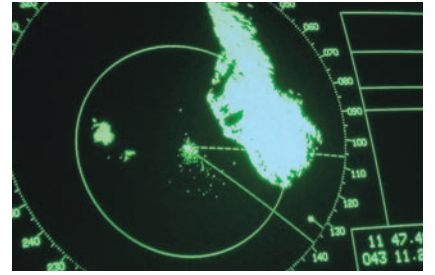


igence twp combines a fundamental understanding of radar systems with an ability to produce software that really works and a wealth of experience in the successful management of large projects. we can provide services and software at a technical level and scope expected from a large organisation but with the flexibility and responsiveness of a small company.



### radar systems engineering

the team has many years of experience of radar research and technology, working for the uk MoD, uk defence contractors and overseas organisations. this has led to an understanding of the scientific principles of EM scattering, radar signal & clutter fluctuations and processing, which underpin the operation of modern radar systems.

radar signal processing algorithms and concepts, developed for the detection of small targets in clutter, have been widely implemented in both experimental and operational radars.

Synthetic Aperture Radar (SAR) and Inverse SAR image algorithms, including motion compensation, have been devised and implemented.

trials, strategies and technical supervision, including the analysis of the trials results for service acceptance, have been provided to military customers for airborne radars.



## software engineering for radar systems

the software team are specialists in bespoke software development, rapid prototyping, extreme programming and iterative system development. expertise includes test and simulation tools, radar tracker and Human Machine Interface (HMI) design, display, terrain map overlay / underlay and playback.

igence twp software engineers have produced:

- the tracking sub-systems for both the Thales Searchwater 2000 MR radar for the RAF's Nimrod MRA4 and the Royal Navy's Sea King AEW Mk 7.
- the test set HMI for the ground and flight trials of the Searchwater 2000 MR radar.
- a major part of the Mission System Operator HMI for the Sea King Mk 7 Mission System Operator Console.
- the design and development of a sophisticated HMI for the Plextek BLightER ground surveillance radar.

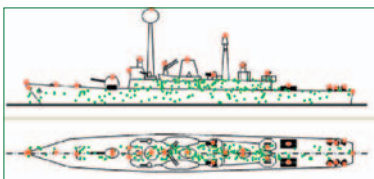
## concept system design

examples of work undertaken by the systems engineering team include:

- research into the feasibility and enhancement of interrupted Synthetic Aperture Radar imagery.
- radar performance design and algorithm development for a counter-stealth research programme.
- cost-performance optimisation of a space based radar system.
- a study of the fundamental requirements for an 'Uninhabited Air Vehicle Sense and Avoid' radar and a mathematical analysis of collision avoidance manoeuvres.

## Radar A-Scope Simulator

the Radar A-Scope Simulator (RACS) allows radar operator training and assessment of A-Scope images. radar scatterers, both point and distributed, are superimposed upon the visual image of the target and, from these, a simulated A-Scope image is computed.



simulation of the roll, pitch and yaw allows Inverse Synthetic Aperture Radar target images to be produced.

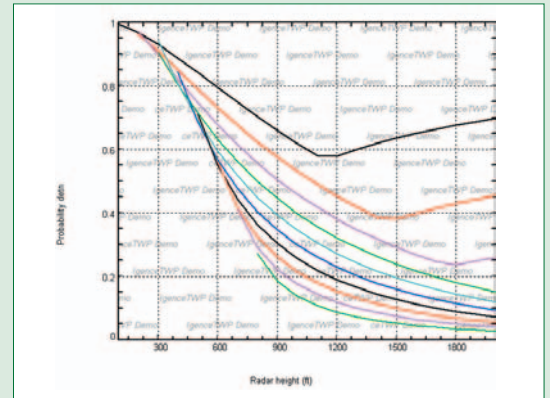
for further information, please contact david macdonald on

**01342 870800**



## RaSPA

the Radar Simulation and Performance Assessment tool (RaSPA) is in use by several radar systems companies and the UK Defence Science and Technical Laboratory for the accurate prediction of radar detection performance in a wide range of environments.



## radar performance upgrades

advances in signal processing hardware provide the opportunity for radar upgrades and the exploitation of improved processing algorithms. the software used to analyse data and develop algorithms off-line can be re-built to operate in the embedded radar processor. modelling and simulation software to support the development can re-use many of the algorithm processing modules. Human Machine Interface (HMI) refinements can be embodied to suit operator requirements. this highly integrated approach reduces risks and costs, and guarantees consistent results.

## project management

our team includes staff with a track record of management of recent large UK radar projects. we act as an agent or support contractor for overseas or UK organisations for the procurement of radar systems. we can provide detailed schedule plans, negotiate contracts and subcontracts, assess programme and cost risk, calculate earned value and achievement metrics, conduct progress and technical reviews, monitor progress and assist in recovery action and with contract renegotiation.



igence twp limited, ladycross farm, hollow lane, dormansland, surrey rh7 6pb  
t: 01342 870800 e: info@igencetwp.com w: www.igencetwp.com

Registered office: Ladycross Farm, Hollow Lane, Dormansland, Surrey RH7 6PB Registered no. 4992208



4084/04