2007 ANNUAL REPORT

NATIBO

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North American Technology and Industrial Base Organization
(NATIBO)
Calendar Year 2007 Annual Report

Background

At the 1985 Shamrock Summit, Ronald Reagan, President of the United States, and Brian Mulroney, Prime Minister of Canada, pledged to work to reduce barriers and to stimulate the two-way flow of defense goods, establish a free exchange of technology, knowledge, and skill involved in defense production. This led to the establishment of the NADIBO Charter signed by the two Nations' Defense Departments on March 23, 1987. At that time the NATIBO focused on the combined capacity and capability of the defense industrial bases of the U.S. and Canada to jointly support military requirements. In 1992, the Organization determined it needed to review its objectives and explore new roles and initiatives to respond to the challenges of the 1990s. This change was reflected in more focus on technology vice industrial capacity issues.

Each year presents new challenges for the national and economic security needs of the U.S and Canada. In 2007, NATIBO responded by expanding the areas it supports beyond traditional industrial base/preparedness concerns to include leveraging technology. This includes the assessing of infrastructure to develop and transition new military technology, as well as the ability to transfer technology between civilian and military applications and develop manufacturing technologies to support military transformation production strategies.

Focus/Objectives of NATIBO

- Promote the development, administration, communication, and execution of the U.S. Department of Defense and Canadian Department of National Defence (DND) technology and industrial base programs and policies.

- Foster cooperation between the Governments of the United States and Canada in development of coordinated technology and industrial base policies and programs, including policies and programs that promote the integration of the defense and commercial industrial sector and the greater use of dual use products and technologies.

- Leverage resources through cost sharing and economies of scale afforded through coordinated studies and projects involving research, development, industrial capability, and logistics programs.

- Promote the interchange of technology and industrial base data between Canada and the U.S., the military services, other government agencies, and industry.

- Promote coordination of technology and industrial base planning and insertion programs undertaken by the responsible U.S. and Canadian departments and agencies in support of their national security responsibilities.

- Facilitate enhanced joint activity through Canada/U.S. involvement in studies and implementation of resulting technology and industrial base recommendations.

- Ensure that North American technology and industrial base considerations are taken into account during U.S. or Canadian military and/or civilian emergency planning activities.

- Enhance the national security of both nations by promoting the competitiveness of the North American technology and industrial base.

- In performing the above, raise issues with relevant bi-lateral committees in those cases where interface between the NATIBO and these committees is determined to be advisable.

Memorandum of Understanding (MOU)

On May 30, 2001, the Department of Defense of the USA and the Department of National Defence for Canada entered into an agreement whereby the Defense Departments can more efficiently continue their efforts to improve the defense posture of the North American technology and industrial base. The MOU (short title NATIBO) is an umbrella document that covers research, development, technical demonstration and technology insertion activity in the two Defense Departments and "grandfathers" activity performed by NATIBO under the charter. The MOU allows three basic activities: Information Exchange, the creation of Working Groups, and formal Project Arrangements (PAs). The MOU also provides a recognized framework for which funds can be transferred between the participants in support of NATIBO studies and projects.

The objectives of the MOU are to:

- Effectively leverage dollars/resources and reduce redundant efforts through bilateral cooperation on studies and projects relating to the defense technology and industrial base of the USA and Canada.
- Achieve rapid technology insertion and commercialization of emerging technologies that can be used in the manufacture and repair of military weapon systems.
- Permit a wide variety of work to be accomplished on a single project from paper studies and initial research to technology insertion efforts.

