

**MEMORANDUM**

**Of**

**UNDERSTANDING**

**FOR THE**

**MULTINATIONAL GEOSPATIAL**

**CO-PRODUCTION**

**PROGRAM**

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## **Section 1**

### **Introduction**

The Department of Defence of Australia,  
The Minister of Defence of the Kingdom of Belgium,  
The Ministry of Defence of Bulgaria,  
The Department of National Defence of Canada,  
The Ministry of Defence of the Czech Republic,  
The Ministry of Defence of Denmark,  
The Ministry of Defence of the Republic of Estonia,  
The Ministry of Defence of Finland,  
The Minister of Defence of the French Republic,  
The Federal Ministry of Defence of the Federal Republic of Germany,  
The Ministry of Defence of the Greek Republic,  
The Ministry of Defence of the Republic of Hungary,  
The Ministry of Defence of the Italian Republic,  
The Ministry of Defence of Latvia,  
The Ministry of National Defence of the Republic of Lithuania,  
The Ministry of Defence of Moldova,  
The Ministry of Defence of the Kingdom of the Netherlands,  
The Royal Norwegian Ministry of Defence,  
The New Zealand Defence Force,  
The Minister of National Defence of the Republic of Poland,  
The Ministry of Defence of the Republic of Portugal,  
The Ministry of National Defence of Romania,  
The Ministry of Defence of the Slovak Republic,  
The Ministry of Defence of the Kingdom of Spain,  
The Swedish Armed Forces,  
The Ministry of National Defence of the Republic of Turkey,  
The Secretary of State for Defence of the United Kingdom of Great Britain and Northern Ireland,  
The Secretary of Defense on behalf of the Department of Defense of the United States of America,

Hereinafter the “Participants”.

The Participants fully recognize that:

This Memorandum of Understanding (MOU) does not create any rights, obligations or remedies that are enforceable under the laws of any nation or under international law;

The geospatial information requirements of Defense, Intelligence and other Government agencies continue to evolve and range from traditional military operations to counter-terrorism, to search and rescue, and to disaster relief;

The production of critical geospatial intelligence data to support multiple scenarios and users is a high priority;

There are considerable efficiencies to be gained from multinational collaborative production, combining national financial and manpower resources to promote the unified operations concept across the international Geospatial community; and

The past success of multinational cooperative efforts for the production of vector data to meet common goals and to support interoperability of geospatial data and collaboration of production responsibilities among multiple partners should be continued.

The Participants will strive to establish the Multinational Geospatial Co-production Program (hereinafter the MGCP or the Program). The establishment of this Program is pursuant to this Memorandum of Understanding (MOU) and its Annexes provided herein.

The purposes of the MGCP are:

To create an arrangement whereby the production of global vector data is prioritized, coordinated, managed and stored in a central repository –the International Geospatial Warehouse (IGW);

To improve interoperability between data producers and end users by establishing common map data content, accuracy, standards and exchange formats; and

To manage access to the IGW data such that Participants will withdraw data in an amount commensurate to the amount produced for and contributed to the IGW.

The Participants intend to continue the MGCP beyond its original goal to complete other regions of interest thus increasing world coverage, and to consider the need for developing future production plans and/or an MGCP data maintenance program. The Participants intend that all activities under this MOU will be conducted at the unclassified level. No classified High Resolution Vector Data (HRVD) will be generated or exchanged.

Various bilateral agreements relating to the exchange and protection of data and information exist among the Participants and may be relied upon in pursuit of the activities under this MOU.

**Section 2**  
**Definition of Terms and Abbreviations**

<b>Associate Participant</b>	A Participant that contributes the minimum of five cells of HRVD to the International Geospatial Warehouse (IGW). At least one cell of the contributed HRVD must be outside the Sovereign Territory of the Participant.
<b>Contractor</b>	Any entity acting in accordance with a contract with a participant to conduct activities related to MGCP and this MOU.
<b>Controlled Unclassified Information (CUI)</b>	Unclassified Information that a Participant receives through MGCP and to which access or distribution limitations have been applied in accordance with their respective national laws or regulations and is to be used only for government purposes. CUI includes but is not limited to: Source Materials for MGCP production, HRVD received by a lead nation for Quality Assurance (QA) validation, HRVD retained in or withdrawn from the IGW, and sensitive MGCP program management Information contained in production reports or generated by the IGW.
<b>Government Purposes</b>	Official purposes by, or in support of, the Participants' defense or governmental organizations.
<b>Geospatial</b>	Term used to describe precise geographic information.
<b>High-Resolution Vector Data (HRVD)</b>	Vector data meeting the density and accuracy requirements as specified in Annex B, Technical Guidance and Specifications.
<b>Information</b>	Knowledge, including scientific, technical, business or financial, that can be communicated by any means, regardless of form or type, including, but not limited to photographs, reports, manuals, threat data, experimental data, test data, HRVD, computer software (which includes source code and object code), designs, specifications, processes, techniques, inventions, drawings, technical writings, sound recordings, pictorial representations, and other graphical presentations, whether in magnetic tape, computer memory, or any other form, whether or not subject to copyright, patent, or other Intellectual Property Rights.
<b>Intellectual Property Rights</b>	All rights relating to inventions, patented or not, trademarks, industrial designs, copyright and technical Information including software, data, technical expertise, manufacturing

Information and expertise, techniques, technical data packages, manufacturing data packages and trade secrets and all other intellectual property as defined in Article 2 of the Convention Establishing the World Intellectual Property Organization, signed in Stockholm on 14 July 1967 and as amended.

**International Geospatial Warehouse (IGW)**

A repository for the storage and exchange of the HRVD.

**Lead Participant**

A Participant that takes increased responsibility for strategic planning and production of at least 200 one by one degree cells of HRVD outside its own Sovereign Territory and QA responsibilities for other Participants' data.

**MGCP, or the Program**

Multinational Geospatial Co-production Program

**NGA**

National Geospatial-Intelligence Agency of the United States of America (USA).

