Focus on CSIR

SEWES – Sensors and Electronic Warfare Engagement Simulation

Chaff

IR Missile Beam

RWR Antennas

RF Missile Beam
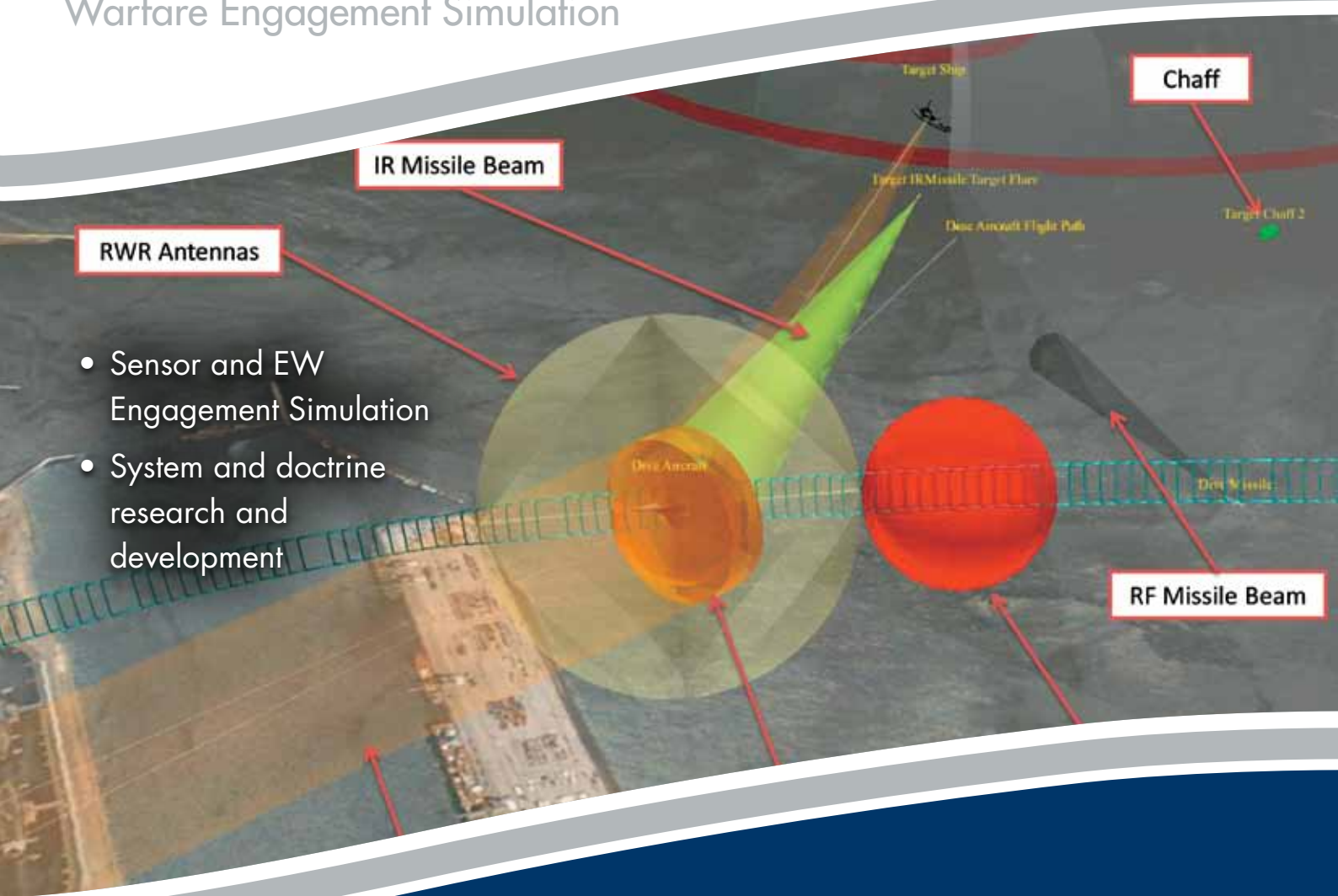
- Sensor and EW Engagement Simulation
- System and doctrine research and development

SEWES is a few-on-few Electronic Warfare (EW) simulation environment. Any number of platforms, consisting of any number of sensors and EW systems, can engage each other in a simulated environment. SEWES is used by defence research institutes for ECM & ECCM research and development and by defence contractors for system development and optimisation.

Decision makers can simulate "what if" questions using SEWES to develop and evaluate doctrines. The Matlab and Simulink environment gives a great advantage in terms of rapid prototyping, readability and understand ability of implemented models. The parameter level simulation of the systems and interactions are modelled to a detailed level. All relevant system parameters in the simulation can be displayed and stored while the engagement scenario is visualised in 3D.

Architecture

The innovative architecture enables the owner to easily modify the simulation to the requirements and to interoperate with other simulations. It allows for a fully-scalable distributed simulation in terms of the number of platforms in the simulation, the number of systems that can be added to the various platforms and the number of processing units in the cluster. Naval, Air or Ground platforms can be selected. Each platform has its own command and control from where all interactions between the various system models are controlled and where the time-line behaviour of these systems can be observed.

