



MASINT Defined

Measurement and Signature Intelligence, MASINT, is a technical and scientific discipline that focuses on capturing and analyzing unique signatures, characteristics and performance of objects or activities to provide intelligence.

MASINT Matters

In the current era of Great Power Competition, MASINT is more critical than ever. With the rapid development and deployment of advanced near-peer weapons systems, MASINT offers unparalleled insights into these evolving threats. By leveraging unique data sources, MASINT enhances the United States' national security, providing a vital edge in monitoring, analyzing, and responding to adversary capabilities.

MASINT Sub-Disciplines

Electro-Optical: The collection of reflected or emitted energy across the optical portion (ultraviolet, visible, near-infrared, and infrared) of the electromagnetic spectrum.

Materials: The collection of air, water, or solid material from or near a target location. The samples are analyzed for isotopic, chemical, or biological signatures.

Nuclear Radiation: The detection, identification, and characterization of nuclear sources and events. Space-based nuclear sensors monitor x-rays, gamma rays, and neutrons. Ground-based nuclear sensors monitor the movement of materials by tracing the radiation emissions.

Geophysical: The collection of physical phenomena of the earth; energy and disturbances that affect the ionosphere, atmosphere, oceans, solid surface, crust and even regions deep beneath the Earth's crust.

Radar: The active or passive collection of electromagnetic energy reflected from a target. Radar data collection provides information on radar cross-sections – tracking precise measurements of components' size, shape, and motion characteristics for targets and objects.

Chemical and Biological: MASINT involves detecting chemical and biological agents in the environment.

Radio Frequency: The exploitation of electromagnetic radiation across the radio frequency (RF) portion of the electromagnetic spectrum. RF emissions from targets of interest may be intentional or unintentional, but do not carry any information content (i.e. not Signals Intelligence - SIGINT)

Identity Intelligence MASINT (MSI2): Human signatures collection & exploitation techniques to attribute, characterize, identify, locate, or track persons for intelligence purposes.

Impact

MASINT sensors and tradecraft are often unique and therefore the sole method of deriving key intelligence.

MASINT is broadly used by policymakers, threat analysts, acquisition community, and developers of threat countermeasures.

MASINT enhances Science & Technical Intelligence and Operations.

MASINT-derived insights enhance US national security.

