SPACE COOPERATION

Mars Science Laboratory Mission

Agreement Between the
UNITED STATES OF AMERICA
and SPAIN

Signed at Madrid March 17, 2011

NOTE BY THE DEPARTMENT OF STATE

Pursuant to Public Law 89—497, approved July 8, 1966 (80 Stat. 271; 1 U.S.C. 113)—

". . .the Treaties and Other International Acts Series issued under the authority of the Secretary of State shall be competent evidence . . . of the treaties, international agreements other than treaties, and proclamations by the President of such treaties and international agreements other than treaties, as the case may be, therein contained, in all the courts of law and equity and of maritime jurisdiction, and in all the tribunals and public offices of the United States, and of the several States, without any further proof or authentication thereof."

SPAIN

Space Cooperation: Mars Science Laboratory Mission

Agreement signed at Madrid
March 17, 2011;
Entered into force March 17, 2011.

IMPLEMENTATION AGREEMENT

BETWEEN

THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION OF THE UNITED STATES OF AMERICA, of the one part,

AND

THE CENTER FOR THE DEVELOPMENT OF INDUSTRIAL TECHNOLOGY OF SPAIN

AND

THE NATIONAL INSTITUTE FOR AEROSPACE TECHNOLOGY "ESTEBAN TERRADAS" OF SPAIN, of the other part,

CONCERNING COOPERATION ON THE

MARS SCIENCE LABORATORY MISSION

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PREAMBLE

The National Aeronautics and Space Administration of the United States of America (hereinafter referred to as "NASA"), of the one part, and the Centro para el Desarrollo Tecnológico Industrial (the Center for the Development of Industrial Technology of Spain, herinafter referred to as "CDTI") and the Instituto Nacional de Técnica Aeroespacial "Esteban Terradas," through the Centro de Astrobiología, a joint center with the Consejo Superior de Investigaciones Científicas (hereinafter referred to as "INTA-CAB"), of the other part, hereinafter referred to as the "Parties" collectively or "Party" individually;

CONSIDERING that NASA is developing the Mars Science Laboratory ("MSL") mission;

CONSIDERING that NASA is engaged in a vigorous, long-term Mars exploration program that is designed to understand and characterize Mars as a dynamic system;

RECOGNIZING that CDTI and INTA-CAB are interested in partnering with NASA in the exploration of Mars by providing the High Gain Antenna ("HGA") subsystem and the Rover Environmental Monitoring Station ("REMS") instrument suite for flight on the MSL mission;

RECOGNIZING that the flight of MSL carrying REMS and the HGA will enhance the scientific return to the international science community in the areas of Mars exploration and Mars knowledge;

RECALLING that the Parties have a mutual interest in cooperation in the exploration of Mars as expressed in the February 5, 2004, Joint Statement signed by NASA and Spain's Ministry of Science and Technology;

RECALLING the interim agreement of February 23, 2006, between NASA and CDTI and the Spanish Ministry of Education and Science addressing an interest to pursue activities together on the HGA on MSL;

RECALLING the interim agreement of June 29, 2006, between NASA and CAB, addressing an interest to pursue activities together on REMS on MSL;

RECALLING the terms of the Agreement on Spacc Cooperation between the United States of America and the Kingdom of Spain, signed on July 11, 1991 (hereinafter referred to as the "U.S.-Spain 1991 Space Agreement"), applicable to this Implementation Agreement between NASA, CDTI, and INTA-CAB;

RECALLING the terms of the Agreement on Cooperative Activities between NASA and INTA, signed on December 2, 1991 (hereinafter referred to as the "NASA-INTA 1991 Agreement");

RECALLING the terms of the Agreement on Cooperative Activities between NASA and CDTI, signed on June 18 and July 3, 1992 (hereinafter referred to as the "NASA-CDTI 1992 Agreement");

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HAVE AGREED as follows:

ARTICLE 1 – SCOPE AND PURPOSE OF COOPERATION

1.1 The cooperation set forth in this Implementation Agreement (hereinafter referred to as "IA") shall be undertaken in accordance with Article 11 of the U.S.- Spain 1991 Space Agreement, as detailed in Paragraph 2 of the NASA-INTA 1991 Agreement and Paragraph 2 of the NASA-CDTI 1992 Agreement. This IA defines the responsibilities, terms, and conditions by which the cooperation between the Parties shall be conducted within the framework of NASA's MSL mission. This IA supersedes the interim agreements of February 23, 2006, as amended, between NASA and CDTI and the Ministry of Education and Science and June 29, 2006, between NASA and CAB.

