



Example of Unattended Train Operation System by Nippon Signal

Overview

Nippon Signal has been contributing to the development of unattended train operation systems.

We have recently delivered the CBTC system “SPARCS” to Gimpo Goldline in South Korea that opened in September 2019. The SPARCS has helped Gimpo Goldline realize UTO (Unattended Train Operation) of GoA (Grade of Automation) 4 level.

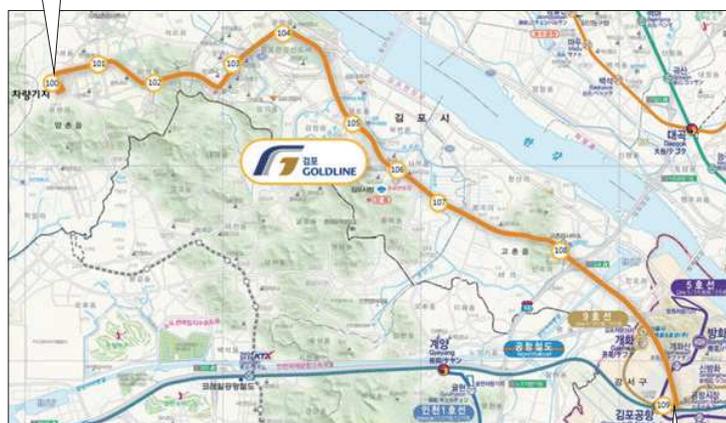
The population of Gimpo City has been rapidly increasing since the Gimpo Goldline planning was made, and the railroad has been expected to serve as means of passenger transportation by the citizens.

Nippon Signal will continue to provide UTO systems to railroad companies around the world.

About Gimpo Goldline

Item	Description
Project executer	Gimpo City
Commissioned project administrator	Korea Rail Network Authority /Seoul Metro
Section	Yangchon - Gimpo Int'l Airport
Total extension	23.6 km (whole line, except depot and Yangchon, underground)
Number of stations	10 (9underground, and 1 aboveground)
Opening	The whole line was opened with the GoA 4system in September 2019.
Train manufacturer	Hyundai Rotem

Yangchon Station depot



Gimpo Int'l Airport Station

(Quote source: http://www.gimpo.go.kr/portal/content.do?menu_cd=103518)

Views seen when the line opened



Gimpo Goldline train



Passengers gathering together on the first car of the train where there is no operator

※ The monitor shows the condition of unattended train operation.