

OPEN SOURCE SOLUTIONS, Inc.  
*International Public Information Clearinghouse*

**Open Source Intelligence:  
What Is It? Why Is It Important to the Military?**

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Introduction

This White Paper defines Open Source Intelligence (OSCINT) and its relevance in meeting the needs of the military (both commanders and defense policy-makers).

OSCINT is intelligence derived from public information--tailored intelligence which is based on information which can be obtained legally and ethically from public sources.

This White Paper suggests that OSCINT is a both force multiplier and a resource multiplier. OSCINT provides a practical political and military advantage which complements the advantage provided by traditional intelligence, it is available at low cost, and it cannot be ignored.

First the paper describes and discusses the utility of OSCINT in general terms, and at the strategic, operational, tactical and technical levels of warfare, including a single practical example at each level. The paper then describes the "information continuum" within which a range of open sources, systems, and services can be obtained which are relevant to military needs. Finally, the paper provides a brief discussion of the status of the open source intelligence programs in the United States, The Netherlands, and Sweden, and concludes with a concise discussion of opportunities and risks inherent in the use of OSCINT to meet military requirements, and of several practical steps that can be taken to exploit OSCINT in support of military strategy, operations, tactics, and technical acquisition and countermeasures.

The official definition of OSCINT by the U.S. Intelligence Community:

By Open Source we refer to publicly available information appearing in print or electronic form. Open Source information may be transmitted through radio, television, and newspapers, or it may be distributed by commercial databases, electronic mail networks, or portable electronic media such as CD-ROM's. It may be disseminated to a broad public, as are the mass media, or to a more select audience, such as gray literature, which includes conference

proceedings, company shareholder reports, and local telephone directories. Whatever form it takes, Open Source involves no information that is: classified at its origin; is subject to proprietary constraints (other than copyright); is the product of sensitive contacts with U.S. or foreign persons; or is acquired through clandestine or covert means.<sup>1</sup>

The official definition is limited in its understanding to standard commercial sources of traditional information, and excludes, to take one important example, SPOT imagery. It also fails to take into account the importance of unpublished materials including electronic information and human knowledge which can be accessed legally and ethically.

The official approach to OSCINT is also limited in that the existing information-handling architectures for intelligence processing, including dissemination to the commander, are all classified, and there is a very limited capability for routing unclassified information efficiently, even assuming it can be obtained. In most communities, there appears to be a reluctance to assume primary responsibility for the collection and processing of OSCINT, which is why military operators in two countries (the United States and the United Kingdom) are examining means of acquiring and exploiting OSCINT directly, bypassing the intelligence community in order to give action officers at the policy level, and commanders at the operational level, direct access to OSCINT.

Experienced intelligence professionals have found that while OSCINT is not a substitute for traditional intelligence disciplines, including Human Intelligence, Imagery Intelligence, and Signals Intelligence. However, OSCINT does offer three major advantages for planning and conducting military operations:

-- When encountering requirements for military operations in the Third World or in support of humanitarian assistance and counter-terrorist operations for which intelligence collection priorities have not been high, OSCINT is frequently the only discipline able to respond rapidly (to include commercial imagery), and it provides the commander and his staff with a rapid orientation adequate for both developing initial planning packages; and for establishing collection requirements for the traditional intelligence disciplines.

-- OSCINT is also a means of achieving significant savings, in that many essential elements of information required by the commander and his staff can be acquired from commercial sources at a lower cost, in less time, than from classified capabilities, with the added advantages that OSCINT is often more up to date, and requires no political risk in its acquisition. *This permits classified intelligence capabilities to be focused quickly and effectively on mission-critical gaps, and avoids depleting or mis-directing these scarce resources--"do not send a spy where a schoolboy can go".*

-- Finally, OSCINT, whether it precedes or follows traditional intelligence collection, can protect national intelligence sources and methods by serving as the foundation for intelligence support to joint and coalition operations where it is not possible, or desirable, to reveal the capabilities and limitations of the traditional intelligence community.

