

SPACE COOPERATION

European Space Agency-led Bepi Colombo Mission

Agreement Between the UNITED STATES OF AMERICA and ITALY

Effected by Exchange of Notes at
Washington August 20 and September 27, 2013

with

Memorandum of Understanding



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.”

ITALY

**Space Cooperation: European Space Agency-led
Bepi Colombo Mission**

*Agreement effected by exchange of notes at
Washington August 20 and September 27, 2013;
Entered into force September 27, 2013.
With memorandum of understanding.*

20 August 2013

Excellency:

I have the honor to refer to the recent discussions between representatives of the Government of the United States of America and the Government of the Italian Republic concerning the terms and conditions whereby the National Aeronautics and Space Administration of the United States of America (NASA) and the Italian Space Agency (ASI) will undertake cooperation on the European Space Agency-led BepiColombo mission.

On behalf of the Government of the United States of America, I propose that cooperation between the two Governments on this project shall be in accordance with the terms and conditions set forth in the enclosed Memorandum of Understanding, signed June 20, 2013, between NASA and ASI.


His Excellency
Claudio Bisogniero,
Ambassador of Italy.

DIPLOMATIC NOTE

If the foregoing proposal is acceptable to the Government of the Italian Republic, I further propose that this note, including the enclosed Memorandum of Understanding, and your affirmative reply shall constitute an agreement between the two Governments which shall enter into force on the date of your reply and shall remain in force until the expiration or termination of the Memorandum of Understanding, in accordance with the terms thereof.

Accept, Excellency, the renewed assurances of my highest consideration.

For the Secretary of State:

A handwritten signature in black ink, appearing to be 'J. A. ...', written over a horizontal line.

Enclosure:

As stated.



Embassy of Italy
Washington, D.C. 20008

NOTE VERBALE

Prot. 4436

The Embassy of Italy presents its compliments to the U.S. Department of State and has the honour to refer to the note from the U.S. Government dated August 20th, 2013 concerning the terms and conditions whereby the National Aeronautics and Space Administration (NASA) and the Italian Space Agency (ASI) will undertake cooperation on the European Space Agency-led Bepi Colombo Mission.

The note is quoted as follows:

"I have the honor to refer to the recent discussions between representatives of the Government of the United States of America and the Government of the Italian Republic concerning the terms and conditions whereby the National Aeronautics and Space Administration (NASA) and the Italian Space Agency (ASI) will undertake cooperation on the European Space Agency-led Bepi Colombo Mission.

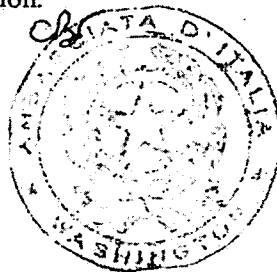
On behalf of the Government of the United States of America, I propose that the cooperation between the two Governments on this project shall be in accordance with the terms and conditions set forth in the Memorandum of Understanding, signed June 20th, 2013 between NASA and ASI.

If the foregoing proposal is acceptable to the Government of the Italian Republic, I further propose that this note, including the enclosed Memorandum of Understanding, and Your Excellency's affirmative reply shall constitute an agreement between the two Governments which shall enter into force on the date of Your Excellency's reply, and shall remain in force until the expiration or termination of the Memorandum of Understandings, in accordance with the terms thereof."

On behalf of the Government of the Italian Republic, the Embassy of Italy agrees that this Note, together with the note from the U.S. Government dated August 20th, 2013, shall constitute an agreement and shall be in accordance with the terms and conditions, in particular Article 18, set forth in the Memorandum of Understanding, signed June 20th, 2013 between NASA and ASI.

The Embassy of Italy avails itself of the opportunity to renew to the U.S. Department of State the assurances of its highest consideration.

