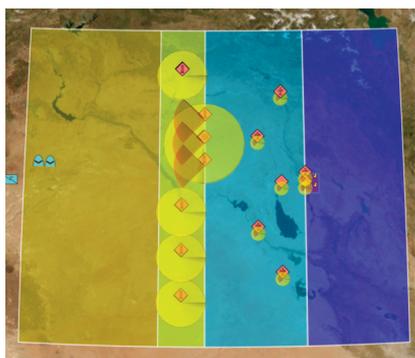


ONERA **BLADE**

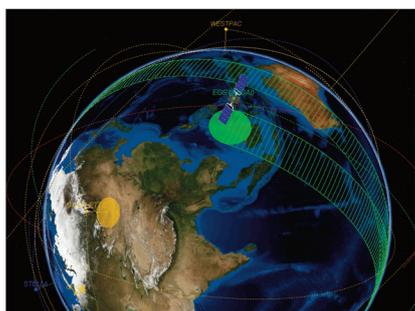
Simulating and assessing future systems

A tool for demonstrating and convincing

The increasing complexity of both civil and defense systems requires appropriate simulation means. Thanks to the ONERA BLADE tool, researchers, engineers and operational staff can, very quickly, put the foreseen system (a defense architecture, drone, sensor, etc.) in a simulated environment representative of its end use. BLADE is an ergonomic and interactive tool that enables collaborative work between the various interlocutors. Based on ONERA's multidisciplinary models (systems, radar, optics, etc.), it makes it possible to evaluate the system performances, analyze a concept of use, or compare alternative solutions.



Air defense penetration study



Example of a space surveillance application

What is BLADE?

BLADE is ONERA's simulation laboratory. It is a generic IT infrastructure that allows to study emerging issues by simply assembling or adding models (aircraft, drones, satellites, weapon systems, C2 centers, environment, sensors, etc.). Its interactivity and its ability to graphically define complex scenarios make it possible to simulate systems of systems with maximum efficiency.

Which applications?

BLADE is quite versatile. It was already implemented on a wide range of applications, both military and civil:

- **Defense:** BLADE is used by the DGA for technical and operational studies. Examples include studies of future missiles penetration against air defences or architecture definition of the SCAF (Future Air Combat System).
- **Civil:** BLADE is used to simulate civilian drone concepts of use. Thus, it is now being run by the SNCF (the French National Railway Company) to simulate the surveillance by drones of its line network over long distances (railways, catenaries, surroundings, etc.).

Which benefits?

BLADE makes it possible to:

- cope with a wide range of applications with a single tool,
- measure the performance of new system concepts as soon as possible in a "realistic" situation,
- benefit from the multidisciplinary expertise of ONERA through libraries of scientific models (aircraft, missiles, weapon systems, environment, sensors, etc.),
- take advantage of an interactive and graphical tool to efficiently simulate complex scenarios.

What is the ONERA BLADE added value?

The tool was fully developed by ONERA, both in terms of container (tools) and of content (models). Thus, we can provide an effective, completely mastered and independent expertise to end users.

