C2TECH

RIKA

RADAR SIGNATURE
PREDICTION & ANALYSIS

UNDETECTABLE
OR NOT?

**OUR ANSWER TO YOUR MOST
CHALLENGING STEALTH
TECHNOLOGY NEEDS? YES**

TURKISH
AEROSPACE SUBSIDIARY

PROJECT DESCRIPTION

Radar signature reduction is a must in order to increase the battle-field effectiveness of any contemporary platform or long-range armament. The crucial step in radar signature reduction or stealth technologies is the determination of the radar signature of the platform under consideration. The following actions can be performed upon the determination of the signature:

- Shape changes can be affected for platforms under development
- Radar absorbing coatings such as RAM can be applied on certain regions of the platform
- Tactical plans for approach-to-target patterns can be tailored

The RIKA software analyzes the radar signature of any platform based on its CAD model and provides all the necessary information to realize these actions.
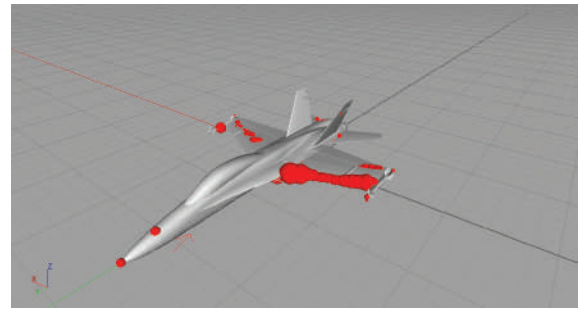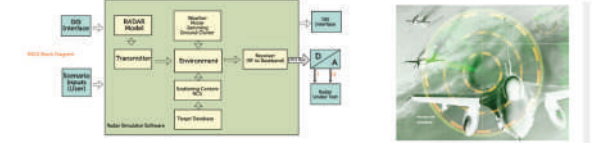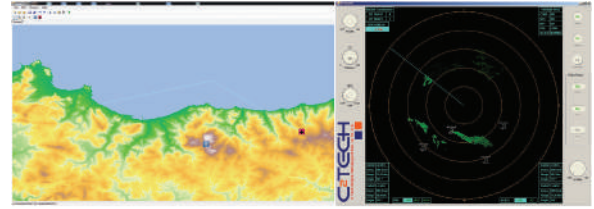
FEATURES

- Windows-based software
- Can be operated on a single machine or on a network cluster in parallel mode
- Allows parts sharing between different models
- Allows the definition of new coating materials
- Allows definition of multilayered coating definitions
- Visualizes ray tracing
- The results can be output in XML format
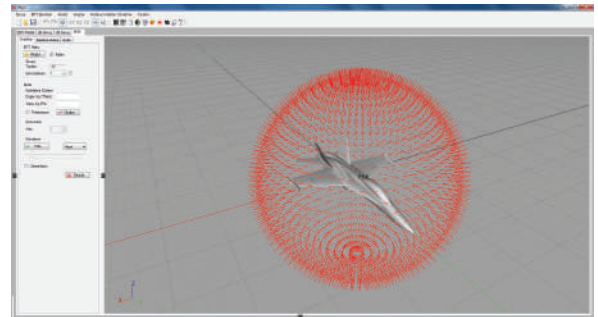
USE CASES

The following analysis can be performed with RIKA:

- Computation of Radar Cross Section (RCS)
- Determination of hot-spots or scattering centers
- Computation of the induced surface currents
- Evaluation of the effecitveness of surface coatings

The technigues used in performing these tasks include:

- Hybridized geometric optics and physical optics algorithms
- Diffraction theories
- Multiple reflection
- Shadowing and Instantenous Doppler approximations
- Formation of ISAR images
- Determination of range profiles
- Computation of polarimetric scattering