1.2 The primary activities addressed in this IA concern scientific and technological cooperation through the provision by INTA-CAB of the Spanish REMS instrument suite investigation and by CDTI of the HGA subsystem for NASA's MSL mission. The REMS instrument suite is expected to contain wind, ultraviolet, pressure, temperature, and humidity sensors for monitoring the Martian weather and will be mounted on the MSL Remote Sensing Mast. The HGA subsystem is planned to enhance the communications architecture of the MSL rover.

1.3 NASA's MSL mission consists of a long duration rover and mobile scientific laboratory equipped to perform scientific studies of Mars. It is currently planned for a 2011 launch from Cape Canaveral, Florida, aboard an Atlas V launch vehicle. The primary scientific objectives of the mission will be to assess the biological potential of at least one target area, characterize the local geology and geochemistry, investigate planetary processes relevant to habitability, including the role of water, and characterize the broad spectrum of surface radiation. The instrument suite is planned to include a multi-spectral mast camera, micro-imager, descent imager, laser ablation chemistry camera, alpha-particle-X-ray-spectrometer, X-ray diffraction/ X-ray fluorescence instrument, radiation assessment detector, gas chromatograph/mass spectrometer/laser spectrometer, a neutron detector, and a weather monitoring system. The mission is planned to last at least one Martian year (687 days). The landing site has not been chosen. It will be selected based on an assessment of safety, planetary protection, and an analysis by the scientific community. NASA's Jet Propulsion Laboratory (JPL), Pasadena, California, manages the MSL mission for NASA.

ARTICLE 2 – NASA RESPONSIBILITIES

NASA shall use reasonable efforts to carry out the following responsibilities:

2.1 Develop the MSL mission to meet the planned 2011 launch date, conduct the launch, cruise phase, and landing on Mars, and conduct the surface science phase;

2.2 Consistent with the Committee on Space Research (COSPAR) planetary protection policy and NASA directives, define material and biological contamination constraints for the MSL mission, and ensure that the integrated payload meets planetary contamination constraints;

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In support of the HGA:

2.3 Support CDTI and/or its contractors in its development of the HGA subsystem, including flight hardware, software and support equipment;

2.4 Define the resources available on MSL for the HGA subsystem and make available reasonable accommodations for mass, power, and data rate requirements for the HGA subsystem hardware;

2.5 Provide technical information on required performance specifications, environments within which the HGA subsystem must operate, and interfaces with other MSL elements;

2.6 Develop the flight software to operate the HGA subsystem;

2.7 Provide system ground support equipment to support testing of the HGA subsystem;

2.8 Provide 2 Engineering Qualification Models (EQM) and 3 fully space-qualified flight model actuators and one spare motor;

2.9 Provide 2 EQM and 4 fully qualified flight model rotary joints;

2.10 Provide the cabling for the HGA including one breadboard, one EQM, and one flight flex cable;

2.11 Integrate, test, and validate the HGA subsystem with the MSL rover;

In support of REMS:

2.12 Work with CDTI, INTA-CAB, and/or its contractors to define the REMS instrument suite (including REMS hardware, required rover accommodation capabilities and data return and processing requirements), which supports the MSL scientific objectives within available MSL resources;

2.13 Provide for the accommodation and integration of the REMS instrument suite into the MSL flight and mission systems. Activities will include:

(a) Definition of an accommodation process between INTA-CAB and the MSL project office to permit a full understanding of the operating context and interactions of the REMS instrument suite with the NASA systems and determining how best to accommodate the REMS systems;