Washington, DC SEP 27 2013



U.S. Department of State
Washington, DC 20520

MEMORANDUM OF UNDERSTANDING

BETWEEN THE

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
OF THE UNITED STATES OF AMERICA**

AND THE

ITALIAN SPACE AGENCY

CONCERNING THE

BEPICOLOMBO MISSION

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PREAMBLE

The National Aeronautics and Space Administration of the United States of America (hereinafter referred to as "NASA"), and

The Italian Space Agency (hereinafter referred to as "ASI"),

Collectively hereinafter referred to as "the Parties":

CONSIDERING that NASA and ASI have expressed mutual interest in pursuing cooperation on the European Space Agency (ESA)-led BepiColombo mission to Mercury;

CONSIDERING that a NASA instrument, named the Strofio instrument, is part of the selected BepiColombo mission;

CONSIDERING that Strofio is part of the Search for Exospheric Refilling and Emitted Natural Abundances (SERENA) Italian-led instrument suite;

CONSIDERING that ASI has the responsibility to develop and deliver the SERENA instrument suite to ESA under the terms of the Multilateral Agreement concerning the provision of the Mercury Planetary Orbiter (MPO) payload for the BepiColombo mission, signed by ASI, ESA and all the MPO Lead Funding Agencies on May 24, 2007;

CONSIDERING that NASA and ASI have a long history of cooperation in the exploration of the solar system; and

RECALLING the interim agreement of September 23, 2010, between NASA and ASI for cooperation on the Strofio instrument on the BepiColombo mission;

HAVE AGREED as follows:

ARTICLE 1 – SCOPE

- 1.1 This Memorandum of Understanding (MOU) defines the responsibilities, as well as the terms and conditions, by which the cooperation between the Parties will be conducted within the framework of the ESA-led BepiColombo mission.
- 1.2 The primary activities addressed in this MOU concern cooperation between the Parties on the provision by NASA of the Strofio instrument for the ESA-led BepiColombo mission.

ARTICLE 2 – THE BEPICOLOMBO MISSION

- 2.1 BepiColombo is a planned two spacecraft mission consisting of the ESA-provided MPO and the Japan Aerospace Exploration Agency (JAXA)-provided Mercury Magnetospheric Orbiter (MMO). The MPO will study the surface and internal composition of the planet, while the MMO will study Mercury's magnetosphere. Strofio, as part of the SERENA suite of instruments onboard the MPO, is designed to obtain the first direct measurements of absolute abundances, both chemical and

isotopic, of the exospheric constituents sampled along the low-altitude polar orbit of the MPO spacecraft. Strofio is the only instrument that can detect all neutral species reaching the spacecraft, not just those with emissions or absorptions at specific wavelengths, as with optical and x-ray spectrometers. In contrast with optical techniques, Strofio can make measurements with high sensitivity, both in full sunlight and in Mercury's shadow. This unique capability enables Strofio to determine the diurnal and latitudinal variations in Mercury's exosphere that are critical to understanding its origins and variability. Strofio will operate with the other components of the SERENA instrument suite: the Emitted Low-Energy Neutral Atoms (ELENA), Miniature Ion Precipitation Analyzer (MIPA), and Planetary Ion Camera (PICAM).

- 2.2 The BepiColombo mission is scheduled to be launched by ESA in 2015 aboard an Ariane V launch vehicle from Kourou, French Guiana.
- 2.3 Dr. Stefano Livi of the Southwest Research Institute has been selected as the Principal Investigator (PI) for the Strofio Instrument through NASA's Stand Alone Mission of Opportunity Notice (SALMON) Announcement of Opportunity, NNH08ZDA0090. Dr. Livi will serve as one of three international Co-PIs of the ASI-led SERENA instrument suite under the direction of the SERENA PI, Dr. Stefano Orsini of the Istituto di Astrofisica e Planetologia Spaziali at the Istituto Nazionale di AstroFisica.

ARTICLE 3 – DEFINITIONS

- 3.1 For the purpose of this MOU the term "Related Entity" means:
- (a) A contractor or subcontractor of a Party at any tier;
 - (b) A grantee or any other cooperating entity or investigator of a Party at any tier;
or
 - (c) A contractor or subcontractor of a grantee or any other cooperating entity or investigator of a Party at any tier.
- 3.2 For the purpose of Article 8 (Liability and Risk of Loss), the term "Related Entity" also means:
- (a) A user or customer of a Party at any tier; or
 - (b) A contractor or subcontractor of a user or customer of a Party at any tier.