### Open Source Intelligence and the Military

The availability and utility of OSCINT depends upon, and will vary, depending on the specific area of operations under consideration, and on two other factors: the level of warfare, and the point on the spectrum of conflict, from presence to general war, where the intelligence will be applied.

In general terms, OSCINT has significant potential as a source of intelligence support in terms of indications & warning, policy development, contingency planning, security assistance, weapon acquisition (design and countermeasures), joint and coalition operations, and tactical operations against new priorities such as proliferation. Finally, OSCINT is vital as a means of rapidly orienting the commander and serving as the foundation for collection management within the traditional intelligence disciplines.

At the strategic level:

-- OSCINT can provide indications & warning of both hostile intent, and opportunities for military advantage. Content analysis of multiple open sources such as regional newspapers from the Middle East, are often if not always more reliable foundations for estimating stability and instability, than reports from clandestine sources with a limited range of access and a personal perspective that biases their reporting.<sup>2</sup> OSCINT is especially valuable with respect to cultural and demographic intelligence, areas not generally well-covered by traditional civilian and military intelligence collection and analysis capabilities.

-- OSCINT can also provide very important geographic and civil generalizations which can significantly affect major military acquisition and design decisions. For instance, most countries build their aircraft for optimal performance on a "standard aviation day" which is defined in terms of warm (60°-70°F) conditions and balanced humidity. The military commander that is responsible for expeditionary operations to the Third World will find themselves utilizing aircraft which carry half as much half as far because the standard aviation day in the Third World is hot (over 80°F with high humidity). If aircraft cannot be designed for optimal performance on a hot day, then the military commander can at least ensure that doctrinal publications reflect accurate load and lift capabilities for the true expeditionary conditions to be encountered.

-- OSCINT can provide unclassified threat intelligence which can be used to educate and mobilize public and political support for military needs including policy development.

At the operational level:

-- OSCINT can provide the geographic and civil generalizations required for regional force planning and force employment. In particular, OSCINT has established credible regional generalization regarding the capabilities of air, ground, and sea forces to be encountered by the commander; geographic generalizations with respect to cross-country mobility, average line of sight distances, temperatures, and water availability; and civil generalizations such as bridge-loading, port clearance, airhead bunkering; and civil communications and computing resources. OSCINT provides a time-sensitive solution to questions the theater commander will have about civil infrastructure, political cliques and personalities, and economic or financial factors affecting operational employment of forces, and is therefore especially helpful to contingency planning which must be pursued without adequate support from traditional intelligence capabilities.

-- OSCINT is especially useful to the theater commander for the coordination of joint and coalition operations where traditional classified intelligence capabilities are either not available (e.g. in much of the Third World where lower priorities have restricted coverage), or cannot be shared with foreign elements.

At the tactical level:

-- OSCINT has been shown to be highly pertinent and effective against new priorities, including counter-proliferation, counter-terrorism, and peacekeeping operations. This is true for both conventional military operations focused on overt interdiction, and clandestine or covert "direct action" by special operations forces.<sup>3</sup>

-- OSCINT is a critical resource for the military commander who requires maps and digital targeting information for Third World area for which current geographic information is not available from government sources, whether classified or unclassified. In combination, SPOT and other commercial imagery resources can provide the commander with up to date maps containing all airfields, roads, and bridges; and soon containing contour lines as well, for expeditionary operations.<sup>4</sup>

At the technical level:

-- OSCINT about civil communications and computing capabilities in the area of operations will be very important to the commander. As information warfare and information peacekeeping become critical mission areas, and all opponents achieve some capabilities to conduct electronic warfare, the commander will need to use OSCINT both to understand how to degrade the performance of civil capabilities being used by opponents, and to consider exploitation of civil capabilities to maintain joint and coalition communications.

