Société de Calcul Mathématique SA
(Mathematical Modelling Company, Corp.)
Tools for decision help
since 1995

Counter-measures and vulnerability analysis

We came to counter-measures from our work in image analysis: the aim was to distinguish between a false target and a true one. Then we had to work on the way to use counter-measures: at what time and how should they be employed, in order to be most efficient? This question arose in the missile domain, as well as in the torpedo domain, and ship protection.

Our work on signal analysis also led to new activities in information analysis and information protection, which are the "civilian counterparts" of the military countermeasures. This includes cryptography and various means of identification.

Our realizations:

1. Image analysis: detection of hidden objects. French Ministry of Defense, Centre Technique d'Arcueil (DGA), 1998-99.

2. Discrimination of decoys for ground-air missiles with infra red guidance: French Ministry of Defense, Service des Programmes de Missiles Tactiques, Direction des Systèmes d'Armes (DGA), 1997-1999.

3. Anti-torpedoes counter measures: how to use them ? French Ministry of Defense, Service des Programmes Navals, Direction des Systèmes d'Armes (DGA), 2000.

4. Short range missiles and torpedoes: the proliferation concern. Secrétariat Général de la Défense Nationale (French Prime minister), 2000.

5. Discrimination of decoys for infra-red guided missiles. French Air Force headquarters (Etat Major de l'Armée de l'Air, Cellule d'Analyse, de Simulation et d'Innovation), together with Matra BAe Dynamics, 2001-2002.

6. The local shield: What technologies can be used in order to protect a ship against a short range terrorist attack? French Ministry of Defense, Service des Programmes Navals, DGA, 2002.

7. What are the best ways to define and use watermarks in digital documents? Secrétariat Général de la Défense Nationale (French Prime minister), 2002.

Siège social et bureaux : 111, Faubourg Saint Honoré, 75008 Paris. Tel. : +33 1 42 89 10 89. Fax : +33 1 42 89 10 69
Société Anonyme au capital de 56 200 Euros. RCS : Paris B 399 991 041. SIRET : 399 991 041 00035. APE : 731Z

8. Protection of the rights in a domestic network: how to prevent illegal copies ? Together with Thomson Multimedia and Canal + Technologies, starting end 2002.

9. Protecting a vessel against terrorist attacks: The Naval Shield. Together with Thales Naval France and TDA Armements SAS, for the French "Service des Programmes Navals", DGA, ongoing since 2004.

10. Analysis of the risks connected with the industrial environment, for the French "Commissariat à l'Energie Atomique", 2005.

11. Analysis of the vulnerabilities of a system for electronic archives, for the French Company "CDC-Arkhinéo" (a branch of the "Caisse des Dépôts et Consignations"), 2006.

12. Analysis of the vulnerabilities of the process connected with the French biometric passport. For the "Agence Nationale des Titres Sécurisés" (Ministry of Interior), 2008.

13. Analysis of the vulnerability of the information system inside a new nuclear reactor, French Institut de Radioprotection et de Sûreté Nucléaire, 2010.

14. Analysis of the vulnerabilities of the detection system "Teleray" (network of sensors for the radioactivity in the environment), French Institut de Radioprotection et de Sûreté Nucléaire, 2013 and 2015.