It may also include another State or an agency or institution of another State, where such State, agency, or institution is an entity described above or is otherwise involved in the activities undertaken pursuant to this MOU.

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

ARTICLE 4 – RESPONSIBILITIES

- 4.1 NASA will use reasonable efforts to carry out the following responsibilities:

- (a) Design, fabricate, and test the Strofio instrument;
- (b) Manage the development activities of the Strofio instrument including costs, schedule, project risk, staffing, team communications, and contract management;
- (c) Establish and operate a systems engineering process to oversee requirements, interfaces, resources, and technical risks for Strofio;
- (d) Establish and operate a mission assurance activity to implement a quality, safety, and reliability program for Strofio;
- (e) Design, build, and test a Strofio Structural/Thermal Model instrument and deliver it to the SERENA PI;
- (f) Design, build, and test a Strofio Electrical Model instrument and deliver it to the SERENA PI;
- (g) Design, build, test, and calibrate a Strofio Protoflight Model (PFM) and deliver it to the SERENA PI;
- (h) Provide engineering support during all integration and test activities;
- (i) Deliver a fully qualified and calibrated Strofio PFM instrument to the SERENA Integration and Test facility and support the checkout of the PFM instrument with the SERENA digital processing unit hardware and software;
- (j) Support the integration of the Strofio PFM instrument with the BepiColombo spacecraft;
- (k) Support commissioning of the Strofio instrument after launch;
- (l) Operate the Strofio instrument during cruise and Mercury orbit operations;
- (m) Acquire, archive, and distribute Strofio science data products;
- (n) Build and manage the Strofio science team in coordination with the SERENA PI;
- (o) Participate in the SERENA Science Working Group; and
- (p) Participate in all the relevant ESA reviews for the Strofio instrument.

4.2 ASI will use reasonable efforts to carry out the following responsibilities:

- (a) Organize and manage the partner consortium for the suite of instruments that constitutes SERENA, which includes the Strofio instrument;

- (b) Provide SERENA system engineering support for the suite of instruments, including definition and control of interfaces, resources, and operations;
- (c) Provide the formal interface with ESA;
- (d) Develop the common System Control Unit for use in controlling and monitoring the SERENA suite of instruments;
- (e) Verify and accept the SERENA suite of instruments;
- (f) Integrate and test the SERENA suite of instruments;
- (g) Provide the facilities, ground support equipment, contamination control practices and procedures, test equipment, and test technicians and quality assurance personnel to support the integration and testing of the SERENA suite of instruments;
- (h) Supply clean room garments, purge gas, and work space for all SERENA instrument teams in support of integration and testing of the SERENA suite of instruments;
- (i) Deliver SERENA to ESA;
- (j) Support the integration of the SERENA suite of instruments with the ESA-provided BepiColombo spacecraft;
- (k) Organize and manage the SERENA science team;
- (l) Coordinate the SERENA science team activities with the BepiColombo science team;
- (m) Manage the operation of the SERENA suite of instruments in-flight;
- (n) Provide in-flight data processing support as needed by the SERENA instrument teams; and
- (o) Arrange and coordinate SERENA Technical Interchange Meetings and science team meetings.