CSIR

our future through science
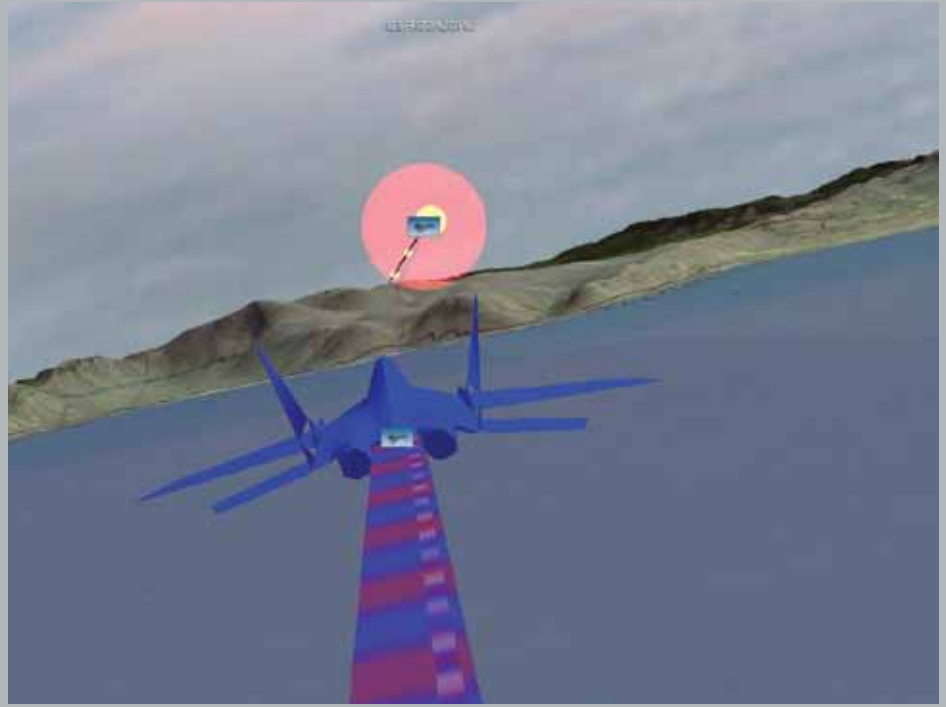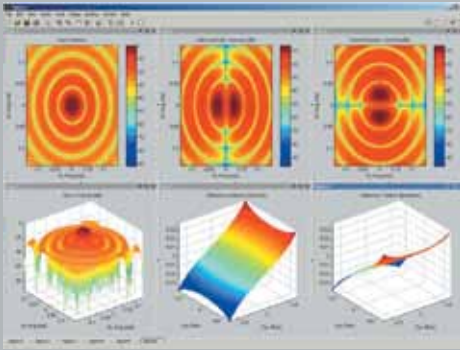
Models

Models can be added or modified and the user can expand the library as needed. SEWES is constantly being used and expanded by a community of Defence Evaluation and Research Institutes, ensuring that the models and simulations are valid. The fidelity of the models can be tailored to suit the correct level required, saving time and money.

Operations

Visual configuration and management of the simulation enables quick and easy operation. Generated outputs are export ready and user friendly for other applications as well as display and visualisation.

Our Track Record

Since 1939 when radar technology was transferred to South Africa from Great Britain, we have been playing a leading role in the development and utilisation of radar technology and its applications. We were instrumental in the development of Radio Frequency (RF) Electronic Warfare (EW) technology in South Africa from the early 1970's and in enabling the local EW industry. In the post-1994 Democratic South Africa, we have been acknowledged by the South African Department of Defence as Electronic Defence Research and Evaluation Institute and contracted to support them to be smart buyers,

smart users and ensuring strategic independence in Radar and Electronic Warfare Our Electronic Counter Measures (ECM) simulators, Digital Radio Frequency Memory (DRFM) kernels and radar signal processors are recognised as world class and utilised by several clients internationally

The teaming of our Radar and Electronic Warfare specialists enables a deep understanding of systems interactions and client requirements.
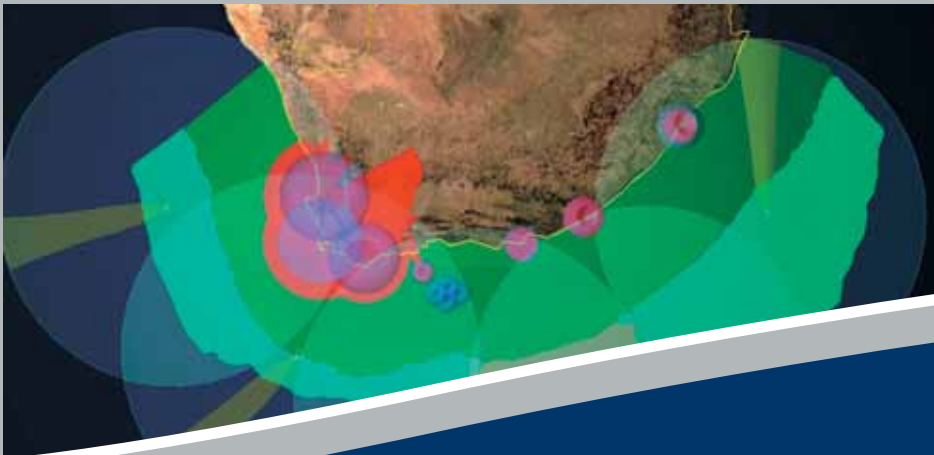
Contact details:

Pieter Goosen – *Business Development*
CSIR – Defence, Peace, Safety and Security

Tel: +27 12 841 2060
Fax: +27 12 841 2455
Cell: +27 83 272 6662
e-mail: pgoosen@csir.co.za

www.csir.co.za

CSIR

our future through science