

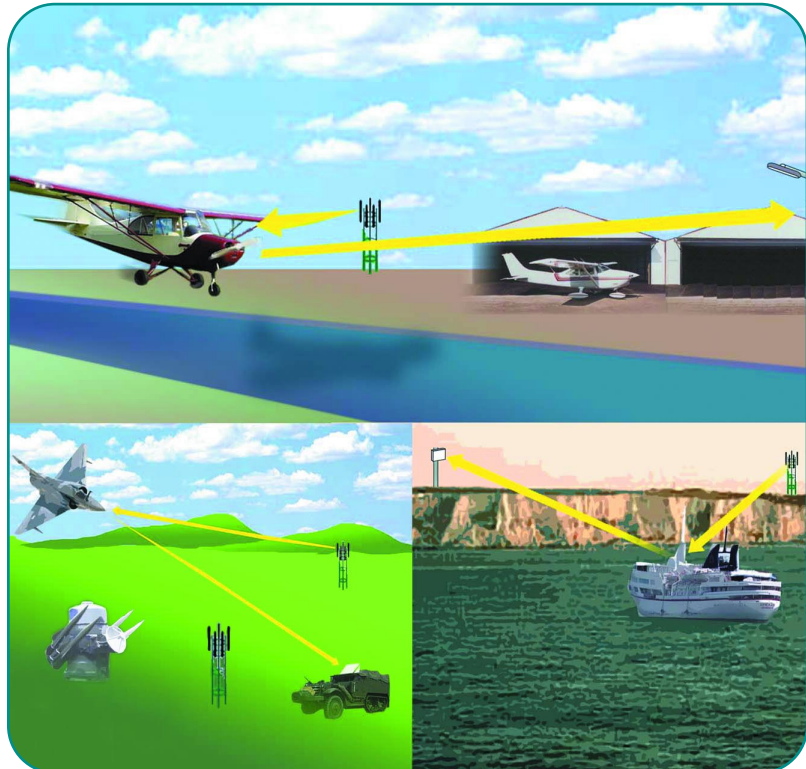
Cellphone Radar

Reigning technology for all weather object monitoring

Roke Manor Research has combined its unique expertise in radar technology and cellular radio to develop CELLDAR™, a groundbreaking system, which uses the reflection of digital telephone signals from the sides of moving objects, such as aircraft or boats, to track and detect their movement. Using simple demonstrator technology, we have successfully shown that we can detect large aircraft over hundreds of kilometres, providing there is a cellphone network present to illuminate the targets. In addition CELLDAR™ does not need a licence to transmit, unlike conventional radar techniques.

In July 2002, we teamed with BAE SYSTEMS to develop the concept of cellphone radar - CELLDAR™ - to

provide a revolutionary, low-cost, totally covert and innovative approach to the detection of moving air, land and sea-based objects. This teaming agreement signified the start of a programme which will enhance military capabilities, such as air warfare, littoral operations and Homeland security.



There are a whole host of different applications of CELLDAR™, all of which use core technology and components, enabling us to pass on development cost and time savings to our customers.

To follow are just a few:

Ground Based Air Defence

CELLDAR™ may be used to provide a passive sensing capability for ground based air defence, such as Surface-to-Air missile systems. The advantage given by CELLDAR™ in this role is to keep the defence systems covert until the last moment and thus increase its survivability on the modern battlefield.

Airborne Applications

CELLDAR™ can also be mounted on airborne platforms, such as the E-3 AWACs helicopters and transport aircraft to create a passive airborne radar and passive radar network.

Surface Movement

CELLDAR™, when used to detect objects moving on the ground, can detect vehicles and even human beings at militarily useful ranges. It is possible to detect the motion of such objects even through foliage.

Coastal Surveillance

In the same way that aircraft can be detected and tracked by CELLDAR™, the system could be directed out to sea to detect ship or boat traffic approaching or passing a section of coastline. Chaining together multiple CELLDAR™ systems could therefore provide monitoring for a complete area of a coastline or channel.

Deploying CELLDAR™ along a section of coastline could be used for:

- Detection of approaching (enemy) craft
- Assistance with Search and Rescue
- Navigation guidance/warning

As well as its key role in defence, CELLDAR™'s use of extended multi-static radar detection and data processing to track objects moving in already present electromagnetic fields makes it suitable for a host of commercial applications, including traffic monitoring.

All-weather, Continuous Traffic Monitoring

We have recently joined forces with FaberMaunsell, an international multi-disciplinary consultancy, to develop CELLDAR™ technology for monitoring traffic on Europe's roads, rails and waterways.

Unlike CCTV systems, CELLDAR™ is not affected by poor weather conditions such as fog and snowstorms, and is therefore perfectly suited to continuous traffic monitoring. Its sensor is able to determine the flow rates on multiple lane highways and determine traffic conditions over large stretches of road at complex junctions.

To learn more about our expertise in this area, please contact one of our representatives below, or visit our website at www.roke.co.uk

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