ARTICLE 5 – RIGHTS IN AND DISTRIBUTION OF SCIENTIFIC DATA

- 5.1 Science data obtained by the Strofio instrument investigators are to be managed according to the BepiColombo Science Management Plan and released to the scientific community after a period of no longer than six months. The six-month period begins with the receipt by the PIs of usable scientific data, ground-based and flight calibration data, and any associated BepiColombo 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 Strofio instrument investigators will share data, interpretations, pre-publication manuscripts, and presentations with other investigators of the SERENA team in as close to real time as possible, to enhance the scientific return from the BepiColombo mission under procedures defined by the BepiColombo Project Science Group. Following the six-month period defined in paragraph 5.1, all scientific and ancillary Strofio data records will be made publically available through submission to ESA's Planetary Science Archive and NASA's Planetary Data System (PDS) in accordance with PDS standards and policies on suitable data levels.
- 5.3 Data to be submitted by the Strofio instrument team 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 data), calibration documentation, and higher level products such as maps.
- 5.4 The Parties will have the right to use the data, processed and unprocessed, at any time for support of their respective responsibilities to the BepiColombo mission.
- 5.5 The Parties and their investigators at any level, including co-investigators, collaborators, and other associated scientists, will have full and immediate access to scientific data obtained from their respective investigations. The Parties will 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 Strofio instrument investigations will be provided to the PDS, as well as the data modules on which they are based. The PDS will, in turn, submit these publications and reports to NASA's National Space Science Data Center, where appropriate. Such publications and reports will include a suitable acknowledgement of the services afforded by ESA and the contributions or the cooperation of either Party.

ARTICLE 6 – FINANCIAL ARRANGEMENTS

- 6.1 Each Party will bear the costs of discharging its respective responsibilities, including travel and subsistence of personnel and transportation of all equipment and other items for which it is responsible.
- 6.2 The Parties' obligations under this MOU 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 MOU, the Party encountering the problems will notify and consult with the other Party as soon as possible.

ARTICLE 7 – MANAGEMENT/POINTS OF CONTACT

- 7.1 NASA's Planetary Science Division Director, within the Science Mission Directorate, is responsible for all NASA Planetary Science activities, including the Discovery Program. The Division Director serves as the formal programmatic liaison in matters relevant to NASA's Planetary Science activities with international partners, including ASI, and provides liaison and coordination with other U.S. Government agencies.

- 7.2 NASA's Strofio Project Manager is responsible for the definition, integration, and assessment of all activities related to the BepiColombo mission. The Strofio Project Manager serves as the principal point of contact for NASA in the performance of this MOU.
- 7.3 The SERENA PI is the primary point of contact for international discussions on the BepiColombo mission's science goals, objectives, and policies, including the Strofio payload.
- 7.4 The appropriate NASA Project Office is part of the Discovery and New Frontiers Program Office, located at NASA's Marshall Space Flight Center (MSFC) in Huntsville, Alabama.
- 7.5 For ASI, the Head of the Exploration and Observation of the Universe Unit is responsible for overall programmatic management of the Italian-sponsored BepiColombo contributions. The Head of the Exploration and Observation of the Universe Unit is also the principal point of contact for ASI in the performance of this MOU. An ASI SERENA BepiColombo Project Manager has been appointed.

ARTICLE 8 – LIABILITY AND RISK OF LOSS

- 8.1 The Parties agree that 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.
- 8.2 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.
 - (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 activities, including Launch Vehicle activities and Payload activities on Earth, in outer space, or in transit between Earth and outer space, in implementation of this MOU. Protected Space Operations begins at the signature of this MOU and ends when all

activities done in implementation of this MOU are completed. It includes, but is not limited to:

- (i) Research, design, development, test, manufacture, assembly, integration, operation, or use of Launch 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 this MOU.

8.3 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)(iii) of this Article based on Damage arising out of Protected Space Operations. This cross-waiver will 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 will apply to any claims for Damage, whatever the legal basis for such claims, against:
 - (i) The other Party;
 - (ii) A Related Entity of any entity identified in paragraph 3(a)(i) of this Article; or
 - (iii) The employees of any of the entities identified in paragraphs 3(a)(i) or 3(a)(ii) of this Article.
- (b) In addition, each Party will 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)(iii) 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)(iii) 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 (hereinafter the "Liability Convention"), 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 will 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 MOU 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 the other Party's failure to perform its obligations under this MOU.
- (e) Nothing in this Article will be construed to create the basis for a claim or suit where none would otherwise exist.
- (f) In the event of third-party claims which may arise out of, *inter alia*, the Liability Convention, the Parties will consult promptly on any potential liability, on any apportionment of such liability, and on the defense of such claim.