-- OSCINT will provide most of what the commander needs to plan and coordinate joint and combined air, sea, and land operations in the expeditionary environment, with

specific reference to strategic airlift and sealift operations involving civil aircraft, air traffic control and air defense planning for civil platforms, and fueling and other logistical considerations.

### The Information Continuum™

There are three ways of understanding the robust nature of the private sector's potential contribution to military intelligence needs. The first is by examining in general terms this continuum.

Schools	Libraries	Private Investigators Information Brokers	Government	Intelligence
Universities	Businesses	Media	Defense	

Each of these nine sectors of the global or national information community maintains a cadre of human experts as well as a range of both hard-copy and electronic information. Much of what is known to them, or stored by them, is not available through commercial online services. Following a specific example from each sector:

-- Language schools can rapidly identify individuals by location and nationality who have received training in the home country language and are target country nationals (e.g. Somalis studying French in Paris); these individuals can be contacted and offered part-time employment as translators.

-- Universities utilize their existing infrastructures and a regular supply of cheap intellectual labor to maintain important and authoritative databases. The Monterey Institute of International Studies, for instance, maintains the best database on the proliferation of nuclear materials, and utilizes graduate students fluent in Russian, Chinese, Arabic, and other languages to cover a wide range of multi-lingual publications, and to maintain an electronic database, at very low cost.

-- Libraries can be used, either as needed or in a deliberate fashion, to serve as repositories for "just in case" archiving of political-military, economic, and other materials pertaining to specific countries. This allows the government to share the cost of archiving with other library sponsors, and in many cases avoid the cost all-together.

-- Businesses have enormous repositories of market research, including communications and logistics research, on countries throughout the world where they have made or plan to make an investment. Businesses are also acutely familiar with the political corruption, climate conditions, and other factors which affect operational efficiency in specific locations. Two unique examples of business dedicated to meeting private intelligence needs are Oxford Analytica, with its network of 750 overt agents world-wide, and *The Economist* Intelligence Unit.

-- Information brokers can be identified who specialize in particular scientific & technical topics or regions of the world. This permits more efficient search & retrieval by exploiting capabilities whose "learning curve" has been funded by others. In addition, information brokers can be identified with specific language capabilities, and employed to do rapid exploitation of captured or acquired documents.

-- Journalists responsible for specific areas of the world, including journalists specializing in military, aerospace, and insurgency matters, rarely publish ten per cent of what they know, and they never publish their sources. They can, however, be engaged to prepare special reports, and to provide background information on specific personalities of importance to planned military operations. This need not be done secretly or through direct recruitment; it can be done discreetly as a private commercial transaction. Media organizations, such as Jane's Information Group, acknowledge that they publish less than 20% of what they know, in some cases to protect sources--they are however willing to do tailored confidential reports drawing on their complete range of sources.

-- Governments, including provincial and state governments, frequently have experts in agriculture or other trade-related fields who are familiar with specific areas of operation and the logistics as well as the key personalities. Embassies have personnel whose reporting does not fully communicate what they know. Bringing key government personnel together for a week can quickly establish a foundation for collection management which the commander could not normally achieve through analysis of raw information.

-- Other intelligence organizations, including the "information and research" elements of the Vatican, the United Nations, and the International Red Cross, have global networks of reporting sources, including sources with special linguistic and regional skill, that can be drawn upon.

The third way of understanding the robust capability of the private sector is to consider the range of information services that are offered which are directly pertinent to military intelligence needs. These are listed in three columns:

Direct Observation	Document Acquisition	Telephone Surveys
Commercial Online Searching	Document Translation	Market Research
Current Awareness	Broadcast Translation	<i>Recruited Agents</i>
Experts On Demand	Multi-Expert Research	<i>Industrial Espionage</i>

Recruited agents and industrial espionage are not considered legal nor ethical within the private sector, but there are very competent organizations that openly offer such services, to include route reconnaissance and target identification services in third countries. In each of the above categories, it is highly likely that a private sector partner can collect, process, translate, and deliver open sources of intelligence able to make an important contribution to the commander's needs for information--and to do so in a cost-effective fashion which could not be duplicated by defense attaches or traditional military intelligence collection brigades.

