Radar Cross Section

OPTIMISE STEALTH AND SURVIVABILITY WITH PRECISION RCS SIMULATION

Radar Cross Section (RCS) simulation is a critical factor in contested environments.

TICRA's electromagnetic simulation software enables engineers to predict, analyse, and minimise RCS with speed and accuracy — from early design through operational deployment.
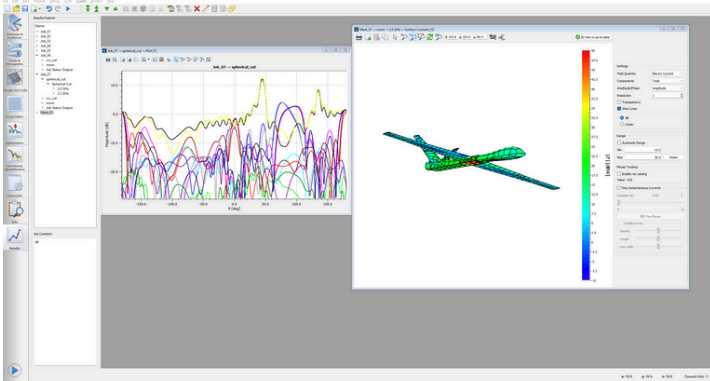
$$\mathbf{T}_{1mn}(k_x, k_y, z) = \frac{e^{jk_z z}}{k_z} \frac{(-1)^{n+1}}{\sqrt{\eta}\sqrt{n(n+1)}} \mathbf{Y}_n^m(\alpha, \beta)$$

$$\hat{n} \times \mathbf{E}' = -\hat{n} \times Z_0 \mathbf{J}, \quad \mathbf{r} \in S$$
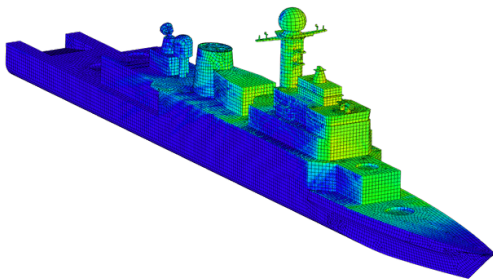
TICRA

TICRA for defence

From simulation to stealth superiority

ADVANCED RADAR CROSS SECTION (RCS) MODELLING TO OPTIMISE LOW-OBSERVABLE PERFORMANCE FOR AIR, LAND, AND SEA PLATFORMS.
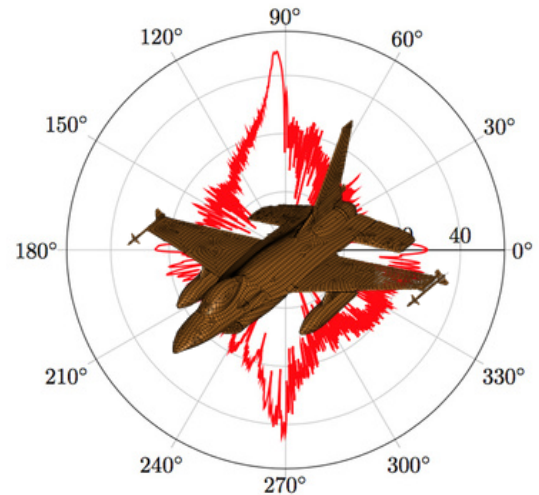

Accurately simulate radar reflections from UAVs and aircraft to assess and reduce RCS across mission profiles.
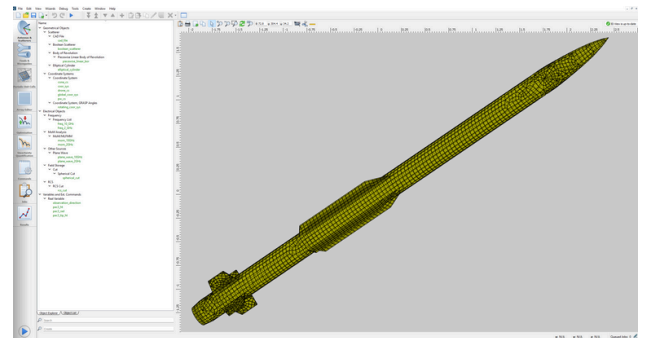

Visualise RCS patterns by aspect angle to identify detection hotspots and guide design changes.

Optimise signature of complex naval platforms, including effects of masts, radomes and topside structures.

Evaluate RCS of missiles and munitions, including coatings, fins and fairings, across frequency bands.

Defence applications

- Airborne, naval, missiles and munitions, and ground platform stealth optimisation
- Monostatic/bistatic RCS prediction across frequency ranges
- RAM, FSS, and multilayer radome evaluation

Key RCS simulation capabilities

- Validated by leading defence agencies and OEMs
- Accurate, fast electromagnetic simulation software
- Direct access to expert support
- Multi-material modelling: RAM, FSS & multilayer radomes
- Monostatic & bistatic RCS across aspect angles (MoM/MLFMM/FDS)

Our software

TICRA's simulation platforms bring together industry-leading solvers and workflows for radar signature analysis. Built on decades of electromagnetic expertise, they are used by defence contractors and agencies worldwide to meet demanding stealth requirements.

Discover how TICRA's defence-focused simulation can accelerate your next programme - www.ticra.com/defence