ARTICLE 9 – REGISTRATION OF SPACE OBJECTS

- 9.1 The Parties understand that ESA will register BepiColombo 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). The Parties acknowledge that ESA will retain jurisdiction and control over BepiColombo.

ARTICLE 10 – 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 MOU, in accordance with the following provisions, notwithstanding any other provisions of this MOU:

- 10.1 All activities under this MOU will 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.

- 10.2 The transfer of technical data for the purpose of discharging the Parties' responsibilities with regard to interface, integration, and safety will normally be made without restriction, except as required by paragraph 10.1, above.
- 10.3 All transfers of goods and proprietary or export-controlled technical data are subject to the following provisions.
- (a) In the event a Party or its Related Entity finds it necessary to transfer such goods or data, for which protection is to be maintained, such goods will be specifically identified and such data will be marked.
 - (b) The identification for such goods and the marking on such data will indicate that the goods and data will 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 MOU, and that such goods and data will not be disclosed or retransferred to any other entity without the prior written permission of the furnishing Party.
 - (c) The receiving Party and its Related Entities will abide by the terms of the notice and protect any such goods and data from unauthorized use and disclosure.
 - (d) The Parties to this MOU will cause their Related Entities to be bound by the provisions of this Article through contractual mechanisms or equivalent measures.
- 10.4 All goods exchanged in the performance of this MOU will be used by the receiving Party or Related Entity exclusively for the purposes of the MOU. Upon completion of the activities under this MOU, the receiving Party or Related Entity will return or otherwise dispose of all goods and marked proprietary or export-controlled technical data provided under this MOU, as directed by the furnishing Party or Related Entity.

ARTICLE 11 – INTELLECTUAL PROPERTY RIGHTS

- 11.1 Nothing in this MOU will 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 MOU, including any patents (or similar forms of protection in any country) corresponding to such inventions or any copyrights corresponding to such works.
- 11.2 Any rights to, or interest in, any invention or work made in the performance of this MOU 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, will 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 will be determined by applicable laws, rules, regulations, and contractual obligations.
- 11.3 It is not anticipated that there will be any joint inventions made in the performance of this MOU. Nevertheless, in the event that an invention is jointly made by the Parties

in the performance of this MOU, the Parties will, 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.
- 11.4 For any jointly authored work by the Parties, should the Parties decide to register the copyright in such work, they will, 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).
- 11.5 Subject to the provisions of Article 10 (Transfer of Goods and Technical Data) and Article 12 (Release of Results and Public Information), each Party will 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 MOU 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 12 – RELEASE OF RESULTS AND PUBLIC INFORMATION

- 12.1 The Parties retain the right to release public information regarding their own activities under this MOU. The Parties will coordinate with each other in advance concerning releasing to the public information that relates to the other Party's responsibilities or performance under this MOU. Full acknowledgement will be made by both Parties of the role of the other Party in the BepiColombo mission. In all publications concerning the BepiColombo mission and its results, the Parties will acknowledge that BepiColombo is an ESA-led mission with instruments funded by the ESA Member States to which NASA contributed, through ASI, with the Strofio instrument.
- 12.2 The Parties will make the results available to the general scientific community, in compliance with the BepiColombo Science Management Plan and, as appropriate and agreed between the Parties, in a timely manner.
- 12.3 The Parties acknowledge that the following data or information does not constitute public information and that such data or information will 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 10 (Transfer of Goods and Technical Data) which is identified as 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 13 – EXCHANGE OF PERSONNEL AND ACCESS TO FACILITIES

- 13.1 To facilitate implementation of the activities conducted under this MOU, the Parties may support the exchange of a limited number of personnel, including contractors and subcontractors, from each Party, at an appropriate time and under conditions mutually agreed between the Parties.
- 13.2 Access by the Parties to each other's facilities or property, or to each other's Information Technology (IT) systems or applications, is contingent upon compliance with each other's respective security and safety policies and guidelines including, but not limited to: standards on badging, credentials, and facility and IT system application/access.