(b) Definition of detailed scientific, functional, and programmatic requirements for the REMS instrument suite, including interfaces, accommodation design, reliability design, and environmental requirements (including, but not limited to, architectures for fault tolerance, flight software), schedule, review, and insight/oversight;

(c) Provision of system and subsystem configuration and description information as required to establish proper interfaces and interoperability of the REMS instrument suite, consistent with the predicted capabilities of the MSL system, including the development of the REMS/Spacecraft Interface Control Document;

(d) Participation in bilateral technical discussions with CDTI/INTA-CAB in sufficient detail to permit the Parties to: establish the REMS instrument suite objectives; define the requirements for the CDTI/INTA-CAB contribution(s) to the MSL mission; and conduct design work on the CDTI/INTA-CAB contribution(s) to the MSL mission;

(e) Provision of an independent review and verification process to ensure reliability and compatibility of interface design and interoperability between the MSL and REMS systems; and,

(f) Integration and testing of the final REMS flight model in preparation for launch;

2.14 Provide CDTI/INTA-CAB with required technical information and access to such technical documents and meetings (excluding detailed design, development, or production technical data) of the MSL spacecraft and mission architecture to permit CDTI/INTA-CAB and/or its contractors to properly define, design, and build the REMS instrument suite, associated hardware and mission operations support systems, and provide other such technical data that the Parties deem appropriate to discuss, review, and assess compliance with mission requirements;

2.15 Provide for the collection and transmission of all of the mission scientific data from REMS;

ARTICLE 3 – CDTI and INTA-CAB RESPONSIBILITIES

CDTI and INTA-CAB shall use reasonable efforts to carry out the following responsibilities:

3.1 Support the required reviews for development of all hardware including Preliminary Design Review (PDR), Critical Design Review (CDR), Mission Readiness Review (MRR), Technical Readiness Review (TRR), and pre-ship reviews;

3.2 Participate in activities necessary to support development of plans for the MSL Mission operations phase, as mutually agreed, including data analysis;

3.3 Participate in the MSL Project Science Group (PSG) as appropriate;

In support of the HGA:

3.4 Develop the required breadboard, EQM, and flight models of the HGA subsystem in accordance with specifications issued by NASA;

3.5 Support testing and calibration of the HGA subsystem EQM and flight models in accordance with specifications issued by NASA;

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3.6 Deliver to JPL one EQM HGA subsystem, one complete flight HGA subsystem, a flight spare antenna, and flight spare parts for the gimbal;

3.7 Provide to NASA the necessary interface, safety, and planetary protection information for accommodation of the HGA subsystem supplied hardware within the payload and spacecraft;

3.8 Support the integration, testing, and validation of the HGA subsystem as needed with the MSL, as mutually agreed, at the MSL integration and test facilities at JPL;

3.9 Support launch operations as needed with respect to the HGA subsystem-delivered hardware and the relevant interfaces at Cape Canaveral, Florida;

3.10 Ensure material and biological contamination constraints are met on all HGA hardware;

In support of REMS:

3.11 Identify and support a designated Principal Investigator (PI) to lead the REMS instrument suite development and support its affiliated researchers and staff working on the REMS instrument suite, in the design, development, delivery, and integration of scientific hardware;

3.12 Produce and deliver the Experiment Implementation Plan, Experiment Operations Plan, Instrument Functional Requirements Document, Mission Assurance Plan, and other required documentation to the MSL Project to permit a full understanding of the development plans and schedules for the REMS instrument suite, as well as operating context and interactions of REMS systems with MSL systems and how best to accommodate the REMS instrument suite;

3.13 Deliver the required units of the REMS instrument suite in a timely manner to JPL, or to another NASA-designated facility, for integration and testing. Activities will include:

(a) Support of the MSL project definition of detailed scientific, functional and programmatic requirements, interfaces, accommodation, reliability and environmental requirements design (including architectures for fault tolerance, flight software, etc.) schedule, review, and insight/oversight for the REMS instrument suite;

(b) Design, fabrication, and delivery of the REMS instrument suite, including all required flight models, engineering models and ground support equipment, as defined in the REMS Experiment Implementation Plan;