**Non-Participant**

Any entity, organization, alliance, or nation that is not a signatory to the MOU.

**Plenary Group (PG)**

The PG is composed of representatives from Participant nations that contribute to the MGCP.

**Production Plan**

The plan specifying the production responsibilities of each Participant. Each plan will detail production areas, density of the data, and a proposed schedule of production as well as other MGCP Information.

**Public Key Infrastructure (PKI)**

A program establishing the policy and guidance for user registration that will be used to implement IGW server registration.

**Quality Assurance (QA)**

Processes intended to provide confidence that quality standards are fulfilled. In the MGCP context this refers to a Lead Participant's responsibility to examine the HRVD a producing nation is to place into the IGW in order to ensure that it meets the requirements of this MOU, its annexes and the TRD.

**Quality Control (QC)**

Processes focused on fulfilling quality requirements. Quality Control is the responsibility of the producing nation and the basic means for ensuring that HRVD meets the requirements

of this MOU, its annexes and the TRD.

<b>Source Material</b>	Source Material may include, but is not limited to, imagery, cartographic materials, or elevation data that contributes to the production of HRVD.
<b>Source Provider</b>	A Participant that provides Source Material to another Participant.
<b>Sovereign Territory</b>	The territory of a Participant and any dispersed territories under the Administration of a Participants' government. For the purposes of the MGCP, any cell that contains any non-Sovereign Territory will be considered a non-sovereign cell.
<b>Standing Operating Procedure (SOP)</b>	A set of instructions covering those features of operations which lend themselves to a definite or standardized procedure without loss of effectiveness.
<b>Steering Group (SG)</b>	The SG is comprised of Lead Participants and is the policy and planning group.
<b>Technical Group (TG)</b>	The TG is a body established by the PG to address technical issues within the MGCP.
<b>Technical Reference Documentation (TRD)</b>	Documentation that includes, but is not limited to the following content: MGCP data content specification, topologic requirements, extraction guidance, edge matching guidance, exchange format specification, metadata definitions, quality control/quality validation procedures and IGW procedures.
<b>Third Party</b>	Any person or entity other than an officer, employee, or agency of the Government of a Participant. Contractors are not considered to be Third Parties for the purposes of disclosure, use of the data, products, Information and materials. For the purposes of this MOU, Non- Participants such as the North Atlantic Treaty Organization (NATO), the European Union (EU), and the United Nations are considered Third Parties.

### **Section 3 Objectives**

- 3.1 This section contains a framework of objectives for the MGCP under which the Participants may co-produce and share HRVD over current high interest areas. This data, when combined with contours, boundaries, additional maritime features, geographic names, and aeronautical Information, will provide a basis from which geospatial products may be generated.
- 3.2 The objectives of the MGCP are to:
  - 3.2.1 Develop and implement policy for the coordination, prioritization, management and exchange of HRVD.
  - 3.2.2 Produce HRVD.
  - 3.2.3 Share technical expertise and knowledge relating to the Program.
  - 3.2.4 Increase the overall MGCP HRVD holdings, optimizing national resources and avoiding duplication of effort.
  - 3.2.5 Share HRVD among Participants.
  - 3.2.6 Improve interoperability by standardization of data content and format.
  - 3.2.7 Implement a multinationally shared data warehouse of HRVD produced by Participants.
  - 3.2.8 Work towards the development of a program whereby HRVD is coordinated, produced, stored and shared under minimal release restrictions.
- 3.3 Toward these objectives, the Participants will strive to achieve the co-production and exchange of HRVD, including:
  - 3.3.1 Developing a strategy and a plan for the production of HRVD over high interest areas.
  - 3.3.2 Designing, developing and implementing an IGW for the storage and exchange of MGCP data.
  - 3.3.3 Identifying and adopting an exchange format, data content and capture criteria, and unit of exchange for HRVD.

- 3.4 Participants shall endeavor to use best efforts to complete their initial five-year production plan by December 31, 2011. In recognition of Participants' various schedules for meeting national priorities for geospatial production, Participants may initiate their production as appropriate.

#### **Section 4 Organization**

- 4.1 The Participants envision development of the MGCP through the following organizational bodies:
- 4.1.1 The PG will meet annually or as otherwise mutually determined.
  - 4.1.2 The SG will be responsible to the PG, and will meet at regular intervals as mutually determined.
  - 4.1.3 The TG and ad hoc working groups will be responsible to the SG and will meet as required. Such meetings will be open to all Participants willing to contribute technical expertise.
  - 4.1.4 NGA will chair and provide secretarial support to the PG and SG sessions.
  - 4.1.5 The Chair of the TG (C/TG) will be selected by the PG. The C/TG will be responsible for providing secretarial support to the TG.
  - 4.1.6 PG, SG and TG meetings will be hosted by the Participants on a rotational basis.
  - 4.1.7 NGA will develop and maintain the IGW and will provide access to the IGW data.
- 4.2 The Participants envision that responsibilities of the organizational bodies will be as follows:
- 4.2.1 PG responsibilities include:
    - 4.2.1.1 Endorsing the Program Production Plan, including production areas, priorities, density of data in an area and other Program Information.
    - 4.2.1.2 Maintaining liaison with and coordinating attendance of Non-Participant organizations.

- 4.2.1.3 Acting as a forum for sharing Information on Source Material.
- 4.2.1.4 Establishing and guiding additional ad hoc working groups as required. These ad hoc working groups are responsible to the SG.
- 4.2.1.5 Facilitating the achievement of the objectives of this MOU.
- 4.2.1.6 Reviewing and forwarding to the Participants for discussion any recommended changes to this MOU, or other documents relating to the MGCP.
- 4.2.1.7 Providing recommendations to the Participants for the addition of new Participants.
- 4.2.1.8 Adopting any major modifications to the Technical Reference Documentation (TRD).