The third way to understand the utility of the private sector for military intelligence needs is to take a case study, such as Somalia. In the absence of internally-available intelligence information, the fastest means of establishing an encyclopedic foundation for further collection management, and the fastest means of providing the commander with at least some useful information pending responses from the traditional intelligence disciplines, is by seeking out private sector experts and private sector databases. A leading scholar, a leading businessman recently returned from a tour as General Manager in Somalia, a leading journalist, and perhaps an information broker specializing in African information could be brought together and could quickly identify human, hard-copy, and electronic sources--including sources of digital geographic information--of immediate utility.

In one specific instance, supporting a wargame on Somalia, an individual playing the role of the United Nations commander was able to overcome the inadequacies of the U.S. intelligence community by making three telephone calls. Overnight, in Express Mail, at a *pro forma* cost of about \$5,000, the individual received:

-- From Jane's Information Group, a spiral-bound volume containing a map of Somalia clearly marking the nine clan areas; a one-page order of battle for each clan (at a time when most intelligence analysts were thinking only of the old Somali army); and a one-paragraph precis with full citation for each article about Somalia published in any of the Jane's publications (including the excellent *Jane's Intelligence Review*) in the past two years. This constituted a superb orientation for both planning and collection management.

-- From Oxford Analytica, twenty two-page reports suitable for Presidents and Prime Ministers, covering three topical areas: United Nations operations in Somalia, U.S. foreign policy toward Somalia; and U.S. operations related to Somalia. Again, a superb orientation on strategy and policy, in concise and immediately-usable form.

-- From *The Economist* Intelligence Unit, a copy of the appropriate country risk report, which included important summary information on the logistics difficulties that would be encountered, including the limitations of both the port and the airfields for strategic entry.

### Commentary on Representative National Approaches to OSCINT

Although OSCINT has always been part of the national and military intelligence process, in recent decades increased emphasis on technical systems and secret collection have

tended to sharply reduce the amount of funding and the number of personnel dedicated to collecting and processing publicly available information. At the same time, the "information explosion" or "information revolution" has dramatically increased both the quality and quantity of the information available in the public sector. Today the commander can take a weather map of Bosnia off of the Internet, or exchange email with volunteer observation and listening posts in Bosnia.

Unfortunately, the reality today is that most intelligence communities are trained, equipped, and organized to collect and process secrets. OSCINT capabilities in both the civilian and military sectors of government have both atrophied where they existed, and also failed to keep up with the growth of private sector OSCINT capabilities.

-- United States of America. The National Foreign Intelligence Board was recently briefed to the effect that while 99% of the \$28-35 billion dollars a year budget is spent on classified collection and processing, and only 1% is spent on OSCINT, OSCINT provides 40% of the all-source product. In one interview, the Deputy Director for Science & Technology of the Central Intelligence Agency stated that this latter figure was actually 70%. The major element of the U.S. intelligence community program is the Foreign Broadcast Information Service, which is under severe criticism for its continued emphasis on print media exploitation, and its inability to master a wider range of open sources. In an attempt to gain control over the modest distributed resources being applied to OSCINT, the Director of Central Intelligence created the Community Open Source Program Office. This office is about to release a strategic plan for OSCINT, but it is limited to improving internal community access to open sources already collected. The Department of Defense program, for which the National Air Intelligence Center is the executive agent, builds on the existing scientific & technical intelligence document acquisition and translation program. The Department of Energy Laboratories, and especially Sandia and Los Alamos, constitute a major OSCINT resource which is being exploited by some military consumers of intelligence, such as the U.S. Southern Command, but which is not under the control of the intelligence community. Some very modest individual initiatives have taken place within the military services, the most advanced of which is the publication, in draft form by the Army, of an open source primer for military intelligence officers. At this time the U.S. military does not have timely broad access to a full range of open sources.<sup>5</sup>