(c) Delivery of all test data and certifications required to ensure that the REMS instrument suite meets the requirements and specifications identified in the MSL project requirements, the REMS Experiment Implementation Plan, the Instrument Functional Requirements Document, the Mission Assurance Plan, the REMS/Spacecraft Interface Control Document, MSL/REMS interface agreements, and the standard requirements of CDTI, INTA-CAB, and the European Space Agency (ESA) for scientific space instrumentation;

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(d) Support of and participation in necessary instrument-level reviews and delivery of documentation to permit NASA validation and verification of interface design and interoperability requirements compliance by the REMS instrument suite;

(e) Conducting pre-delivery verification and calibration to assure the delivered hardware meets all requirements;

(f) Support of all necessary integration and testing of the final REMS instrument suite with the spacecraft; and,

(g) Provision to NASA of the required technical designs and access to design and other such technical reviews of the REMS systems, including risk identification and mitigation plans and other such technical data that the Parties deem appropriate to discuss, review, and assess compliance with mission design requirements;

3.14 Assure that material and biological contamination constraints are met, and that the REMS instrument suite is capable of meeting project specified encapsulation requirements;

3.15 Provide to NASA the necessary interface, safety, and planetary protection information for integration of the REMS hardware within the payload and spacecraft;

3.16 Provide the necessary operational support for commanding and data processing of REMS during the performance tests and verification;

ARTICLE 4 – IMPLEMENTATION AND PROGRAM MANAGEMENT

4.1 The NASA Mars Exploration Program Director, within the Science Mission Directorate, is responsible for the overall NASA Mars Exploration Program, is supported by mission-specific program executives, and is responsible for oversight of all NASA Mars exploration robotic flight program activities, as well as formal programmatic liaison with CDTI and INTA-CAB and liaison and coordination with other U.S. Government agencies.

4.2 The NASA MSL Program Executive is responsible for the definition, integration, and assessment of all activities related to the MSL mission. The MSL Program Executive is also the principal point of contact for NASA in the performance of this IA.

4.3 The Mars Lead Program Scientist is the primary point of contact for international discussions of Mars Exploration Program science policy. Mission-specific NASA program scientists support this point of contact.

4.4 NASA has designated JPL to lead the formulation and implementation of the MSL mission. An MSL Project Office has been established for this purpose, and an MSL Project Manager has been assigned. This Project Office is part of the JPL Mars Program Office.

4.5 For CDTI, the Head of the Science Industry and Space Department, within the Directorate for Global Innovative Markets, is responsible for overall programmatic management of the Spanish-sponsored MSL contributions and the principal point of contact for CDTI in the performance of this IA.

4.6 INTA-CAB, and the REMS PI, as designated by CDTI, are responsible for the scientific management of REMS. This includes the participation of the PI for REMS in the MSL PSG. For scientific analysis of REMS data, a science team shall be created by the Spanish PI, with participation of Spanish and U.S. scientists.

4.7 The MSL PSG has been established to set all scientific protocols for the MSL mission.

4.8 For the purposes of timely delivery, assembly, and successful operation of the REMS instrument suite and HGA aboard the MSL spacecraft, CDTI and INTA-CAB researchers and contractors shall carry out their technical activities in direct cooperation with JPL and, as requested and agreed by NASA, JPL contractors for the spacecraft.

4.9 Each Party will provide, on occasion, as mutually agreed, for their representatives to visit one another's facilities to participate in integration and testing and to observe, confer with and advise the other Party in regard to aspects of design and development of compatible hardware interfaces, integration, and testing, as well as any activities required to assure safe, reliable operations of the hardware as part of the overall MSL system.

ARTICLE 5 - SHARING AND DISTRIBUTION OF SCIENTIFIC DATA

5.1 Science data obtained by the MSL mission investigators are to be released to the scientific community after a period of no longer than 6 months. The 6-month period begins with the receipt by the PIs of usable scientific data, ground-based and flight calibration data, and any associated MSL data in a form suitable for analysis. At the end of this period, the scientific data will become publicly available, as specified in the following paragraph.