Organization

The NATIBO is co-chaired by the Director, Office of Technology Transition (OTT), for the U.S. and the Director General, International & Industry Programs (DGIIP), for Canada. U.S. members represent the Office of Secretary of Defense (OSD), Army, Navy, Air Force, Missile Defense Agency (MDA), Defense Logistics Agency (DLA), and Defense Contract Management Agency (DCMA). Canadian representation is from the Department of National Defence (DND). These representatives form the Steering Committee and provide strategic direction, make recommendations on proposed projects, review the progress of the organization, and act as a

conduit for addressing recommendations to U.S. and Canadian authorities. Under the provisions of the MOU, Terms of Reference (TOR) for the Steering Committee were prepared, staffed and implemented July 11, 2001. There are four observing organizations that provide assistance to the Steering Committee as appropriate. These observers are the U.S. Department of Commerce (DoC), Public Works and Government Services Canada (PWGSC), Industry Canada (IC), and Canadian Commercial Corporation (CCC).

Steering Committee Members

Ms. Cynthia Gonsalves, U.S. Acting Co-Chair and OSD representative
COL Donald Gibson, U.S. Army
Mr. John Williams, U.S. Navy
Mr. John Mistretta, U.S. Air Force
Mr. Steven Linder, MDA
Ms. Donna Davis, DLA
Ms. Mary Grace Switlik, DCMA
Ms. Nannette Ramsey, U.S. Army

Mr. John Neri, Canadian Co-Chair
Mr. Michael Slack, DGIIP

Secretariat

The NATIBO Secretariat is now part of the U.S. Army Edgewood Chemical Biological Center. The Secretariat is responsible for all business management functions in support of the NATIBO, including the planning and recording of meetings, the correspondence with and between sub-committees, the maintenance of a central repository of data/files on NATIBO activities, and other business management duties as assigned by the Steering Committee. The Secretariat is also responsible for selected functions in support of the MOU.

Business Development Working Group (BDWG)

The BDWG provides a permanent forum for the exchange of views on the means of utilizing the technology and industrial base to meet defense program objectives, and through this forum identify mutually beneficial cooperative technology and industrial base activities between DoD and DND. The BDWG will also facilitate exploratory discussions and review documentation prepared by proponents for the purpose of establishing a Working Group or PA under the provisions of the MOU. The BDWG will also advocate and increase awareness of all NATIBO sponsored activities.

Calendar Year 2007 Activity

Operations and Three Year Business Plan. The Business Plan was developed to provide direction for the NATIBO by allowing the NATIBO Co-Chairs, Steering Committee, Secretariat, and BDWG to focus resources to obtain identified goals, layout processes, generate specific products, and measure progress. The plan covered the period from January 1, 2005 through December 31, 2007. The plan, which was first briefed at the 2005 NATIBO Steering Committee Meeting, was updated in 2006, and again in 2007. The plan is an excellent advocacy document

structured to include new work as well as document current organization and operating processes.

Several work plans are identified in the Business Plan:

Work Plan	***Title***	***Purpose/Comments***
1	Advocacy Plan	Update current marketing methods; develop new strategies to better advocate NATIBO as an organization and the value/utility of the MOU. CANUS Defense Cooperation Advocacy Day event was conducted in 2007.
2	Potential Areas for DND/DoD Cooperation on Homeland Defense	Identify current cooperative HD initiatives in acquisition, logistics and technology. Study was completed and report was released in 2006.
3	First Responder Access to Military Equipment	Identify North American geographic dispersal of military equipment critical to meet First Responders requirements in a national emergency in Canada or the U.S. Study was completed and report was released in 2006.
4	Critical Infrastructure Protection	Identify critical components in U.S. and Canada Defense Industrial Base Sectors. Study currently underway.
5	MOU Revision/Amendment	Review and revise NATIBO MOU based upon recent national policy changes.
6	Border Surveillance Technology	Identify and evaluate sensors, platforms and network integration key enabling technologies that could transition to border security. Collaborative Point Paper was completed and released in 2007.
7	Fuel Cells	1) Identify capabilities and capacity assessment of a Canadian fuel cell producer. Study was completed in 2006. 2) Industry capabilities study of additional N. American fuel cell producers is under consideration.
8	Biometrics Technology	Document existing biometric systems and the industrial base associated with producing them.