-- The Netherlands. Various open sources, including the *Intelligence Newsletter* out of Paris, and *OSS NOTICES* in the United States, have reported that the foreign and military intelligence agencies have been integrated. Within the new national intelligence agency, a special Open Source Coordinator has been appointed, and a task force approach is being taken to intelligence collection and analysis. Every task force has an open source intelligence specialist, and all requirements for intelligence must first be examined and if possible satisfied through OSCINT before tasking of clandestine or technical capabilities is permitted. More recently, the intelligence elements of the individual military services were integrated into a joint military organization reporting to the Prime Minister.



-- Sweden. This country is most interesting because it has a unique consortium within which to formally orchestrate the activities of government intelligence, the business intelligence community, and the university research community. Swedish scientific & technical attaches have been noted to regularly exploit the Internet, and there is discussion within Lund University of the need for an Open Source Intelligence Center™ to meet the combined needs of the government, business, and university communities in Sweden.

### Advantages and Disadvantages of Open Source Intelligence

-- Advantages include the fact that OSCINT has virtually unlimited potential on any topic; is of relatively low cost because expertise is maintained at someone else's expense; is generally up to date; and can be shared with anyone.

-- Disadvantages include the possibility of revealing military plans and intentions (security can be provided by laundering the question through trusted intermediaries); the time and cost associated with searching for exactly the right information within the huge volumes of public information; and the temptation to accept an open source at face value when it could be disinformation or simply inaccurate.

### Obstacles to Military Exploitation of Open Sources

There are three obstacles to military exploitation of OSCINT:

-- Organizationally, the military relies on a classified intelligence community for its "intelligence", and does not have an alternate structure established to obtain OSCINT. Among the most important problems created by this reliance are those of funding: there are no well-established programs for contracting directly with the private sector for OSCINT.

-- Culturally, there is a strong attitude, primarily within the intelligence community but to an extent within the operational community, that information achieves a special value only if it is classified. This is in part a result of a cultural inclination to treat knowledge as power, and to withhold knowledge from others as a means of protecting one's power. This attitude is the equivalent of the cavalry ignoring the tank and the machine gun. The "openness" paradigm has thoroughly defeated the secrecy paradigm, and those organizations which focus on protecting secrets rather than exploiting publicly available information, will find themselves "starving" for knowledge.

-- Technically, because of the historical focus on training, equipping, and organizing forces for unilateral and conventional military operations, with the added assumption that all "intelligence" will come through classified and well-established channels, the existing command & control architecture, including communications, computing, and intelligence elements, is not designed to rapidly interface with joint and coalition forces, with special forces and direct action clandestine teams, and with the vast array of private sector and non-military government elements which can provide OSCINT to the commander.

## Opportunities for Advantage

The Director of Military Intelligence (DMI) for any nation has essentially three opportunities to improve national capabilities to collect, process, and disseminate OSCINT to commanders and military policy-makers:

-- Existing library resources are poorly-funded and organized for the purpose of "just in time" archiving of information. Library resources, both within the intelligence community and outside the intelligence community, must be recognized as the "source of first resort"<sup>6</sup>. Commanders and policy-makers must restore funding for library operations, including the cost of subscribing to external online services and out-sourced research, while at the same time redirect the libraries toward "just in time" decision-support to specific consumers, and away from "just in case" generic collection and processing.

-- Existing military intelligence analysts must be given the training, fiscal authority, and commander's guidance necessary to convert them from narrow specialists focusing on the analysis of classified information, to managers of networks of overt human experts and related electronic and hard-copy databases. At the same time, analysts must be re-oriented so that their primary focus is on day to day interaction with the commander and other consumers of military intelligence, and on day to day collection management founded upon open source exploitation, rather than the existing focus on producing classified reports in isolation from the consumer.