5.2 MSL mission investigators shall share data, interpretations, pre-publication manuscripts, and presentations with other investigators of the MSL mission, including Interdisciplinary Scientists and Participating Scientists in as close to real time as possible, to enhance the scientific return from the mission under procedures defined by the MSL PSG. Following the 6-month period defined above, all scientific and ancillary MSL data records will be submitted to NASA's Planetary Data System (PDS) in accordance with PDS standards and policies on suitable data levels.

5.3 Data to be submitted to the MSL mission will be archived with the PDS and include all edited telemetry data (Committee on Data Management and Archive (CODMAC) Level 2 data), full resolution calibrated data (CODMAC Level 3), calibration documentation, and higher level products such as maps.

5.4 The Parties shall have the right to use the data, processed and unprocessed, at any time for support of their respective responsibilities to the mission, but shall not prejudice the mission

investigators' first publication rights. The publication policy coordination and implementation will be the responsibility of the MSL PSG.

5.5 The Parties and their investigators at any level, including co-investigators, collaborators, and other associated scientists, shall have full and immediate access to scientific data obtained from their respective investigations. The Parties shall work to ensure that all investigators have access to other telemetered science and engineering data relevant to the calibration/validation of the respective investigations.

5.6 Copies of all publications and reports detailing the scientific results of the MSL mission investigations shall be provided to the PDS, as well as the data modules on which they are based. The PDS shall, in turn, submit these publications and reports to NASA's National Space Science Data Center (NSSDC), where appropriate. Such publications and reports shall include a suitable acknowledgement of the services afforded by the contributions or the cooperation of either Party.

ARTICLE 6 - FINANCIAL ARRANGEMENTS

NASA and CDTI and INTA-CAB shall each bear the costs of discharging their respective responsibilities, including travel and subsistence of personnel and transportation of all equipment and other items for which it is responsible. Further, the obligations of NASA and CDTI and INTA-CAB under this IA are subject to the availability of appropriated funds. Should either Party encounter budgetary problems that may affect the activities to be carried out under this IA, the Party encountering the problems shall notify and consult with the other Party as soon as possible.

ARTICLE 7 – LIABILITY AND RISK OF LOSS

7.1 The objective of this Article is to establish a cross-waiver of liability in the interest of encouraging participation in the exploration, exploitation, and use of outer space. The Parties intend that the cross-waiver of liability be broadly construed to achieve this objective.

7.2 For purposes of this Article:

(a) The term "Damage" means:

(i) Bodily injury to, or other impairment of health of, or death of, any person;

(ii) Damage to, loss of, or loss of use of any property;

(iii) Loss of revenue or profits; or

(iv) Other direct, indirect, or consequential Damage.

(b) The term "Launch Vehicle" means an object, or any part thereof, intended for launch, launched from Earth, or returning to Earth which carries Payloads, persons, or both.

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(c) The term "Payload" means all property to be flown or used on or in a Launch Vehicle.

(d) The term "Protected Space Operations" means all Launch Vehicle or Transfer Vehicle activities and Payload activities on Earth, in outer space, or in transit between Earth and outer space in implementation of an agreement for launch services. Protected Space Operations begins at the signature of this IA and ends when all activities done in implementation of this IA are completed. It includes, but is not limited to:

(i) Research, design, development, test, manufacture, assembly, integration, operation, or use of Launch Vehicles or Transfer Vehicles, Payloads, or instruments, as well as related support equipment and facilities and services; and

(ii) All activities related to ground support, test, training, simulation, or guidance and control equipment and related facilities or services.

"Protected Space Operations" excludes activities on Earth that are conducted on return from space to develop further a Payload's product or process for use other than for the activities within the scope of an agreement for launch services.

(e) The term "Related Entity" means:

(i) A contractor or subcontractor of a Party at any tier;

(ii) A user or customer of a Party at any tier; or

(iii) A contractor or subcontractor of a user or customer of a Party at any tier.

The terms "contractor" and "subcontractor" include suppliers of any kind.