ARTICLE 14 – CUSTOMS CLEARANCE AND MOVEMENT OF GOODS

- 14.1 In accordance with its laws and regulations, each Party will facilitate free customs clearance and waiver of all applicable customs duties and taxes for goods necessary for the implementation of this MOU. In the event that any customs duties or taxes of any kind are nonetheless levied on such equipment and related goods, such customs duties or taxes will be borne by the Party of the country levying such customs duties or taxes.
- 14.2 In accordance with its laws and regulations, each of the Parties will also facilitate the movement of goods into and out of its territory as necessary to comply with this MOU.

ARTICLE 15 – OWNERSHIP OF EQUIPMENT

- 15.1 Unless otherwise agreed in writing, each Party will retain ownership of all equipment, including the goods, hardware, software, and associated technical data, it provides to the other Party under the terms of this MOU, without prejudice to any individual rights of ownership of the Parties' respective Related Entities. To the extent feasible and recognizing that equipment sent into space or integrated into the other Party's equipment cannot be returned, each Party agrees to return the other Party's equipment in its possession at the conclusion of activities under this MOU.

ARTICLE 16 – CONSULTATION AND DISPUTE RESOLUTION

- 16.1 The Parties agree to consult promptly with each other on all issues involving interpretation, implementation, or performance of the MOU. Such issues will first be referred to the appropriate points of contact named above for the Parties in Article 7. If they are unable to come to agreement, then the dispute will be referred to the NASA Associate Administrator for the Science Mission Directorate and the ASI Technical Director, or their designated representatives, for joint resolution. Any

dispute which cannot be resolved at this level will be referred to the NASA Administrator and the ASI President, or their designated representatives, for joint resolution.

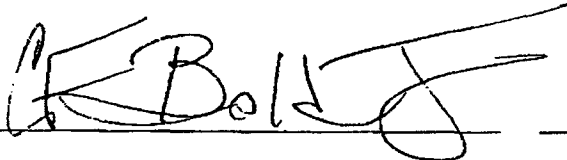
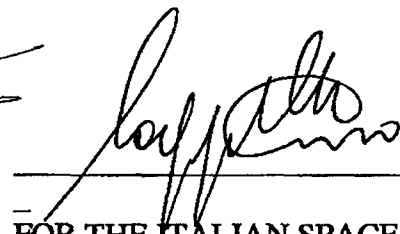
ARTICLE 17 – INVESTIGATIONS OF MISHAPS AND CLOSE CALLS

- 17.1 In the case of a close call, 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 10 (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 MOU, the Parties agree to establish a process for investigating each such mishap.

ARTICLE 18 – ENTRY INTO FORCE, TERM, AMENDMENTS, TERMINATION, AND CONTINUING OBLIGATIONS

- 18.1 This MOU will enter into force upon signature by the Parties and the conclusion of an exchange of diplomatic notes between the Governments of the Parties incorporating its terms and conditions. This MOU will remain in force until December 31, 2023, to permit the completion of the BepiColombo mission and data analysis period. This MOU may be amended by written agreement of the Parties, provided that the exchange of notes remains in force. The interim agreement of September 23, 2010, will terminate upon entry into force of this MOU.
- 18.2 Either Party may terminate this MOU at any time by giving the other Party at least six months' written notice of its intent to terminate. Termination or expiration of this MOU will not affect a Party's continuing obligations under Article 8 (Liability and Risk of Loss), Article 10 (Transfer of Goods and Technical Data), Article 11 (Intellectual Property Rights), and Article 12 (Release of Results and Public Information), unless otherwise agreed by the Parties. In the event of termination, each Party will endeavor to minimize the negative impacts of any such termination on the other Party.

Done in duplicate in the English language.

	
_____ FOR THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION OF THE UNITED STATES OF AMERICA	_____ FOR THE ITALIAN SPACE AGENCY

Date: 20 June 2013

Place: Rome, Italy

Date: 20 / 6 / 2013

Place: Rome