4.2.2 SG responsibilities include:

- 4.2.2.1 Developing the Production Plan for the Program including production areas, priorities, density of data in an area and other Program Information.
- 4.2.2.2 Adopting the TRD for the production and sharing of the HRVD.
- 4.2.2.3 Approving QA procedures for data acceptance.
- 4.2.2.4 Coordinating the Lead Participants' QA responsibilities for HRVD produced by other Participants.
- 4.2.2.5 Adopting IGW accounting procedures for the deposit or withdrawal of Program HRVD.
- 4.2.2.6 Reviewing Participant's production strategy to include 1:50,000 and 1:100,000 density data equivalents for HRVD produced under the MGCP.
- 4.2.2.7 Evaluating and resolving any additional issues related to this MOU or the MGCP.
- 4.2.2.8 Approving Participant membership in the SG.
- 4.2.2.9 Endorsing any major modifications to the TRD.

- 4.2.2.10 Approving an Associate Participant's change of status to Lead Participant.
- 4.2.3 TG responsibilities include:
  - 4.2.3.1 Defining and maintaining the TRD.
  - 4.2.3.2 Maintaining liaison with other technical bodies.
  - 4.2.3.3 Establishing and guiding additional ad hoc technical working groups as required.
  - 4.2.3.4 Developing and recommending QA procedures.
- 4.2.4 Lead Participants' responsibilities include:
  - 4.2.4.1 Producing and contributing at least 200 one x one degree cells of HRVD outside their Sovereign Territory to the IGW pursuant to Annex A, Production Responsibilities and Annex B, Technical Guidance and Specifications.
  - 4.2.4.2 Performing QC of their nationally produced HRVD. Lead Participants are also responsible for the QA of other Lead and Associate Participant's produced HRVD prior to its acceptance in the IGW. Responsibility for QA of other Participants' data will be in accordance with QA procedures (See Annex B, Technical Guidance and Specifications).
  - 4.2.4.3 Participating in the SG meetings. A Lead Participant may attend SG meetings on behalf of another Lead Participant, at the request of that Lead Participant.
  - 4.2.4.4 Participating in the PG and sub-group meetings.
  - 4.2.4.5 Participating in the TG and sub-groups on a volunteer basis.
  - 4.2.4.6 A Lead Participant may attend on behalf of any other Participant at the PG and TG meetings, at the request of that Participant.
- 4.2.5 Associate Participants responsibilities include:
  - 4.2.5.1 Producing and contributing a minimum of five one x one degree cells of HRVD, pursuant to Annex A (Production Responsibilities) and Annex B (Technical Guidance and Specifications).

- 4.2.5.2 Performing QC of their nationally produced HRVD.
  - 4.2.5.3 Participating in PG and sub-group meetings.
  - 4.2.5.4 Participating in the TG and sub-groups on a voluntary basis.
  - 4.2.5.5 Associate Participants may apply to the SG for change of MGCP status to a Lead Participant only after meeting the requirements stated in paragraphs 4.2.4.1 and 4.2.4.2.
  - 4.2.5.6 An Associate Participant may be represented by another Participant at the PG and TG meetings.
- 4.3 The Participants will manage the MGCP as follows:
- 4.3.1 The Chair will preside over meetings and will provide prior notice of the meeting agenda to group members. The agenda will include the general nature of the discussions to be held at the meeting. Ad hoc discussions of issues not on the agenda are permitted.
  - 4.3.2 Should decisions be required from an MGCP Group meeting, the following provisions will apply:
    - 4.3.2.1 Best efforts will be applied to arrive at decisions through consensus.
    - 4.3.2.2 Meeting minutes will reflect meeting decisions, assigned actions and completed actions.
    - 4.3.2.3 The Chair of a meeting may delegate the authority to preside over a meeting to another representative of the Participant's group or to another Participant.

## **Section 5**

### **Financial Provisions**

- 5.1 The Participants are responsible for all costs associated with their respective responsibilities, budgets and resources associated with their participation in the Program. Program costs may include: Source Material, production, storage, dissemination and shipping, QC/QA, travel and hosting Participant functions.
- 5.2 Should a Participant determine that contracting is necessary to fulfill its responsibilities, that Participant should contract in accordance with its national laws and regulations and be solely responsible for that activity.

- 5.3 Participants should promptly notify the SG if the nation is not able to fulfill its responsibilities under this MOU.

## **Section 6**

### **Control, Protection, and Release of Program Data and Information**

- 6.1 Participants intend to adhere to the following guidelines:
- 6.1.1 Each Participant will determine if its Program Information is sensitive and qualifies for designation as CUI.
  - 6.1.2 The originating and the receiving Participant will ensure that CUI is appropriately marked and is handled in a manner that ensures control.
  - 6.1.3 CUI will be used only for the purposes set forth in this MOU.
  - 6.1.4 Access to CUI will be limited to personnel designated by the Participants.
  - 6.1.5 Each Participant will take all appropriate lawful steps to keep CUI acquired from other Participants exempt from any disclosure not consistent with this MOU, unless the originating Participant consents in writing to such disclosure. In the event of unauthorized disclosure, immediate notification will be given to the originating Participant.
  - 6.1.6 Prior to authorizing the dissemination of CUI to contractors, the Participants will ensure the contractors are contractually bound not to disclose such CUI.
- 6.2 With respect to the release of HRVD and source data produced and furnished by other MGCP Participants, the following guidelines apply:
- 6.2.1 Receiving Participants will be given permissions from originating Participants to use such HRVD and source data to achieve the goals of the Program.
  - 6.2.2 In an effort to provide the widest dissemination of produced data to all Participants, HRVD will be produced at an UNCLASSIFIED level and will be available to Participants.
  - 6.2.3 MGCP data deposited in the IGW will be marked and protected with the following handling caveat:

UNCLASSIFIED//LIMITED DISTRIBUTION

- 6.2.4 Participants withdrawing data from the IGW will handle such data consistent with the markings on the data.
- 6.2.5 The Participants will use HRVD acquired from the IGW only for government purposes.
- 6.2.6 A source provider will indicate at the time of transfer whether the Source Material conveys the requirement to seek authorization to release source Information or HRVD to Third Parties.
- 6.2.7 Producing Participants reserve the right to release data produced from their own Source Materials to Third Parties.
- 6.2.8 Participants will require that contractors do not duplicate, copy, or otherwise reproduce or disclose the HRVD or Information in any manner inconsistent with this MOU.
- 6.2.9 Participants will not deposit HRVD into the IGW that is over another Participants' Sovereign Territory without the consent of that Participant. Producing Participants will only produce cells to the border of another Participant's Sovereign Territory unless authorized by that Participant.
- 6.2.10 Requests for MGCP data for release to a Third Party should be forwarded to the producing Participant. Requests for Information regarding MGCP production responsibilities may be addressed to the C/SG. Requests for dissemination of data for crisis or emergency response will be expedited.

## **Section 7 Copyright and Rights of Use**

- 7.1 The Participants will adhere to the following guidelines:
  - 7.1.1 Participants may claim copyright/restriction of rights of use in HRVD produced for MGCP and deposited in the IGW and may claim a copyright/restriction of rights of use in CUI provided to MGCP as Source Materials.
  - 7.1.2 Participants will recognize the legal status of HRVD as protected under the national law of the originating Participant, as indicated by the originating Participant.
  - 7.1.3 By contributing HRVD to the IGW, the Participants grant to each other non-exclusive licenses to reproduce, adapt, disseminate, and use as Source Material all HRVD in the co-produced IGW.

7.1.4 Any issues relating to copyright/restriction of rights of use should be addressed between the affected Participants.

7.1.5 The Participants shall endeavor to ensure that the Intellectual Property Rights in HRVD provided or generated under this MOU are not misused by a Participant, contractor, or a Third Party.

## **Section 8 Addition of New Participants**

- 8.1 The Participants recognize that other entities may join in the MGCP.
- 8.2 The Participants shall endeavor to mutually determine the provisions under which the new Participants may join.
- 8.3 New Participants may be invited to participate only upon the unanimous consent of the Participants.

## **Section 9 Visits to MGCP Related Establishments**

- 9.1 Each Participant shall endeavor to permit, at the visiting Participant's expense, visits to its government establishments, agencies and laboratories, and contractor industrial facilities by another Participant's employees or by employees of another Participant's contractors.
- 9.2 Each Participant requires such visiting personnel to comply with its security regulations.
- 9.3 Requests for visits by personnel of one Participant to a facility of another Participant may be coordinated through mutually determined channels, and should conform with the established visit procedures of the host country.
- 9.4 Lists of personnel of each Participant required to visit, on a continuing basis, the facilities of another Participant on matters related to MGCP may be submitted through channels in accordance with normal international visit procedures.
- 9.5 Each Participant shall endeavor to facilitate entries and departures of personnel, equipment, and material related to the MGCP into and out of their respective countries.

**Section 10**  
**Settlement of Disputes**

- 10.1 Any dispute regarding the interpretation or application of this MOU will be resolved by consultation among the Participants.

**Section 11**  
**Language**

- 11.1 Information generated under this MOU and its Annexes and contracts and provided by one Participant to another Participant will be furnished in the English language.

**Section 12**  
**Revisions and Withdrawal**

- 12.1 All activities of the Participants under this MOU will be carried out in accordance with their national laws and consistent with this MOU.
- 12.2 This MOU and all existing or future Annexes may be revised with the written consent of the Participants. Annexes are an integral part of the MOU.
- 12.3 Any Participant may withdraw from the MOU and the MGCP upon 3 months written notification to the other participants.
- 12.4 Notwithstanding withdrawal, the Participants will continue to protect CUI produced data or Information outlined in the MOU.

**Section 13**  
**Entry Into Effect and Duration**

- 13.1 This MOU represents the understandings reached among the Participants on the matters referred to herein and will enter into effect upon signature of seven participants and on the date of signature for each subsequent nation.
- 13.2 The C/PG will notify all Participants of entry into effect of the MOU, and the proposal and completion of any new amendments or annexes.
- 13.3 This MOU will remain in effect until terminated by written mutual consent of the Participants.

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE DEPARTMENT OF DEFENCE OF AUSTRALIA

I.A. McKenzie  
Signature

IAN MCKENZIE  
Printed Name

DIRECTOR DEFENCE IMAGERY AND GEOSPATIAL ORGANISATION  
Title

24 JULY 2006  
Date



Lead



Associate

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE MINISTER OF DEFENCE OF THE KINGDOM OF BELGIUM

  
Signature

JAN HENNES  
Printed Name

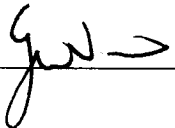
CHIEF OF SECTION  
C3 SYSTEMS  
Title

08 AOUT 2006  
Date

Lead  Associate

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE DEPARTMENT OF NATIONAL DEFENCE OF CANADA

Signature 

Brigadier-General G.W. Nordick  
Printed Name

Chief Defence Intelligence  
Title

3) July 2006  
Date

**Lead**       **Associate**

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE MINISTRY OF DEFENCE OF THE CZECH REPUBLIC

*Paul Skalá*

Signature

PAVEL SKALÁ

Printed Name

COL

Title

15 Aug 2006

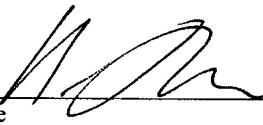
Date

Lead

Associate

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE MINISTRY OF DEFENCE OF DENMARK