The term "Related Entity" may also apply to a State, or an agency or institution of a State, having the same relationship to a Party as described in paragraphs 2(e)(i) through 2(e)(iii) of this Article, or otherwise engaged in the implementation of Protected Space Operations as defined in paragraph 2(d) above.

(f) The term "Transfer Vehicle" means any vehicle that operates in space and transfers Payloads or persons or both between two different space objects, between two different locations on the same space object, or between a space object and the surface of a celestial body. A Transfer Vehicle also includes a vehicle that departs from and returns to the same location on a space object.

7.3 Cross-waiver of liability:

(a) Each Party agrees to a cross-waiver of liability pursuant to which each Party waives all claims against any of the entities or persons listed in paragraphs 3(a)(i) through 3(a)(iv) of this Article based on Damage arising out of Protected Space Operations. This

cross-waiver shall apply only if the person, entity, or property causing the Damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations. The cross-waiver shall apply to any claims for Damage, whatever the legal basis for such claims, against:

(i) The other Party;

(ii) A Party to another NASA agreement that includes flight on the same Launch Vehicle;

(iii) A Related Entity of any entity identified in paragraphs 3(a)(i) or 3(a)(ii) of this Article; or

(iv) The employees of any of the entities identified in paragraphs 3(a)(i) through 3(a)(iii) of this Article.

(b) In addition, each Party shall extend the cross-waiver of liability, as set forth in paragraph 3(a) of this Article, to its own Related Entities by requiring them, by contract or otherwise, to:

(i) Waive all claims against the entities or persons identified in paragraphs 3(a)(i) through 3(a)(iv) of this Article; and

(ii) Require that their Related Entities waive all claims against the entities or persons identified in paragraphs 3(a)(i) through 3(a)(iv) of this Article.

(c) For avoidance of doubt, this cross-waiver of liability includes a cross-waiver of claims arising from the Convention on International Liability for Damage Caused by Space Objects, done on March 29, 1972, where the person, entity, or property causing the Damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations.

(d) Notwithstanding the other provisions of this Article, this cross-waiver of liability shall not be applicable to:

(i) Claims between a Party and its own Related Entity or between its own Related Entities;

(ii) Claims made by a natural person, his/her estate, survivors, or subrogees (except when a subrogee is a Party to this IA or is otherwise bound by the terms of this cross-waiver) for bodily injury to, or other impairment of health of, or death of, such person;

(iii) Claims for Damage caused by willful misconduct;

(iv) Intellectual property claims;

(v) Claims for Damage resulting from a failure of a Party to extend the cross-waiver of liability to its Related Entities, pursuant to paragraph 3(b) of this Article; or

(vi) Claims by a Party arising out of or relating to another Party's failure to perform its obligations under this IA.

(e) Nothing in this Article shall be construed to create the basis for a claim or suit where none would otherwise exist.

7.4 In the event of third-Party claims for which the Parties may be liable, the Parties shall consult promptly to determine an appropriate and equitable apportionment of any potential liability and on the defense of any such claims.

7.5 Except as otherwise provided in 7.3(c), nothing in this IA shall affect liability, if any, pursuant to the Convention on International Liability for Damage Caused by Space Objects (Liability Convention), done on March 29, 1972. In the event of a claim arising out of the Liability Convention, the Parties shall request that their respective governments consult promptly on any potential liability, on any apportionment of such liability, and on the defense of such claim.

ARTICLE 8 - REGISTRATION OF SPACE OBJECTS

NASA shall request that its Government register the MSL spacecraft as a space object in accordance with the Convention on the Registration of Objects Launched into Outer Space, done on November 12, 1974 (the Registration Convention). However, exercise of jurisdiction and control over MSL shall be subject to the relevant provisions of this IA. Registration pursuant to this Article shall not affect the rights or obligations of the Parties under the Liability Convention.

ARTICLE 9 -TRANSFER OF GOODS AND TECHNICAL DATA

The Parties are obligated to transfer only those technical data (including software) and goods necessary to fulfill their respective responsibilities under this IA, in accordance with the following provisions, notwithstanding any other provisions of this IA:

9.1 All activities under this IA shall be carried out in accordance with the Parties' national laws and regulations, including those laws and regulations pertaining to export control and the control of classified information.

