

## Prototype Boarding Gate with Built-in Explosives Detection

Detecting Explosive Compounds Adhering to Portable Devices and IC Cards



Prototype boarding gate with built-in explosives detection equipment

### 【Achievement】

Hitachi, Ltd., in collaboration with The Nippon Signal Co., Ltd. and the University of Yamanashi, have successfully prototyped a boarding gate with built-in explosives detection equipment as part of efforts to increase safety in public facilities such as airports. The prototype boarding gate efficiently collects minute particles which have affixed themselves to IC cards or portable devices used as boarding passes, and can detect within 1-2 seconds the presence of explosive compounds using internalized equipment. With this method, it is possible to inspect 1,200 passengers per hour. This research and development was supported by the Strategic Funds for the Promotion of Science and Technology of the Ministry of Education, Culture, Sports, Science and Technology, Japan (MEXT).

### ■ Characteristics

- (1) High-speed collection of minute particles adhering to IC
- (2) High-speed concentration of the collected particles and high-sensitivity mass spectrometry analysis
- (3) Internalized compact high-sensitivity mass spectrometer

### ■ Plan

The technology is expected to contribute to the prevention and containment of carry-on explosives as it inspects immediately prior to boarding without disrupting the flow of passengers, and provides increased security without affecting convenience.