  
\_\_\_\_\_  
Signature

HENRIK DAM  
\_\_\_\_\_  
Printed Name

Major General  
\_\_\_\_\_  
Title

13 November 2006  
\_\_\_\_\_  
Date

**Lead**       **Associate**

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE MINISTRY OF DEFENCE OF THE REPUBLIC OF ESTONIA

*Tarmo Rõuts*

Signature

*Tarmo Rõuts*

Printed Name

*Chief of Staff CHOD of Estonia*

Title

*22.06.2006*

Date

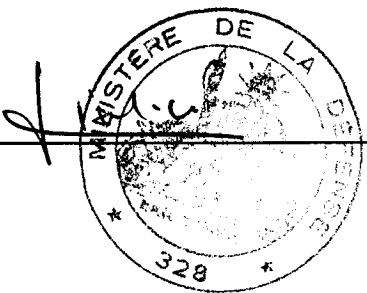
Lead

Associate



**Memorandum Of Understanding For the Multinational Geospatial Co-production Program**

**FOR THE MINISTER OF DEFENCE OF THE FRENCH REPUBLIC**

Signature A circular stamp from the Ministry of Defense of the French Republic is stamped over a handwritten signature. The stamp contains the text "MINISTERE DE LA DEFENSE" around the perimeter, a central emblem, and the number "328" at the bottom. Two small stars are positioned on either side of the number. A horizontal line is drawn across the signature and stamp.

**GIULIANI**  
Printed Name

**Chef du Bureau Géographique interarmées**  
Title

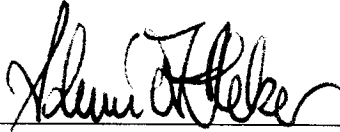
16 MAY 2006  
Date

Lead

Associate

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE FEDERAL MINISTRY OF DEFENCE OF THE  
FEDERAL REPUBLIC OF GERMANY



Signature

Walter Schmidt-Bleker

Printed Name

Director Bundeswehr Geoinformation Service

Title

22 June 2006

Date

Lead

Associate

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE MINISTRY OF NATIONAL DEFENCE OF THE HELLENIC REPUBLIC



Major General Georgios Sklikas

Director D' Branch HNDGS

5 November 2007

**Lead**

**Associate**

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE MINISTRY OF DEFENCE OF THE REPUBLIC OF HUNGARY

Signature 

Col Gyula SZABÓ  
Printed Name

Chief of MS HDF  
Title

02 June 2006  
Date

Lead  Associate

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE MINISTRY OF DEFENCE OF THE ITALIAN REPUBLIC

  
Signature

Rear Admiral Andrea CAMPREGHER  
Printed Name

Chief, 2<sup>nd</sup> Division of the Italian Defence General Staff  
Title

17 July 2006  
Date



Lead



Associate

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE MINISTRY OF DEFENCE OF LATVIA

*Audogars Rimkus*  
Signature

Printed Name

STATE SECRETARY

Title

28-08-2006

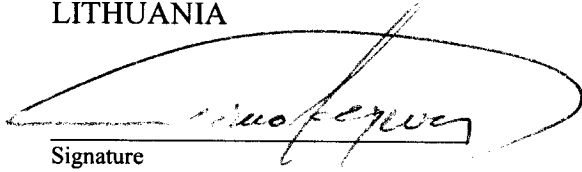
Date

Lead

Associate

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE MINISTRY OF NATIONAL DEFENCE OF THE REPUBLIC OF  
LITHUANIA



Signature

APOLONAS TIMOFEJEVAS

Printed Name

CHIEF GEO OFFICER OF LITHUANIAN ARMED FORCES

Title

05-07-2006

Date

Lead

Associate

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE MINISTRY OF DEFENCE OF MOLDOVA

*Ion Coropcean*  
Signature

Brigadier general Ion Coropcean

Printed Name

Chief of the Main Staff of the National Army, Commander of the National Army

Title

29 March 2007

Date

Lead

Associate

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE MINISTRY OF DEFENCE OF THE KINGDOM OF THE NETHERLANDS

Signature

**R.A. Heeres,**

Printed Name

**Lieutenant-Colonel, Director RNLAGA**

Title

**16 April 2008**

Date

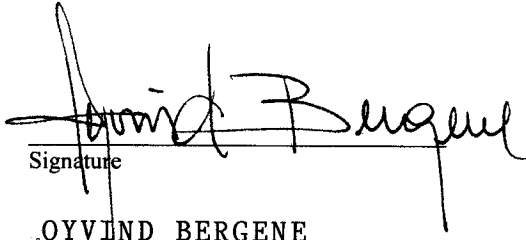
Lead

Associate

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

lv

THE ROYAL NORWEGIAN MINISTRY OF DEFENCE



Signature

OYVIND BERGENE

Printed Name

COLONEL/DIRECTOR

NORWEGIAN MILITARY GEOGRAPHIC SERVICE

Title

9 JUNE 2006

Date

Lead

Associate

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE NEW ZEALAND DEFENCE FORCE



Signature

E. B. CRISP

Printed Name

DJASF For CDF

Title

16 June 2006

Date

Lead

Associate

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE MINISTER OF NATIONAL DEFENCE OF THE REPUBLIC OF POLAND

  
Signature

***COL PIOTR PRZYBYLIŃSKI***

Printed Name

***Chief of Military Geography Division  
J2, Polish Armed Forces General Staff***

Title

***2006 NOV 09***

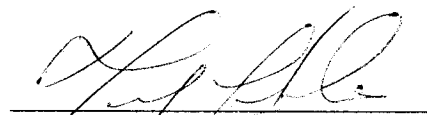
Date

Lead

Associate

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE MINISTRY OF DEFENCE OF THE REPUBLIC OF PORTUGAL

  
Signature

MANUEL MATEUS COSTA DA SILVA COUTO  
Printed Name

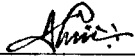
DIRECTOR OF THE ARMY GEOGRAPHIC INSTITUTE  
Title

2006-05-22  
Date

Lead     Associate

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE MINISTRY OF NATIONAL DEFENCE OF ROMANIA

  
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Signature

**MARIN ALNIȚEI, COL.**  
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Printed Name

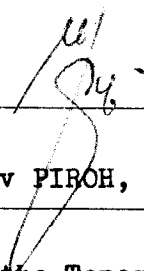
**ACTING CHIEF OF MILITARY TOPOGRAPHIC DIRECTORATE**  
\_\_\_\_\_  
Title

**28 NOV 2006**  
\_\_\_\_\_  
Date

**Lead**       **Associate**

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE MINISTRY OF DEFENCE OF THE SLOVAK REPUBLIC

  
\_\_\_\_\_  
Signature

Col. Jaroslav PIROH, PhD.