The Business Plan is posted on the NATIBO website at: http://www.acq.osd.mil/ott/natibo/

NATIBO Defense Cooperation Advocacy Day. In September 2007, the BDWG sponsored a NATIBO Advocacy Day at the Canadian Embassy in Washington, DC. The purpose of this out-reach event was to promote the advantages of using the NATIBO MOU as a tool for collaborative efforts. Approximately 25 representatives from the International Programs Offices of the Joint Services, the U.S. Department of Homeland Defense, and DLA attended the event.

Border Surveillance Technology Collaborative Point Paper (CPP). The BDWG initiated and completed the Border Surveillance Technology CPP in 2007. The objective of this point paper was to stimulate and establish collaborative efforts on Border Surveillance technologies, system development, demonstration/test, and deployment concepts. The collaboration could potentially include, but not be limited to, studies on technologies or requirements, joint research initiatives, technology transfer/insertion demonstrations, component testing or operational concept development.

The CPP was used for informing subject matter experts on activities within DoD and identifying 23 North American and 10 foreign companies working on DoD/DND sponsored projects. A list of nine DoD and DND stakeholders were identified. The platforms of interest included small non-combat aircraft (manned and unmanned), aerostats, fixed and mobile ground systems, and maritime systems (excluding warships) in land-based, airborne, and maritime environments. Satellite systems were not included in this study.

Potential NATIBO Study - Biometrics Technology. Late in 2007, the BDWG reviewed several areas for collaborative opportunities and agreed to focus efforts in the area of biometrics technologies as the next topic for a BDWG study/assessment. This proposed study would focus on government sponsored development of biometrics hardware and technologies by relevant U.S. and Canadian suppliers. Efforts are currently underway to look at the scope of this proposed study and various technologies and suppliers.

Light Armored Vehicle Working Group (LAVWG). Based upon the recommendations of the respective U.S. and Canada LAVWG Project Officers, the NATIBO Co-Chairs determined that the continuance of the WG was no longer required. The LAVWG had been established under the NATIBO MOU in July 2001 and in September 2007 the Co-Chairs formally approved the dissolution of the WG.

US/CA Critical Infrastructure Protection/Defense Industrial Base Working Group (CIP/DIB WG).

1. On June 21, 2007, the U.S. DoD accomplished their first Defense Critical Infrastructure Program (DCIP) awareness briefing outside the continental United States (OCONUS) in London, Ontario, Canada. This was the first joint venture DCIP awareness briefing performed between the U.S. and Canadian Defense Departments.

2. Four meetings were held between the U.S. and Canada in 2007:

a. The first meeting was held June 11-12, 2007, at the Defense Contract Management Agency (DCMA) Headquarters in Alexandria, VA, with five major briefings presented. The U.S. DoD spoke of enhancing the safeguarding of U.S. defense critical infrastructure globally and the advance risk management strategies being created to protect against and mitigate the effects of attacks against the defense industrial base. Strategy is in place to ensure defense contractors are able to maintain adequate response times, ensure supply and labor availability,

and provide direct logistics support in times of crisis. They discussed the organizational framework, accomplishments and the future schedules of the Department, National and Sector Levels and the plans of the Sector Level. They covered the Critical Infrastructure Protection – Mission Assurance Assessments (CIP-MAA) accomplishments, planned/scheduled activities, improvements and visit take-a-ways. The National Guard briefed on the Joint Interagency Training and Education Center (JITEC), in Camp Dawson, WV, and its capability to educate, train, and perform exercises for DoD and Intergovernmental, Interagency, and Multi-national partners/organizations in conjunction with on-going Homeland Defense operations interagency requirements. They explained the National Guard's role as a partner in DCMA's CIP-MAA and the Guard Teams in conducting assessments on identified critical infrastructure while providing subject matter expertise to assess and protect critical infrastructure, key assets, and key resources against loss or degradation that may affect the capability of the U.S. Armed Forces, our National Defense, and Economic Security. Guard experts travel around the country educating first responders at the local, state and Federal levels.

