 275nm	
Battery		Li-ion 5,000~16,500mAh
Electric Power source	DC Adaptor 12V 2A	Generator : 15W~25W
Product Size	186 * 510 * 862mm	
Packing Size	200 * 670 * 950mm	
Product Weight	18kg	20kg
OPTION ITEM		
Mover counter sensor	940nm laser VCSEL	
Fine dust sensor (PM sensor)	laser particle sensor module_PM2.5 , PM10	
Temperature & Humidity sensor	heating flow type _ - 40℃~125℃ , RH 0~100%	
CONSUMABLES		
Cleaning Roller	Sponge R/L : 1ea Cleaning R/L : 2ea	
Sterilization Liquid	Hydrogen peroxide (0.5%) Sodium benzoate (1.0%) Purified water (98.5%)	

Partners



SERWOO Inc. #B-1611 70, Dusan-ro, Geumcheon-gu, Seoul, Republic of Korea
T. +82 2 2098 9650 1544-2830 F. +82 2 2098 9651
Web site. www.weclean.co.kr E-mail. serwoo@serwoo.com