\_\_\_\_\_  
Printed Name

Director of the Topographic Institute

\_\_\_\_\_  
Title

July 14<sup>th</sup>, 2006

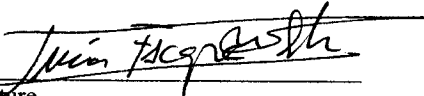
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Date

Lead

Associate

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE MINISTRY OF DEFENCE OF THE KINGDOM OF SPAIN

  
Signature

LUCÍA ESCAPA CASTRO  
Printed Name

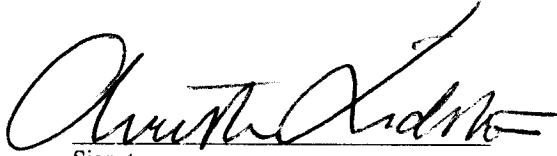
SUBDIRECTORA GENERAL DE LOS SERVICIOS TÉCNICOS Y TELECOMUNICACION  
Title

15 OCT 2.007  
Date

Lead  Associate

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE SWEDISH ARMED FORCES

  
Signature

CHRISTER LIDSTRÖM  
Printed Name

MAJOR GENERAL  
Title

23 MAY 2006  
Date

Lead

Associate

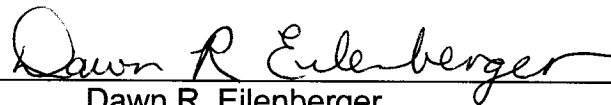


**NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY**

4600 Sangamore Road  
Bethesda, Maryland 20816-5003

**CERTIFICATION OF AUTHENTICITY**

I HEREBY CERTIFY that the attached document is a true copy of the original executed signature page signed by Major General Necdet Soyer, General Commander of Mapping, for the Ministry of National Defence of the Republic of Turkey regarding the Memorandum of Understanding for the Multinational Geospatial Co-Production Program, dated 5 July 2007, and maintained as an official record within the National Geospatial-Intelligence Agency of the Department of Defense of the United States of America.



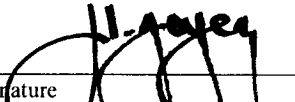
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Dawn R. Eilenberger  
Director, Office of International Affairs and Policy

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18 November 2010

Date

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE MINISTRY OF NATIONAL DEFENCE OF THE REPUBLIC OF TURKEY

Signature 

**Major General Necdet SOYER**  
Printed Name

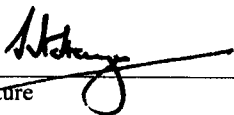
**General Commander of Mapping**  
Title

**05 July 2007**  
Date

Lead  Associate

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE SECRETARY OF STATE FOR DEFENCE OF THE UNITED KINGDOM  
OF GREAT BRITAIN AND NORTHERN IRELAND

  
\_\_\_\_\_  
Signature

S H HAYNES  
\_\_\_\_\_  
Printed Name

DIRECTOR DGC  
\_\_\_\_\_  
Title

21/06/06  
\_\_\_\_\_  
Date

Lead       Associate

Memorandum Of Understanding For the Multinational Geospatial Co-production Program

FOR THE SECRETARY OF DEFENSE ON BEHALF OF THE DEPARTMENT OF  
DEFENSE OF THE UNITED STATES OF AMERICA

  
Signature

James R. Clapper, JR., Lt. Gen., LISAF (ret.)  
Printed Name

Director, National Geospatial-Intelligence Agency  
Title

19 May 2006  
Date

Lead       Associate

**ANNEX A**

**To the**

**MEMORANDUM**

**Of**

**UNDERSTANDING**

**For The**

**MULTINATIONAL GEOSPATIAL**

**CO-PRODUCTION**

**PROGRAM**

**PRODUCTION RESPONSIBILITIES**

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Annex A is an annex to the Memorandum Of Understanding (MOU) concerned with Production Responsibilities that are established under the MOU for the Multinational Geospatial Co-production Program (MGCP). This Annex outlines the objectives and plans of the Participants relating to the production of High Resolution Vector Data (HRVD) produced under the MGCP.

## **Section 1 Purpose**

- 1.1. The purpose of this Annex is to define the production objectives and plans, including goals for the mutual coordination, policy and management of the cooperative production of HRVD to benefit all the Program Participants. The HRVD will be co-produced, provided, maintained and exchanged in a manner of mutual interest to the Participants. The Participants will strive to adhere to the provisions, procedures, priorities, and processes set out in this Annex, in addition to the provisions of the MOU.

## **Section 2 Objectives**

- 2.1 In order to optimize benefits to all Participants a coordinated and comprehensive production strategy will be developed and followed by the Participants. A reference Production Plan along with production information and Program Graphics will be developed and maintained by the Steering Group (SG). To this end, Participants will:
  - 2.1.1 Identify high interest production areas to be worked under the Program. These areas will be forwarded to the SG for inclusion into the strategy.
  - 2.1.2 Aid in the development and coordination of a comprehensive production program to produce and maintain HRVD.
  - 2.1.3 Produce data according to the MGCP Production Plan. With changing international priorities, Participants will whenever possible, adapt production efforts to facilitate geospatial production in crisis areas. As with the standard co-production efforts within the Program, this ad hoc production will be coordinated within the SG to optimize coverage and production resources.
  - 2.1.4 Evaluate their national holdings for releasable source material (commercial imagery, cartographic sources, terrain data, etc.) that may assist other producers in their production efforts. Encourage the passing of these value-added sources to the producer for use in their production efforts. Any restrictions on use of the source material should accompany the source upon provision to another Participant. A separate Standard Operating Procedure (SOP) detailing the handling of sources will be promulgated by the PG.