9.2 The transfer of technical data for the purpose of discharging the Parties' responsibilities with regard to interface, integration, and safety shall normally be made without restriction, except as required by paragraph 9.1, above.

9.3 All transfers of goods and proprietary or export-controlled technical data are subject to the following provisions.

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(a) In the event a Party or its Related Entity (defined for the purpose of this Article as contractors, subcontractors, grantees, or cooperating entities, or any lower tier contractor, subcontractor, grantee, or cooperating entities of a Party) finds it necessary to transfer such goods or data, for which protection is to be maintained, such goods shall be specifically identified and such data shall be marked.

(b) The identification for such goods and the marking on such data shall indicate that the goods and data shall be used by the receiving Party and its Related Entities only for the purposes of fulfilling the receiving Party's or Related Entities' responsibilities under this IA, and that such goods and data shall not be disclosed or retransferred to any other entity without the prior written permission of the furnishing Party or its Related Entity.

(c) The receiving Party or Related Entity shall abide by the terms of the notice and protect any such goods and data from unauthorized use and disclosure.

(d) The Parties to this IA shall cause their Related Entities to be bound by the provisions of this Article through contractual mechanisms or equivalent measures.

9.4 All goods exchanged in the performance of this IA shall be used by the receiving Party or Related Entity exclusively for the purposes of the IA. Upon completion of the activities under the IA, the receiving Party or Related Entity shall return or otherwise dispose of all goods and marked proprietary or export-controlled technical data provided under this IA, as directed by the furnishing Party or Related Entity.

ARTICLE 10 - INTELLECTUAL PROPERTY RIGHTS

10.1 Nothing in this IA shall be construed as granting, either expressly or by implication, to the other Party any rights to, or interest in, any inventions or works of a Party or its Related Entities made prior to the entry into force of, or outside the scope of, this IA, including any patents (or similar forms of protection in any country) corresponding to such inventions or any copyrights corresponding to such works.

10.2 Any rights to, or interest in, any invention or work made in the performance of this IA solely by one Party or any of its Related Entities, including any patents (or similar forms of protection in any country) corresponding to such invention or any copyright corresponding to such work, shall be owned by such Party or Related Entity. Allocation of rights to, or interest in, such invention or work between such Party and its Related Entities shall be determined by applicable laws, rules, regulations, and contractual obligations.

10.3 It is not anticipated that there will be any joint inventions made in the performance of this IA. Nevertheless, in the event that an invention is jointly made by the Parties in the performance of this IA, the Parties shall, in good faith, consult and agree within 30 calendar days as to:

(a) The allocation of rights to, or interest in, such joint invention, including any patents (or similar forms of protection in any country) corresponding to such joint invention;

(b) The responsibilities, costs, and actions to be taken to establish and maintain patents (or similar forms of protection in any country) for each such joint invention; and

(c) The terms and conditions of any license or other rights to be exchanged between the Parties or granted by one Party to the other Party.

10.4 For any jointly authored work by the Parties, should the Parties decide to register the copyright in such work, they shall, in good faith, consult and agree as to the responsibilities, costs, and actions to be taken to register copyrights and maintain copyright protection (in any country).

10.5 Subject to the provisions of Article 9 (Transfer of Goods and Technical Data) and Article 11 (Release of Results and Public Information) each Party shall have an irrevocable royalty-free right to reproduce, prepare derivative works, distribute, and present publicly, and authorize others to do so on its behalf, any copyrighted work resulting from activities undertaken in the performance of this IA for its own purposes, regardless of whether the work was created solely by, or on behalf of, the other Party or jointly with the other Party.

ARTICLE 11 - RELEASE OF RESULTS AND PUBLIC INFORMATION

11.1 The Parties retain the right to release public information regarding their own activities under this IA. The Parties shall coordinate with each other in advance concerning releasing to the public information that relates to the other Party's responsibilities or performance under this IA.

11.2 The Parties shall make the final results obtained from the MSL mission available to the general scientific community through publication in appropriate journals or by presentations at scientific conferences as soon as possible and in a manner consistent with good scientific practices.