The DND provided background on the Canadian Defence Industrial Base and how they began collaboration with DCMA's Industrial Analysis Center (IAC) in August 2005 on a three phase CANUS CIP/DIB Work Plan (with each phase taking approximately one year). They explained that each phase had its own unique issues: Phase I: Identification; Phase II: Prioritization; and Phase III: Assessments and Mitigation. DND highlighted other achievements they have accomplished since their program began and their expectations in working with DCMA IAC in the future.

Information was provided on the status of the CIB/DIB WG's Project Arrangement (PA) between the U.S. and Canada. The group discussed updating the NATIBO MOU Project Proposal Outline. The current phases of the project proposal are nearly completed and an update is needed to continue the partnership between the U.S. and Canada to ensure a resilient Industrial Base in North America. During the discussion it was determined, and agreed between the respective country representatives, that the new phases should cover Vulnerability Assessments, Palanterra, and Bi-National Mitigation Plans and that the two countries should assemble a technical group to include legal offices to review how best to proceed with joint vulnerability assessments and data sharing. The creation of a U.S./Canada protocol document was recommended regarding sharing DIB data.

b. Another meeting was held July 31-August 1, 2007, in Crystal City, Arlington, VA, between the legal offices of Under Secretary of Defense for Acquisition, Technology and Logistics (USD (AT&L)), the Office of the Assistant Secretary of Defense for Homeland Defense and Americas' Security Affairs (OASD (HD&ASA)), the DCMA, and DND. This meeting was the first in a series to explore the legal ramifications of the four offices sharing work information under the auspices of NATIBO and the Security and Prosperity Partnership.

c. A third meeting was held October 11-12, 2007, in Halifax, Nova Scotia. Canada's DND indicated that their Identification and Prioritization effort included inputs from Equipment Project Management Divisions, Land, Air & Navy Requirements Directorates, and Information Management Groups. The next update is to include input from Canada Command, Canadian

Expeditionary Force Command, and Canadian Special Operations Forces Command. They advised that the DND Critical Asset List (CAL) grew from 69 (2006 list) to 132 (2007). This list includes key providers of Navy systems and private repair and overhaul facilities. The list did not include organic facilities. It is anticipated that Canadian DGIIP Division will participate in a CIP-MAA to gain knowledge of the process and methodology and tailor an assessment process for Canadian Critical Assets. This is contingent on approval of the PA. Training of a Canadian Team was discussed and DND has asked the National Guard Bureau to investigate the options of training in West Virginia or on-site in Canada.

The U.S. provided updates on ASD (HD&ASA)'s Defense Critical Infrastructure Program; CAL process and its increase in assets; Training, Outreach and Education accomplishments and plans for CY 08, and CIP-MAAs accomplished and planned for CY 08. DCMA participated in the following meetings and working groups: DIB Information Assurance Task Force, Business Continuity and Hazard Preparedness, Homeland Security Information Network, Mission Assurance Supply Chain Interface with Missile Defense Agency. DCMA's briefing also included an overview of various DCIP Tools: Homeland Infrastructure Threat and Risk Analysis Center, DIB Web Portal, Support Planning Integrated Data Enterprise Readiness System, and Strategic Mission Assurance Database System.

The. DoD reported several accomplishments including participation with the Department of Homeland Security, El Segundo and Redondo Beach Police Departments, and the National Guard in a Buffer Zone Protection Plan grant package submission for El Segundo DIB sites.

The DCMA IAC held a DIB CIP Conference at the Naval Amphibious Base Coronado, San Diego CA. DCMA shared with the DND their efforts with the U.S. Department of State International CIP Policy and Bi-national and Multi-national efforts underway that can be leveraged for CIP and DIB international requirements and their OCONUS strategy.

d. A fourth meeting was held on December 6, 2007, at DCMA IAC, Philadelphia, PA. The purpose of this meeting was to address relevant aspects of the ongoing work toward the development and implementation of a common approach to CIP between the U.S. and Canada. An update of the current status of Asset Identification and Prioritization processes and financial information gathering techniques was provided. An overview planning session was held to discuss the upcoming Defense CIP Awareness visits to two locations within Canada. An anticipated date and location for the next U.S. DoD and Canadian DND meeting was addressed. An overview and one-on-one training was provided by DCMA IAC on the Asset Prioritization Model. A comparison review was conducted of the U.S. and Canadian CAL to determine North American commonality.