- 2.1.5 Adhere to extraction specifications and guidance outlined in Annex B, Technical Guidance and Specifications. Deviations from this guidance will be mutually determined by the SG members.
- 2.1.6 Exchange technical advice, tools and knowledge with other Participants to aid in production related problems.

### **Section 3 Production Plan**

- 3.1 A MGCP Production Plan will be developed by the SG to monitor, track and provide status reports to the MGCP Participants.
- 3.2 For MGCP production, the Production Plan will:
  - 3.2.1 Be developed, prioritized, maintained and disseminated by the SG, based on input of high current interest areas of the Participants.
  - 3.2.2 Be flexible and subject to change. The SG will be responsible for implementing any changes to the plan based on updates provided by the producing Participants. Such changes will be briefed at the following Plenary Session and available online in the IGW.
  - 3.2.3 Be endorsed by the PG prior to initiation of any production activity.
  - 3.2.4 Be constructed based on one-degree cells of production. Each Participant will take responsibility for production of individual cells. Each cell may contain 1:50K or 1:100K densities or a combination of both based on the national requirements for the data. The producing Participant is responsible for determining the density for each cell they will produce. There is no requirement for homogeneous density within a cell.
  - 3.2.5 Contain tentative scheduled production completion dates for each cell. These dates will be subject to change based on national priorities, but are provided for the benefit of the MGCP user community.

### **Section 4 Reporting**

- 4.1 The SG will provide a bi-annual (twice each year) production status report.
- 4.2 Participants will provide, upon request by the SG, the production Information to be incorporated into this bi-annual report.

- 4.3 Basic Reports will be available on the IGW. In these reports, selected Information identified by the Participants (e.g., Participant's national production and downloads) will be available in reports only to that Participant. Basic production Information (e.g., overall MGCP production plan) will be available to all Participants.

## **Section 5 Entitlements**

- 5.1 The Participants will have access to Program data deposited in the IGW based on their production contribution.
- 5.2 For every one-degree cell outside a Participant's Sovereign Territory produced, quality assured and deposited in the IGW, a Participant will have access to the IGW data in the following ratios:
- 5.2.1 For one to ten cells of data the ratio of return will be two to one (e.g., the Participant will receive two cells for every cell deposited up to 10 cells).
  - 5.2.2 For 11 to 50 cells of data the ratio of return will be four to one (e.g., the Participant will receive a total of 80 cells of data for producing and depositing 20 cells of their production data into the IGW).
  - 5.2.3 For 51 to 150 cells of data the ratio of return will be six to one (e.g., the Participant will receive a total of 600 cells of data from the IGW for producing and depositing 100 cells of their production data into the IGW).
  - 5.2.4 For 151 or more cells the ratio of return will be eight to one (e.g., the Participant will receive 1440 cells of data from the IGW for producing and depositing 180 cells of their production data into the IGW).
  - 5.2.5 A Lead Participant will have access to all data produced and deposited in the IGW upon completion and depositing of 200 one-degree cells of HRVD outside it's Sovereign Territory.
- 5.3 Any HRVD over a Participant's Sovereign Territory, independent of the number of cells provided or density of the cells, will only receive a ratio of return of one to one (e.g., a Participant that produces and deposits 25 cells of HRVD over its Sovereign Territory will only receive 25 cells in return from the IGW).
- 5.4 All Participants will produce a minimum of 5 one-degree cells of HRVD. This five-cell minimum can include HRVD of the Participants Sovereign Territory or over other geographical areas.

- 5.5 Data over a Participant's Sovereign Territory may not make up the entire contribution of the Participant. (e.g., each Participant must deposit at least one cell of HRVD outside their own Sovereign Territory).
- 5.6 Requests for dissemination of data for crisis or emergency response will be expedited.

**Section 6**  
**Quality Control and Quality Assurance**

- 6.1 Participants will Quality Control their HRVD throughout the entire production process. Quality Assurance will be undertaken as defined in Annex B.
- 6.2 HRVD deposited by a Participant into the IGW should not include any known deviations from Annex B and the Technical Reference Documentation (TRD).

**ANNEX B**

**To the**

**MEMORANDUM**

**Of**

**UNDERSTANDING**

**For The**

**MULTINATIONAL GEOSPATIAL**

**CO-PRODUCTION PROGRAM**

**TECHNICAL GUIDANCE**

**AND**

**SPECIFICATIONS**

---

Annex B is concerned with the Technical Guidance and Specification for co-production of High Resolution Vector Data (HRVD) established under the Memorandum of Understanding (MOU) for the Multinational Geospatial Co-production Program (MGCP). This Annex concerns the technical guidance, specifications, processes and exchange procedures relating to the production of HRVD. All pieces of documentation which constitute the Technical Reference Documentation (TRD) and their companion configuration management documents are accessible on the MGCP website.

## **Section 1 Purpose**

- 1.1 The purpose of this Annex is to define the technical guidance, specifications, validation process and extraction strategies for the production of the co-produced data. With multiple production partners, standardization for the capture of vector data is essential to the successful integration and interoperability of data between the Participants. This Annex outlines the technical issues related to the collection, standardization and dissemination of the HRVD. The Participants in the co-production of vector data within the MGCP will strive to adhere to provisions, procedures, and plans set out in this Annex, in addition to the provisions of the MOU.