11.3 The Parties acknowledge that the following data or information does not constitute public information and that such data or information shall not be included in any publication or presentation by a Party under this article without the other Party's prior written permission:

(a) data furnished by the other Party in accordance with Article 9 (Transfer of Goods and Technical Data) of this IA which is export-controlled, classified, or proprietary; or

(b) information about an invention of the other Party before an application for a patent (or similar form of protection in any country) corresponding to such invention has been filed covering the same, or a decision not to file has been made.

ARTICLE 12 - CUSTOMS CLEARANCE AND IMMIGRATION

12.1 In accordance with its laws and regulations, each Party shall facilitate free customs clearance and waiver of all applicable customs duties and taxes for goods necessary for the implementation of this IA. In the event that any customs duties or taxes of any kind are

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nonetheless levied on such equipment and related goods, such customs duties or taxes shall be borne by the Party of the country levying such customs duties or taxes.

12.2 Each of the Parties shall facilitate the movement of persons and goods necessary to comply with this IA into and out of its territory, subject to its laws and regulations.

12.3 Subject to its laws and regulations, each Party shall facilitate provision of the appropriate entry and residence documentation, if required, for the other Party's nationals who enter, exit, or reside within its territory in order to carry out the activities under this IA.

ARTICLE 13 - OWNERSHIP OF EQUIPMENT

Equipment provided by NASA pursuant to this IA shall remain the property of NASA. Equipment provided by CDTI or INTA-CAB pursuant to this IA shall remain the property of CDTI or INTA-CAB until the conclusion of the project, when the ownership of the equipment provided by CDTI or INTA-CAB shall be deemed automatically transferred to NASA. If requested, each Party agrees to return any of the other Party's equipment in its possession to the other Party at the conclusion of the project.

ARTICLE 14 - CONSULTATION AND DISPUTE RESOLUTION

The Parties agree to consult promptly with each other on all issues involving interpretation, implementation, or performance of the IA. Any issue concerning the interpretation, implementation, or performance of this IA shall first be referred to the appropriate points of contact named above (Article 4.2 and 4.5) for the Parties. If they are unable to come to agreement on any issue, then the issue shall be referred to the NASA Administrator and the CDTI Director General and INTA Director General, or their designated representatives, for joint resolution.

ARTICLE 15 - MISHAP INVESTIGATION

In the case of a mishap or mission failure, the Parties agree to provide assistance to each other in the conduct of any investigation, bearing in mind, in particular, the provisions of Article 9 (Transfer of Goods and Technical Data). In the case of activities which might result in the death of or serious injury to persons, or substantial loss of or damage to property as a result of activities under this IA, the Parties agree to establish a process for investigating each such mishap as part of their program/project implementation agreements.

ARTICLE 16 – AMENDMENT AND EXTENSION

This IA may be amended or extended at any time by mutual written agreement.

ARTICLE 17 - ENTRY INTO FORCE AND TERM OF IA

This IA shall enter into force upon signature and shall remain in force until December 31, 2015, unless terminated by one Party by providing at least ninety (90) days advance written notice to the other Party of its intent to terminate. The obligations of the Parties set forth in Article 7 (Liability and Risk of Loss); Article 9 (Transfer of Goods and Technical Data); and Article 10 (Intellectual Property Rights) of this IA shall continue to apply after the expiration or termination of this IA. In the event of termination, the Parties shall endeavor to minimize the negative impacts of any such termination on the other Party.

Done at Madrid, in three originals, in the English language, this seventeenth day of March 2011.

AMBASSADOR ALAN D. SOLOMONT
FOR THE NATIONAL AERONAUTICS
AND SPACE ADMINISTRATION
OF THE UNITED STATES OF AMERICA:

DIRECTOR GENERAL ARTURO AZCORRA
FOR THE CENTER FOR THE
DEVELOPMENT OF INDUSTRIAL
TECHNOLOGY OF SPAIN:

DIRECTOR GENERAL JAIME DENIS
FOR THE NATIONAL INSTITUTE FOR
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