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Mitsubishi Electric to Supply Terminal Doppler Lidar for International Airport in Bucharest

Second European delivery boosts global sales closer to goal of 2.5 billion yen by March 2021

TOKYO, April 4, 2019 – [Mitsubishi Electric Corporation](http://www.mitsubishielectric.com) (TOKYO: 6503) announced today that it has been awarded a contract by the “Romanian Air Traffic Services Administration (ROMATSA)”, the national air traffic and aviation meteorology service provider in Romania, to supply a terminal Doppler lidar system (**DIABREZZA™ A Series**) for use at Henri Coandă International Airport in Bucharest, Romania’s busiest international airport. The system will be delivered in 2020 by Mitsubishi Electric under an order received from systems integrator “Centrul Pentru Servicii De Radiocomunicatii SRL (CSR)”. Mitsubishi Electric was previously awarded a terminal Doppler lidar contract for Nice Côte d’Azur Airport, making the Henri Coandă supply contract the company’s second in Europe and 10th worldwide. The company is expanding its weather radar and lidar business in global markets, aiming at net sales of about 2.5 billion yen by the fiscal year ending in March 2021.



Laser scanner

Size	2.6 x 1.9 x 2.2m (W x D x H)
Weight	2t or less

DIABREZZA™ A Series Terminal Doppler Lidar

Terminal Doppler weather radar systems measure precipitation movements using microwaves to effectively detect wind shear around airports in wet-weather conditions. For maximum safety, however, detection is required under all conditions, not just during precipitation, which is why the integration of radar and lidar is crucial. This is true not only at large airports but also at midsize airports handling jet aircraft and where severe wind conditions occur.

A terminal Doppler lidar transmits laser beams and then detects light backscattered by dust or other particles in the air, enabling the system to use the Doppler frequency shift in the backscattered light to make line-of-sight measurements of wind speed and direction. Using this data, hazardous phenomena such as wind shear and microbursts can be detected within observable ranges. Mitsubishi Electric has extended this observation range to more than 20km with its planar waveguide amplifier, which complies with the standards and recommended practices of the International Civil Aviation Organization (ICAO), a United Nations’ body that works to standardize global civil aviation operations and regulations.

Mitsubishi Electric has been delivering terminal Doppler lidar systems to airports since 2015. Six systems have been supplied and three more are scheduled to be delivered to international airports in Beijing Daxing (China), Nice Côte d’Azur (France) and Kansai (Japan), in addition to Henri Coandă. ROMATSA selected Mitsubishi Electric’s terminal Doppler lidar system based on its high evaluation of the company’s technology as well as its strong record of deliveries to major airports worldwide.

Supply of Mitsubishi Electric Terminal Doppler Lidar Systems

Recipient	Delivered	Quantity
Tokyo International Airport (Japan)	2015	1
Narita International Airport (Japan)	2016	1
Hong Kong International Airport (China)	2016	2
Tokyo International Airport (Japan)	2017	1
Antalya Airport (Turkey)	2018	1
Kansai International Airport (Japan)	2019	1
Beijing Daxing International Airport (China)	2019 (scheduled)	1
Nice Côte d’Azur Airport (France)	2019 (scheduled)	1
Henri Coandă International Airport (Romania)	2020 (scheduled)	1

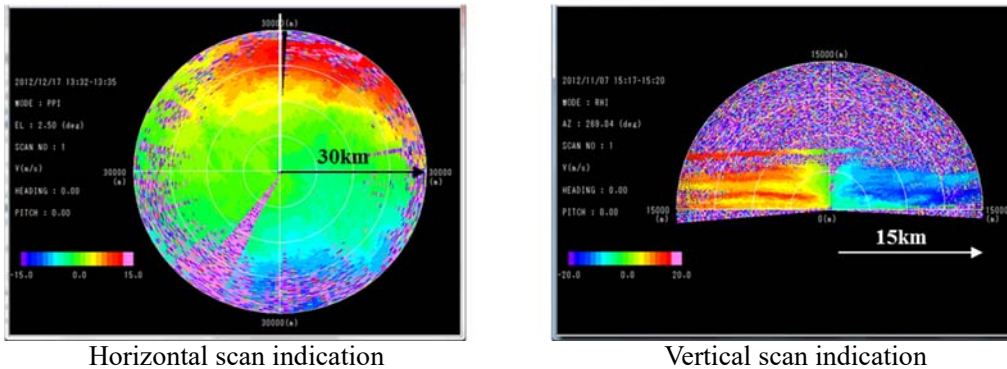
Example of Terminal Doppler Lidar Deployment

The image illustrates the deployment of Terminal Doppler Lidar (TDL) and Terminal Doppler Weather Radar (TDWR) at an airport. At the top left, a diagram titled "Example of wind shear in the airport" shows a "Microburst" event. It depicts a "Normal path" of an aircraft being deflected by a "Microburst" cloud, resulting in a "Head wind" followed by a "Tail wind" as the aircraft passes through the microburst. The "Run way" is also indicated. Below this, a 3D perspective view of an airport shows the locations of the TDL and TDWR. The TDL is shown as a white rectangular unit on a rooftop, while the TDWR is a tall tower with a white dome. Two inset photos provide close-up views of these units.

Terminal Doppler Lidar
To detect wind shear under conditions of non-precipitation

Terminal Doppler Weather Radar
To detect wind shear under conditions of precipitation

Measurement data samples (Doppler velocity)



About Mitsubishi Electric Corporation

With nearly 100 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation (TOKYO: 6503) is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. Embracing the spirit of its corporate statement, Changes for the Better, and its environmental statement, Eco Changes, Mitsubishi Electric endeavors to be a global, leading green company, enriching society with technology. The company recorded consolidated group sales of 4,444.4 billion yen (in accordance with IFRS; US\$ 41.9 billion*) in the fiscal year ended March 31, 2018. For more information visit: www.MitsubishiElectric.com

*At an exchange rate of 106 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2018