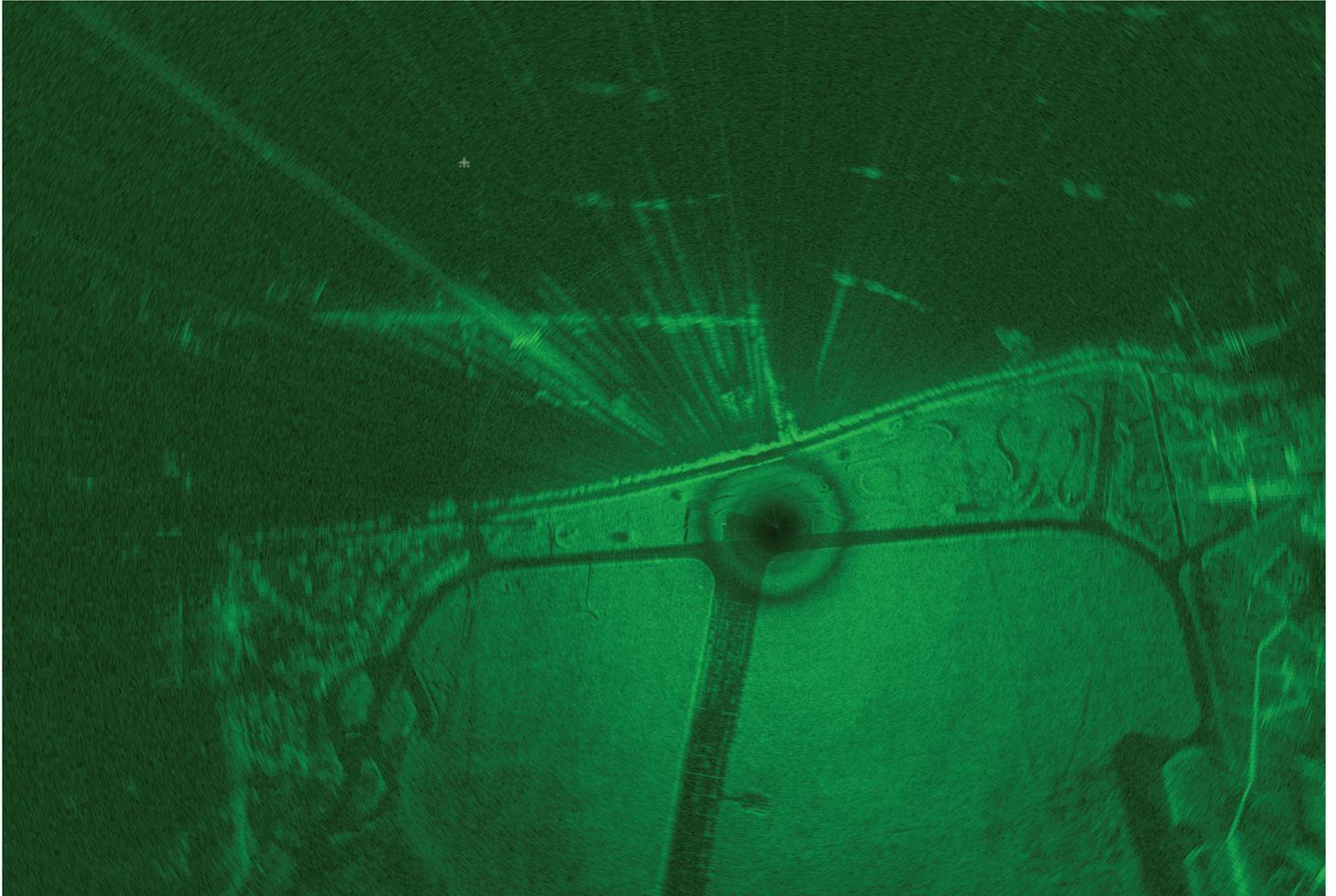


## All-weather Radar Sensors

*For Autonomous Vehicles and Industrial Automation*



Reliable sensing in all conditions is fundamental for the safe operation of autonomous vehicles and industrial equipment. Radar performs well in conditions when other technologies fail.

- ✓ High resolution radar sensor
- ✓ 360° field of view radar with fast update rate
- ✓ Unaffected by fog, snow, rain, dust or smoke
- ✓ Long-range operation
- ✓ Ideal sensor for 'on vehicle' and applications
- ✓ Uninterrupted operation