Ongoing Efforts from 2006. The NATIBO MOU was signed in the spring of 2001 and several working groups were established from 2001 through 2006. These working groups continue to work under and support NATIBO MOU objectives.

- **BDWG**. The BDWG had a variety of inquiries from potential users regarding the use of the NATIBO MOU on a broad spectrum of topics. Several projects were not within the

scope of the MOU and the BDWG suggested other international agreements or referred proponents to their International Programs Office for guidance.

- **Multi-Service Regenerative Electrolyzer Fuel Cell Working Group (MREF WG).** The U.S. Army Tank-Automotive Research, Development and Engineering Center completed a 6-month feasibility study on the MREF in April 2007. Results revealed there were test conditions in which the current unit would not be able to survive. The focus for the U.S. Army is currently the reformer side of the process. The U.S. Project Officer foresees little significant activity with the MREF until the Advanced Technology Objective to develop a JP-8 Reformer that will supply hydrogen to the fuel cell is completed in CY10.

- **Medium Logistics Vehicle Replacement Working Group (MLVRWG).** Although the MLVRWG has had no activity in 2007 that produced any significant results; the prospect of renewed activity within the coming year looks promising.

NATIBO Website. During CY2007 approximately 94,700 reports were downloaded from the NATIBO website. The Biological Detection System Technologies Study, the Border Surveillance Technology Collaborative Point Paper, and the Metal Matrix Composites Sector Study captured the most interest. The website also has information on how to prepare required documentation when forming a working group or preparing a PA to be implemented under the MOU. Examples of each are also provided. The NATIBO URL is http://www.acq.osd.mil/ott/natibo/ Updates are made when appropriate.

Steering Committee Meeting. The 2007 Steering Committee Meeting, hosted by Canada's Department of National Defence, was held June 19-20 in Quebec City, Quebec, Canada. In addition to the business meeting, attendees toured the Defence Research and Development Canada (DRDC) Valcartier facility. DRDC Valcartier is one of five laboratories of Defence R&D Canada and it specializes in optronic systems, information systems, and combat systems.

Exhibit. The NATIBO exhibit is displayed at selected forums, conferences and expositions. The exhibit was placed and staffed at the 2007 Defense Manufacturing Conference held December 3-5. This forum provided an opportunity for approximately 900 leaders from government, industry and academia to exchange perspectives and information about critical DoD technology and sustainment initiatives.

Presentations. Members are frequently invited to make presentations on NATIBO projects to their senior staff or other departments and/or agencies. In response to calls for papers, submissions are frequently selected for presentation at conferences and symposiums.

Awards. The Chairmen's Lifetime Achievement Award was presented to Mr. Rodney White in recognition of his contributions to NATIBO during the period of March 1987 through March 2007. Chairmen's Award of Achievement certificates were presented to Alan Taylor and Frederic Chartrand for their contributions to the "Assessment of Ongoing and Potential Military Collaboration on Homeland Defense and Civil Support Study" and for their contributions to the "Military Material Support for Civilian First Responders Study." The Chairmen's Certificate of

Appreciation was presented to Alan Taylor recognizing his efforts on the Border Surveillance CPP and the Active Protective System CPP Projects.

Funding

The NATIBO has no direct funding line in U.S. or Canadian defense budget systems. Projects are funded from the operating budget of member organizations. The U.S. Army, U.S. Navy, U.S. Air Force and Canada's DND equitably support the NATIBO Secretariat.

