

INVITATION FOR THE EXPRESSION OF INTEREST IN THE PROVISION OF ELECTRONIC WARFARE OPERATIONAL EXPERTISE AND SOFTWARE DEVELOPMENT SERVICES TO ENHANCE A SIMULATION TRAINING TOOL

There is a growing need to understand and develop effective countermeasures due to the ever-improving sophistication of missile threats. This is of utmost importance to preserve assets and most importantly preserve lives. The Council for Scientific and Industrial Research (CSIR) is developing an infrared electronic countermeasure (ECM) training tool aimed at equipping military and non-military forces on the use of countermeasures as protection against missile threats. It is necessary that a proper understanding of the military operational environment be gained to develop a tool that would address the requirements of pilots. The CSIR, therefore, needs the provision of electronic warfare (EW) operational expertise in the infrared domain and software development services to support the further development of the above-mentioned tool.

The tool is designed to demonstrate the effectiveness of different flare countermeasure techniques for aircraft platform self-protection against heat homing missiles. The concept is made to run a large number of missile attacks on various aircraft configurations, deploy countermeasures then observe the outcomes. Studying the outcomes of a large number of different scenarios can lead to insight into the effectiveness of different countermeasure strategies. To this end, the CSIR used its engineering simulation tool – the optronics system simulator – to set up and run the scenarios, recording the output for subsequent replay in a viewer.

The scenarios cover a wide range of aircraft configurations, missile types, attack geometries, flare types and flare dispense sequence designs. With so many free variables, the number of combinations quickly increases. A graphic user interface was developed to allow the user to select only the appropriate scenario from a sequence of choices.

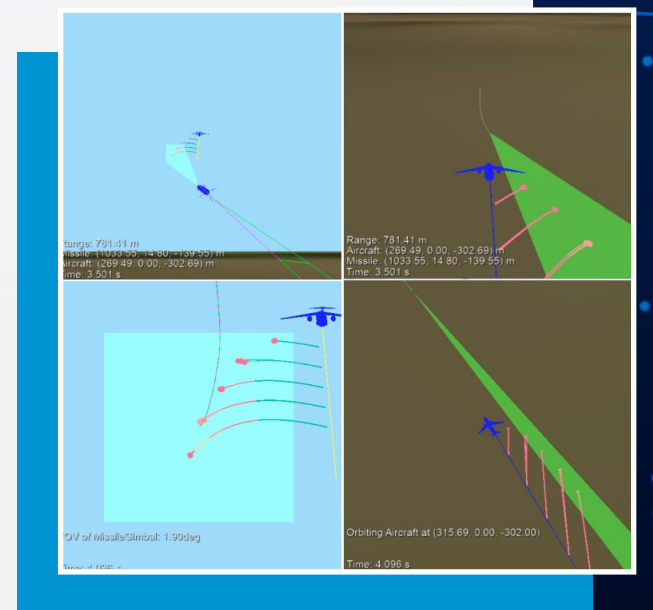
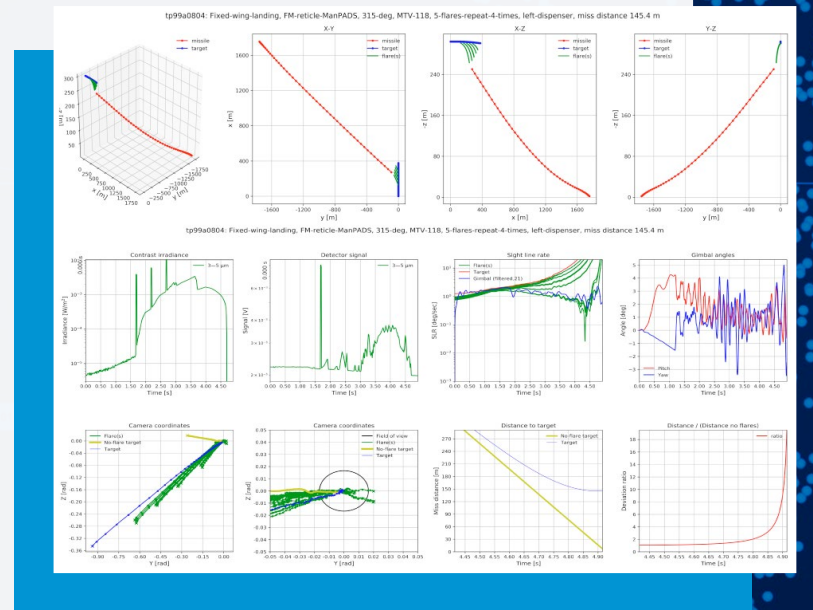
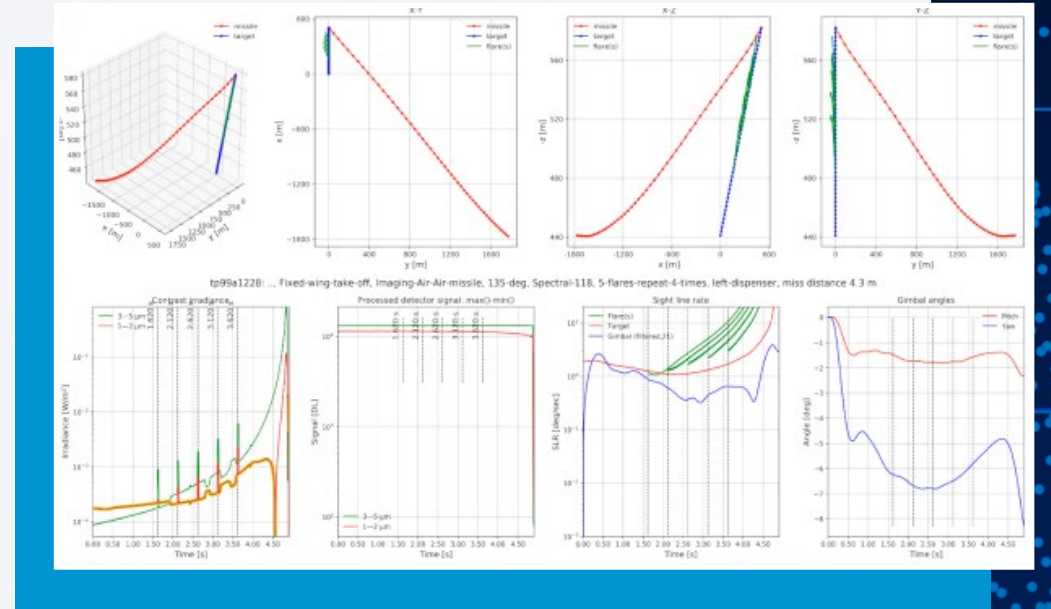
The CSIR hereby invites suitable partners, collaborators, or potential investors for the required services in the following categories:

- EW operational expertise – military and training experience with systems involving optronics and EW – references will be required;
- Fighter aircraft expertise;
- Understanding of missile countermeasures;
- Understanding of aircraft countermeasures; and
- Software development, simulation and modelling (C++ and Python).

ALL QUERIES MUST BE FORWARDED TO Edwin Magidimisha (emagidimisha@csir.co.za)

APPLICATION DOCUMENTS WILL BE MADE AVAILABLE UPON REQUEST.

THE CLOSING DATE FOR APPLICATIONS IS 13 AUGUST 2021.



CSIR
Touching lives through innovation