METASENSING

Pluvian

APPLICATIONS

- Real-time information on precipitation
- Precipitation monitoring and estimation
- Precipitation categorization and classification
- Urban flood avoidance

SNAPSHOT

- Compact
- Low transmitted power
- Regional coverage
- Light weight
- Dual polarization
- Advanced clutter suppression
- User customized
- All weather, day and night capabilities
- Cost-effective

CUSTOMERS

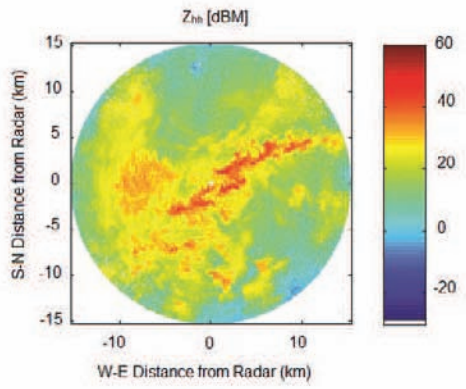
- Water management groups
- Research and governamental institutes

Pluvian weather radar is MetaSensing high reolution polarimetric doppler FM-CW radar with transmitted power of few Watts, based on the experience gathered in the field of the airborne and ground based surveillance radars.

Pluvian presents exclusive features compared to the existing standard weather radars: FMCW technique, low transmitted power, high space and time resolution, polarimetry. The fully polarimetric characteristic of the Pluvian, together with advanced processing algorithms, improves the hydrometeors categorization and the clutter suppression, resulting in accurate rainfall estimates.

MetaSensing Pluvian artistic view

X-band weather radars, with their high spatial and time resolution, perform better than C- or S-band radars in catching the rapidly evolving characteristic of rainfalls. The operational range of the X-band weather radar is limited compared to other sensors, but the regional scale makes the Pluvian perfectly adapt for urban areas.



PPI of precipitation event

Pluvian is especially suitable to be installed in the heart of the city. It represents a unique and valuable source of information for the urban water management authorities, which can now reduce the response time to extreme weather events and prevent pluvial flood damages, i.e. collapsing of the urban drainage system.

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Pluvian datasheet

MetaSensing Pluvian system	
Radar type	FMCW Polarimetric Weather Doppler Rad.
Frequency	9.3 - 9.5 GHz
Minimum operational range	200 m
Maximum operational range	60 km
Range resolution	≥ 15 m
Sweep rate	Up to 2500 Hz
Transmitter polarization	Sweep to sweep H/V
Receiver polarization	Simultaneous H and V
Transmitter power stability	≤ 0.2 dB
Phase noise	≤ 1° per second
Sensitivity	≥ 10 dBz at 30 km
Receiver minimum discernible signal	<-102 dBm
Receiver linear dynamic range	> 80dB

Pluvian Antenna system	
One way half power beamwidth	1.8° in azimuth and elevation
Side lobe level	First side lobe less than -25 dB Higher less than -28 dB
Integrated cross polarization isolation	> 25 dB
Azimuth operation range	0° - 360° continuous
Elevation operation range	0° - 90°
Angular position accuracy	0.1°
Scanning speed	0 (stopped) - 5 rpm
Radome	No radome, 24/7 all weather
Antenna control	Software based

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