

“Super Drone” Sarah Is Creating a Digital Twin of Utrecht Central Station



Dutch train operator NS has contracted technology company Aeroscan to create a digital twin of Utrecht Central Station in the Netherlands. [Aeroscan](#) is using an ultramodern ‘super drone’ measuring almost two metres in length, called Sarah. The drone is currently performing multiple flights to fully map the exterior of the station area. NS will use the resulting 3D model to support easier and safer

maintenance activities and to make further improvements to the station.

The digital twin will comprise a 3D model of the station based on Lidar technology and images from the unmanned aerial vehicle (UAV or ‘drone’). NS hopes that the digital twin of Utrecht Central Station will be ready before the end of this year.

Jean Keultjes, IT manager of stations for NS, comments: “The digital 3D images enable us to create a model that gives us real-time insight into what is happening at the station, either on a computer screen or a smartphone or even wearing 3D glasses. This provides direct information that can allow the station manager to immediately see any problems at the station, such as in a stairwell or a lift, overcrowding or temperature fluctuations, for example. But it also gives us information about maintenance. Utrecht Central will be the first Dutch station to have a digital twin, but other stations will soon follow.”

This development is a logical next step for NS, which has been using drones for station inspection purposes for several years now. The technology makes it easier to plan and organize maintenance, station management or cleaning activities in the right place at the right time.

Minimizing inconvenience for passengers

It is important for periodic inspections of stations and other buildings for damage and wear & tear to be carried out accurately and safely. The use of drones reduces the need for engineers to work at height using cherry pickers (AWPs) or scaffolding. UAVs also minimize the inconvenience for passengers because fewer areas in and around the station need to be cordoned off for safety reasons.

Drone pilots at NS

Today, NS employs three drone pilots. In recent months, they have tested various technologies for detailed 3D mapping and gained valuable experience with different types of drones and objects. NS is now working in conjunction with a specialized partner to develop a drone strategy.



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