Runway side : Hybrid sensor

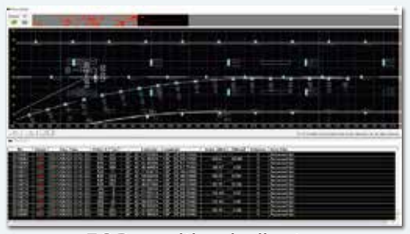
iSmartUrus Sdn Bhd / Malaysia Airports (Sepang)

Radar system specification	
Frequency band	92–100 GHz
Bandwidth	Up to 8 GHz
Ranging method	FMCW
Wired communication interface	1000BASE-X
Output RF power	100 mW or less
Antenna beam width	< 1.0°
Dimensions	W600 × D600 × H1200 mm

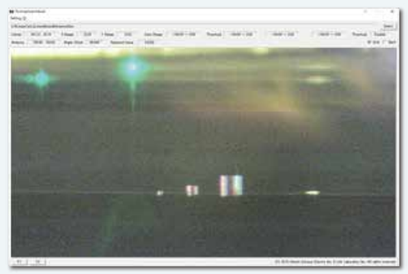
High sensitivity camera specification	
Image sensor	1/2.8 3MOS
Resolution	2.2 Megapixel
Minimum illumination	F1.4 high sensitivity mode 0.4lx
Zoom ratio	x25(F1.4) electric control
Panning speed	Preset: Up to 180˚/s
Tilting speed	Preset: Up to 90˚/s
Dimensions	W419 × D400 × H537 mm

Optical network specification	
Wavelength	1310 nm、1550 nm
Transmission distance	30 km
Fiber type	Single mode fiber

Control side : Monitoring terminal



FOD position indicator



High sensitivity camera image

Monitoring terminal

Specifications are subject to change without notce.

KOKUSAI DENKI

LINEAR CELL RADAR SYSTEM®

High-Precision Foreign Object Debris Detection Radar for the Runway

- Designed for large airports with multiple runways.
- Detect Small Foreign Object Debris (-20dBsm@500m)
- Low operational cost, Low emission of radio waves.

LINEAR CELL RADAR SYSTEM®

High-Precision Foreign Object Debris Detection Radar for the Runway

Modern airports handle hundreds of thousands of landings and take offs annually. The high demand would require very precise airport operation to be carried out at a rapid pace.

Aviation needs to adapt to the changing nature of risks since new risks could arise anytime which requires advancements in the airport safety and security efforts.

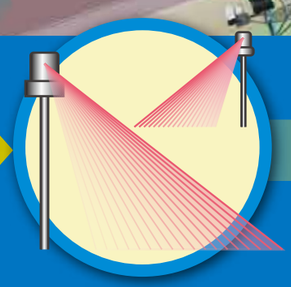
One of the most critical airport's safety risk is the presence of foreign object debris on the runaways. KOKUSAI DENKI's solution to this problem is its state-of-the-out Linear Cell Radar System Technology. It is a monitoring system that has the capability to detect foreign objects on the runway at a fast speed, supported with an automatic alert mechanism.

We support airport operation with superior radar performance of unprecedented detection speed.

The advantages of the system include its low operational cost, low emission of radio waves, and most importantly a highly scalable system for busy airports.

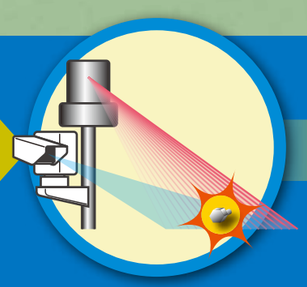
Better management not only increases efficiency, enhances safety and improves security, but also saves airports and airlines countless hours in time, money, and manpower.

Other benefits include the reliability that comes with a computerized system. It reduces the possibility of human error and offers the ability to continuously monitor the runway 24hours/7-days, without having to delay airport operations to perform routine FOD runway checks.



Scan

The runway is continuously scanned for 24hours/7days with high-resolution radar systems.



Detect

The accurate position of FOD is automatically transformed into an High sensitivity camera camera to realize quick image capturing. FOD position and captured images of FOD will be informed to the operator with alert.

Judge

At the monitoring terminal, operators can accordingly judge using FODDS information.

Remove

If the operators decide to remove the FOD, the FODDS system provides useful information for removal.

Report /Archive

Report of FOD appearance is automatically generated from the information of FODDS. FOD position, reflection power of FOD, the time stamp and High sensitivity camera images are archived for statistical analysis.