-- Existing commanders, in consultation with the DMI, must recognize that it is impossible for the DMI to satisfy their intelligence requirements related to a wide range of new priorities, with existing classified military intelligence capabilities. The entire structure of military intelligence must be recast to permit rapid maneuver throughout the private sector's knowledge terrain, and the rapid collection, processing, and dissemination of mission-critical OSCINT to the commander at every level of operations (strategic, operational, tactical, and technical) and in "every clime and place".

## Role of the Military Reserve

The military reserve constitute a national resource which has enormous potential. A simple example will serve to make the point. For every country of interest, a cadre of five military intelligence reservists could be formed, and given a responsibility to monitor pertinent foreign language periodicals and publications (which would be provided them on subscription), and to prepare weekly OSCINT summaries. These same individuals should be afforded direct access to the Internet and commercial online databases, and serve as direct reinforcements on demand to the active duty military intelligence analysts responsible for the same areas of interest. Funds should also be provided for the five person cadre to spend thirty days each in the country of interest, unencumbered by administrative duties. In this way, when a contingency requirement emerges, the responsible commander can activate the appropriate cadre (or cadres in the case of a theater commander).

## Endnotes

1. Although the original intelligence community report was classified SECRET, the definition and extensive commentary appeared in an unclassified document, *United States Marine Corps Comments on Joint Open Source Task Force Report and Recommendations (Working Group Draft Dated 6 January 1992)*, and portions, including the definition, were subsequently reprinted in *OSS NOTICES* Volume 2 Issue 9 (30 November 1994).
2. This point was made publicly by Dr. Stephen Fairbanks, the Iranian Analyst for the U.S. Department of State's Intelligence and Research Bureau, in the presence of his superior, Dr. Jennifer Sims, Deputy Assistant Secretary of State for Intelligence Coordination.
3. At a Canadian intelligence conference 27-29 October 1994, both the Director of the Canadian Security and Intelligence Service, Mr. Ward Elcock; and Dr. Paula Scalingi of the Los Alamos National Laboratory in the United States, stated that OSCINT provides over 80% of the input to the final all-source product; in Dr. Scalingi's case, this was with specific reference to intelligence support for counter-proliferation. Dr. Gordon Oehler, Director of the U.S. Intelligence Community's Nonproliferation Center, has made similar comments on several public occasions.
4. SPOT is going to 5-meter resolution imagery in the very near future. In the U.S. Space Imaging, Inc., a subsidiary of Lockheed, has announced plans to provide 1:2,500 meter synoptic resolution imagery, within a year. These commercial capabilities will be critical to expeditionary operations in the Third World because of the lack of current maps. One U.S. study, *Overview of Planning and Programming Factors for Expeditionary Operations in the Third World* (Marine Corps Combat Development Command, March 1991), determined that for the 69 countries of concern to the Marine Corps, there were no 1:50,000 combat charts for 22 of the countries, old 1:50,000 charts for ports and capital cities only in the case of another 37 countries, and very old 1:50,000 complete coverage for another ten countries.
5. The extraordinary relevance of Department of Energy OSCINT capabilities in support of military operations are described in *SHARING THE SECRETS: Open Source Intelligence and the War on Drugs* (OSS Inc. Limited Edition, 1994). The Army paper, prepared by the 434th Military Intelligence Detachment, Strategic, is titled *Open Source Intelligence Resources for the Military Intelligence Officer* (Fort Huachuca, November 1994).
6. This important phrase was developed by Mr. Paul Wallner, the first (and last) Open Source Coordinator in the Office of the Director of Central Intelligence in the United States. Mr. Wallner, a member of the Senior Executive Service (flag rank) served for many years in the Defense Intelligence Agency and has been a strong advocate for improving OSCINT support to the commander. Today he serves as Deputy to the first Director of Community Open Source Program Office, Dr. Joseph Markowitz.

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