

VI Synergistic Effects

Among Verification and Confidence-Building Methods

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Monitoring arms control agreements is primarily a function of intelligence collection and analysis, using all information available concerning a particular activity or location. In certain developed countries — and most particularly the United States and Russia — this is mainly accomplished by **national technical means (NTM)** which includes: reconnaissance satellite systems using photographic, infrared, radar and electronic sensors; ground-, air- and sea-based radars and other sensors; seismographs; communications collection stations; and under-water acoustic systems. The terms, "PHOTINT," "RADINT," "ELINT," "COMINT," "SIGINT," and "MASINT," describe areas which would be included in NTM.*

In recent years, there have been proposals for international technical means (ITM) or multilateral technical means (MTM), ISMA and the Canadian PAXSAT, for example, or a satellite system shared by several European countries, such as HELIOS. Developing countries rely upon **national intelligence means (NIM)** which include the sum of the country's intelligence collection and analysis capabilities minus the technical systems described above which these countries do not possess. NIM is concentrated in the area of "HUMINT," collection by human sources, and the analyses of open-source information such as media or commercial satellite photography.

An example of capitalizing on the synergistic effects between NTM and NIM, the recently-formed Nonproliferation Center established by the U.S. Intelligence Community, will support international nonproliferation regimes. It will also seek to enlarge the pool of experienced, well-trained experts committed to the nonproliferation mission.

Whether NTM, ITM, MTM, or NIM, monitoring systems are complemented by **cooperative measures**. Cooperative measures are aptly named. While NTM is a unilateral activity, cooperative measures are negotiated or volunteered measures which require the cooperation of the other party or parties to the agreement. For example, the INF Treaty provides for the opening of the roofs of the launchers for ICBMs to assure by NTM that the launchers do not contain prohibited, intermediate range SS-20 ballistic missiles.

The START agreement's telemetry provisions greatly enhance the use of NTM to verify the throw-weight and "new type" provisions of the Treaty. These provisions require, with limited exceptions, unencrypted transmission of ballistic missile telemetry; and they mandate the exchange of detailed telemetry data tapes, interpretive data, and acceleration profiles after each ballistic missile flight test.

Included under the term "cooperative measures" are the following areas; examples are drawn from a variety of arms control verification regimes.

Data or information exchanges are comprehensive sets of information frequently covering the numbers and locations of treaty-limited equipment (TLEs) or treaty-limited items (TLIs), technical characteristics of specific weapons and their associated launchers, site diagrams, and information regarding force structure and movements.

Notifications often include advance information on planned flight test activities, movements of TLEs/TLIs, changes in the number of TLEs/TLIs, planned changes in personnel or existing units, conversion or elimination of TLEs/TLIs, and requested or planned on-site inspections.

* PHOTINT is photographic intelligence; RADINT is radar intelligence; ELINT is electronics intelligence; COMINT is communications intelligence; SIGINT is signals intelligence; and MASINT is measurements intelligence.