**Safety is everything.**

# Autonomous Vehicles

## Sensing for autonomous vehicles navigation and perception

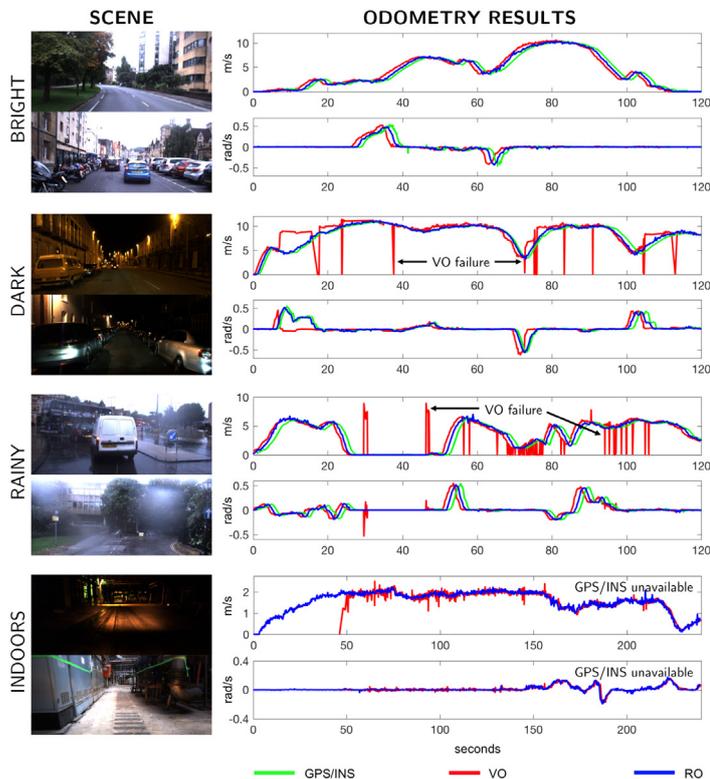
### Why radar?

When reliable high resolution data is needed, despite weather and environmental conditions, radar sensors are the ideal solution. Whilst optical and lidar sensors are unable to reliably perform in adverse weather, the nature of radar enables operation despite the presence of rain, fog, dust, snow, sunlight or other adverse environmental conditions.

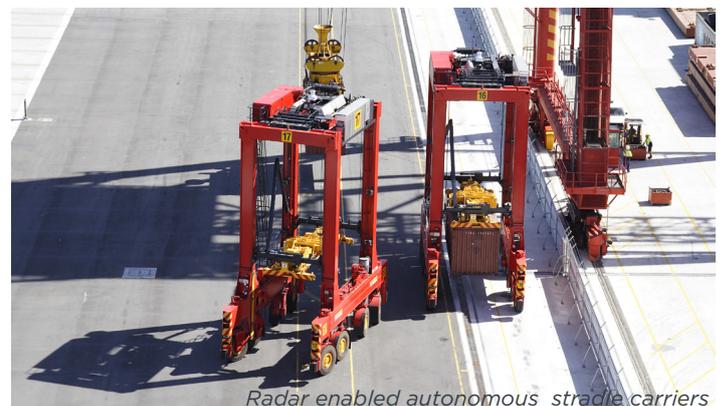
### Benefits

- ✓ High resolution, high frequency radar sensor
- ✓ 360° field of view
- ✓ Compact rugged design
- ✓ No active moving parts
- ✓ Unaffected by adverse environmental conditions
- ✓ Ideal for harsh industrial environments
- ✓ Fast update rate
- ✓ Long range operation, up to 300m

### Radar enables autonomy everywhere and in all conditions



Sarah H. Cen and Paul Newman, Oxford Robotics Institute



# Smart Infrastructure

*Independent source of vehicle location data*



Navtech Radar's sensor can be used as an independent source of data from other sensors on vehicles, offering detailed traffic and obstacle detection for open highways and busy junctions. It allows advance "over the horizon" and "around the corner" sensing information, covering parts of the road and surrounding environment which are not visible to the "on vehicle" sensor.

The radar is mounted at an elevated position from which ground truth data is collected and reported. This includes information on vehicle location and speed, pedestrians, debris on the road, stopped vehicles and traffic jams. Ideal for test routes, it can provide an analysis of autonomous vehicle behaviour in normal traffic flow as well as junction traffic optimization.

## Benefits

- ✓ Independent source of data from vehicles sensors
- ✓ Ideal measurement system for test routes and proving grounds
- ✓ 360° field of view
- ✓ Long range operation, up to 350m
- ✓ High resolution imaging
- ✓ Reliable in all weather, lighting and environmental conditions
- ✓ Advance warning of pedestrians and road debris
- ✓ Traffic information from all approaching lanes
- ✓ Compact design, flexible installation and mounting options

# Technical Specifications

Capabilities	CIR Sensor Industrial automation applications	CAS Sensor Autonomous vehicles applications
Operating Range	up to 500m radius	275m radius
Range Resolution	17.5 cm	17.5 cm
Azimuth Beamwidth	1.8°	3.6°
Elevation Beamwidth	3 configurable options	3.6° with 25° fill in
Field of View	360°	360°
Data Connection	1 Gbps Ethernet	1 Gbps Ethernet
Weight	6 Kg	4 Kg
Operating Frequency	76 - 77 GHz	76 - 77 GHz
Update Rate	2 or 4 Hz	4 Hz
Supply Voltage	24 Volts DC	PoE
Power Consumption	30 Watts	24 Watts
Operating Temperature	-20°C to + 60°C	-20°C to + 60°C
Vibration Resistance	IEC EN6100	TBC
Impact Resistance	IEC 60950.1	IEC 60950.1
Environmental Compliance	IP67, EN60068-2-52:1996 Test Kb Severity 3 CE Marked EN 301 091-2V1.3.2 EN301 489-3V1.4.1 EN301 489-3V1.9.2 IEC 60950-1 IEC 60950-22	IP67 EN 301 091-1 EN301 489-50



## Navtech Radar Limited

Home Farm, Ardington, Wantage,  
Oxfordshire, UK, OX12 8PD

📞 +44(0)1235 832419

✉️ sales@navtechradar.com

[navtechradar.com](http://navtechradar.com)