The NATIBO functions with 'payment in kind' contributions from its members. The U.S. Army prints and publishes studies and brochures. The U.S. Air Force pays expenses associated with the exhibit. OSD sponsors the website and Canada has provided materiel for the exhibit. All the Services and Canada have had employees staff the exhibit at events.

Planned Activities for Calendar Year 2008

- **BDWG.** The BDWG will continue to promote the NATIBO MOU and work with prospective users of the MOU to ensure that prospective activity is consistent with the objectives of the MOU. They will assist users in the preparation and staffing of documentation required for international activity. The BDWG will continue to work closely with the Steering Committee and Co-Chairs regarding the business activity of the NATIBO.

- **US/CA Critical Infrastructure Protection/Defense Industrial Base Working Group (CIP/DIB WG).** The WG will continue efforts to establish the criteria for a North America Common Asset List. Additionally, the following activities are planned for CY2008: two joint venture DCIP awareness visits between Canadian DND and U.S. DoD at locations in Canada; DIB/CIP WG meetings planned for May/June and October/November 2008 timeframes; attendance at the National Defense Industrial Association sponsored DIB CIP Conference and Technology Exhibition in April; establish and define the requirements needed for a bi-national protection program; refine the process for performance of a joint education and outreach awareness visit and a joint CIP-MAA; and additional training at JIETC, Camp Dawson, WV.

- **Soldier System Technology WG (SSTWG)**. The R&D oriented SSTWG continues to meet periodically to discuss areas of potential collaboration on soldier equipment such as helmets.

- **Future Fire Control WG (FFCWG).** The FFCWG is continuing dialog on collaborative work efforts for Virtual Trainers using America's Army Gaming Technology and on the Modular Small Arms Smart Sight effort.

- **US/CA Infantry Soldier Modernization Working Group (ISMWG).** The BDWG initiated action to establish the US/CA Infantry Soldier Modernization Working Group (ISMWG). The purpose of the ISMWG will be to maintain a continuous overview of the respective programs of U.S. Army Ground Soldier System, the U.S. Marine Corps

Marine Expeditionary Rifle Squad, and related programs, as well as Canada's Integrated Soldier System Project and related programs in order to identify mutually beneficial technology and industrial base cooperative activities between the Participants.

The ISMWG will include activities covering the following soldier capabilities areas: lethality, mobility, sustainability, survivability and command, control, communication, computer and information systems, as well as key related technologies areas such as: soldier equipment (e.g. uniforms, helmets, load carriage, Chemical, Biological, Radiological, and Nuclear, etc.) human systems integration, human performance optimization, portable power generation, sensors and target acquisition devices, combat identification approaches, information exchange systems, infantry weapons, etc. This will also include the aspects of material design and engineering, capability distribution, testing and evaluation in support of the respective modernization of infantry units and teams. The U.S. Project Officer is from the U.S. Army Program Executive Office Soldier and Canada's Project Officer is from the Directorate Soldier Systems Program Management. The ISMWG is expected to stand up in Spring CY2008.

Operations and Business Plan (BP) Extension. The current BP expired on 31 Dec 07. The NATIBO Steering Committee and BDWG will develop ideas for future collaborative technology work efforts at an interagency/international workshop to be held in conjunction with the June 2008 Steering Committee Meeting in Boston.

Exhibit Schedule. The tentative NATIBO exhibit schedule for 2008 follows:

December Defense Manufacturing Conference, Orlando, Florida

The BDWG is also exploring possibilities to display the exhibit at a few of the large Service related conferences that are heavily attended by Program Managers.

Conclusion

Throughout history, advances in technology have directly and indirectly transformed the course of world events. Commercial technology will not by itself satisfy military needs. New technology must be affordable for the military and profitable for industry. The threats of the 21st century are unpredictable and change faster than technology and industry can respond. We cannot design and equip our forces for every contingency. But by working together for the interests and values we share, we can expand technology leveraging opportunities between DoD and DND. The U.S. and Canada are neighbors and allies dedicated to the defense and nourishment of peace and freedom. NATIBO…a forum for cooperation.