## **Section 2 Objectives**

- 2.1 In order to ensure interoperability between data and the end users, the Program Participants will mutually establish an exchange format, data and capture standards and data exchange for the vector data. A reference set of specification documents (MGCP - Technical Reference Documentation (TRD)) shall be established and maintained by the Technical Group (TG). This process will permit the efficient production, storing, validating, disseminating, and importing and exporting of data to meet the needs of the Participants. This Annex outlines the technical processes and criteria associated with the data produced and exchanged.
- 2.2 Any major modification to the TRD, other than clarification amendments, will be endorsed by the Steering Group (SG) and adopted by the Plenary Group (PG) prior to implementation, as part of the configuration management process.

## **Section 3 Exchange Format**

- 3.1 The initial format for the exchange of data in and out of the International Geospatial Warehouse (IGW) will be ESRI shapefiles. Exact implementation of ESRI shapefiles will be defined as part of the MGCP TRD. Reference version of the ESRI shapefile specification will be included in the TRD.

- 3.2 The exchange format may transition to another exchange format with consent and authorization from the SG and approval by the PG.
- 3.3 Dataset exchange, in and out of the IGW, will encompass metadata at the dataset level. Metadata at dataset level will use a DGIWG implementation of ISO19115 and ISO 19139. References to the appropriate DGIWG documentation will be part of the TRD.
- 3.4 Participants may exchange data in other formats bilaterally.

#### **Section 4 Data Capture**

- 4.1 The data schema for this Program will follow the MGCP Feature Catalogue. Features will be coded according to the DGIWG Feature Data Dictionary (DFDD). The MGCP Feature Catalogue specification will be part of the MGCP TRD. The MGCP Feature Catalogue specification will identify the minimum list of features and attributes to be considered as the minimum content for HRVD produced under this program (other features could be added, these features and their attributes must be coded according to the DFDD).
- 4.2 Metadata is required at Feature Level and will be defined in the TRD.
- 4.3 All HRVD exchanged will be geo-referenced to WGS84. All data will be unprojected and in geographic coordinates, decimal degrees (Coordinates precision: six decimals).
- 4.4 All HRVD will be edge-matched internally as well as with existing adjacent HRVD in the IGW. Edge-matching guidance will be part of the TRD.
- 4.5 As a general rule, HRVD produced or exchanged at any density, will meet a minimum Horizontal Circular Error (CE (90%)) accuracy of 25 meters.
- 4.6 All HRVD exchanged will be at a feature density equivalent to 1:50,000 or 1:100,000. General extraction guidance will be part of the TRD. General extraction guidance will need to be tailored to each area of the world and types of sources to be used for feature extraction.
- 4.7 All HRVD exchanged will be produced using the most current available sources.
- 4.8 Character set of the feature attribution will be detailed in the TRD.

**Section 5**  
**Storage and Dissemination Procedures**

- 5.1 Copies of all HRVD produced under the Program will be delivered to the IGW for quality assurance (staging area), and storage and dissemination after approval.
- 5.2 Data will be passed via one of the following media/methods: electronically, CD-ROM, Digital Versatile Disk (DVD), File Transfer Protocol (FTP), or other mutually agreeable format. All data will be disseminated in a manner consistent with Section 6 of the MOU.
- 5.3 Participants will provide metadata for all cells of data deposited into the IGW. This metadata will contain production information that allows a user to identify pertinent information regarding collection, source and currency. Metadata at the dataset level will use the DGIWG implementation of ISO19115 and ISO 19139. Metadata will be defined and documented in the TRD.

**Section 6**  
**Unit Of Collection And Exchange**

- 6.1 For the purposes of accountability, the unit of measure for collection and exchange of data within the Program will be a one-degree cell of HRVD. Each one-degree cell will be assigned to one Participant only. The actual data contained in each cell is coordinated between the producing nation and the C/PG. Exchange packaging rules will be defined in the MGCP TRD.
- 6.2 The HRVD will:
  - 6.2.1 Be collected consistent with data and capture standards defined in Section 4 of this Annex and in the TRD.
  - 6.2.2 Be exchanged consistent with the exchange format defined in Section 3 of this Annex and in the TRD.

**Section 7**  
**Specifications**

- 7.1 The Participants will follow the specifications and collection guidance gathered in the TRD for all HRVD production under the Program.

**Section 8**  
**International Geospatial Warehouse (IGW)**

- 8.1 NGA intends to supply an initial five Public Key Infrastructure (PKI) certificates for each Participant. The Participant, in coordination with NGA, may purchase additional logons.
- 8.2 Participants will update all contact information within the IGW for each of the PKI logons provided and any additional logons purchased.
- 8.3 Participants will be responsible for the verification procedures to acquire all PKI logons, tracking personnel who have acquired the certificates, ensuring the certificates are used in a manner consistent with the MOU, and any security constraints that accompany the certificates.
- 8.4 The IGW will keep track of HRVD deposited, under review and withdrawn by each Participant. The system will also track the amount of cells available for each Participant based on the amount of HRVD deposited by that Participant.
- 8.5 As a participant initially deposits a cell of HRVD into the IGW, the Lead participant assigned to do the final quality assurance of that cell will be notified via e-mail by the IGW.
- 8.6 Upon notification of quality assurance responsibility, the Lead Participant will withdraw the cell from the IGW along with available edge-matching data and perform the QA process. Upon completion of the review, the QA Participant will notify the producing Participant of any issues associated with the data.
- 8.7 Producing Participant and QA Participant will coordinate, to include transferring data between the Participants if necessary, to ensure all issues are resolved satisfactorily before the dataset is returned to the IGW. Any issues that cannot be resolved between the producing and QA Participants will be directed to the SG for review.
- 8.8 Upon completion of the QA process and any remedial work by the producing Participant, the producing Participant will load the dataset back into the IGW. The QA Participant will provide notification to inform the IGW that the dataset is accepted and ready for retrieval by other Participants.
- 8.9 The system will not allow cells to be withdrawn by a Participant when the Participant does not have sufficient credit calculated on the amount of data deposited into the IGW.
- 8.10 Changes in the QA Participant as registered in the IGW will be coordinated by the SG, prior to the new QA assignment taking place.