# SPACE COOPERATION

**Arrangement Between**
**the UNITED STATES OF AMERICA**
**and NORWAY**

Signed at Washington and Oslo
May 3 and 10, 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."

# NORWAY

## Space Cooperation

*Arrangement signed at Washington and Oslo*
*May 3 and 10, 2011;*
*Entered into force May 10, 2011.*

# IMPLEMENTING ARRANGEMENT

# BETWEEN

# THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

# OF THE UNITED STATES OF AMERICA

# AND

# THE NORWEGIAN SPACE CENTRE

# OF

# THE KINGDOM OF NORWAY

# ON THE

# USE OF ANALOGUE SITES WITHIN THE UNITED STATES AND NORWAY

BA

**TABLE OF CONTENTS**

PREAMBLE

ARTICLE 1 – PURPOSE OF COOPERATION

ARTICLE 2 – DESCRIPTION OF THE ANALOGUE SITES

ARTICLE 3 – RESPONSIBILITIES

ARTICLE 4 – POINTS OF CONTACT

ARTICLE 5 – LIABILITY

ARTICLE 6 – DATA POLICY

ARTICLE 7 – INTELLECTUAL PROPERTY RIGHTS

ARTICLE 8 – RELEASE OF RESULTS AND PUBLIC INFORMATION

ARTICLE 9 – EXCHANGE OF TECHNICAL DATA AND GOODS

ARTICLE 10 – RELATIONSHIP TO THE FRAMEWORK AGREEMENT

ARTICLE 11 – AMENDMENTS

ARTICLE 12 – ENTRY INTO FORCE AND DURATION



BN

## PREAMBLE

The National Aeronautics and Space Administration of the United States of America (hereinafter referred to as "NASA"), and the Norwegian Space Centre of Norway (hereinafter referred to as "NSC") (hereinafter collectively referred to as the "Implementing Agencies"):

Recognizing that NSC's mission is to promote and guide space research and technology for scientific and technical purposes;

Recognizing that NASA's mission is to pioneer the future in space exploration, scientific discovery, and aeronautics research;

Considering their mutual interest in cooperating in the development and demonstration of planetary science and exploration concepts and technologies of mutual interest related to surface mobility, in-situ resource utilization (ISRU), on-orbit servicing, and related scientific, educational, and public outreach activities, including the use of analogue sites located in both the United States and Norway;

Recalling the terms of the Agreement between the United States of America and the Kingdom of Norway for Cooperation in the Civil Uses of Outer Space, signed on October 20, 2000 and November 14, 2001, as extended (hereinafter referred to as the "Framework Agreement");

Have agreed as follows:

## ARTICLE 1
## PURPOSE OF COOPERATION

The purpose of this Implementing Arrangement is to set forth the respective responsibilities of the Implementing Agencies and the terms and conditions under which they will cooperate in the use of analogue sites in both the United States and the Kingdom of Norway.

## ARTICLE 2
## DESCRIPTION OF THE ANALOGUE SITES

NASA and NSC have determined a number of sites in the United States, such as the Hawaiian Islands, and in the Kingdom of Norway, such as the Svalbard Archipelago, to be important analogues for science-driven and technology development exploration programs on the Moon, Mars and other planetary bodies such as Europa. These regions are of particular interest to both Implementing Agencies as sites for: (a) designing and testing human exploration activities for the Moon and Mars; (b) studying life in extreme and unusual environments; (c) understanding the potential for biosignature preservation; (d) developing instruments for lunar and Mars science; (e) testing surface mobility and ISRU systems and other technologies for future space missions; and (f) demonstrating the achievement of exploration science milestones in visible ways to the public.



BM

It is the intention of the Implementing Agencies to encourage and/or conduct joint planning and field investigations, technology testing, and simulated mission operations to gain a better understanding of the biological and geochemical processes in these analogue sites and gain technology and operational knowledge that would contribute to future planetary missions.

## ARTICLE 3
## RESPONSIBILITIES

### 3.1 NASA Responsibilities

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

1. Facilitate access to mutually agreed-upon analogue sites in the United States for NSC-sponsored personnel and NSC-owned or -sponsored scientific or technology equipment for the purpose of conducting field investigations;

2. Develop, jointly with NSC, plans related to the demonstration of concepts and respective technologies in support of future lunar and planetary surface mobility and ISRU systems, including the requirements for such systems;

3. Deploy NASA-owned or -sponsored scientific or technology equipment, including off-the-shelf meteorological recording instruments, surface mobility and ISRU systems, in mutually agreed-upon analogue sites in Norway and the United States in collaboration with Norwegian scientists or technology developers;

4. Conduct field studies, including astrobiology science experiments, instrument development studies and technology testing, using NASA-owned or -sponsored equipment deployed in analogue sites in Norway and the United States;

5. Encourage and support joint NASA-NSC scientific analysis activities in Norway and the United States by NASA-selected Principal Investigators and Co-Investigators;

6. Encourage and support joint NASA-NSC technology analysis activities in Norway and the United States by NASA-selected teams;

7. Conduct all field activities in accordance with safety and environmental procedures established for that site by the cognizant Norwegian or American authorities;

8. Provide security for NSC-owned or -sponsored equipment at the mutually agreed-upon sites in the United States;

9. Participate, when invited by NSC, in NSC peer review panel processes;

10. Encourage and conduct joint educational and outreach activities involving teachers, students, media, and public outreach programs associated with the field research; and

11. Support the NSC in studies and prototyping activities by providing access to technical data that will help in understanding the user requirements for planetary rovers, surface manipulators, on-orbit servicing robots, and ISRU technologies.

**3.2 NSC Responsibilities**

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

1. Facilitate access to mutually agreed upon analogue sites in Norway for NASA-sponsored personnel and NASA-owned or -sponsored scientific or technology equipment for the purpose of conducting field investigations;

2. Develop, jointly with NASA, plans related to the demonstration of concepts and respective technologies in support of future lunar and planetary surface mobility and ISRU systems, including the requirements for such systems;

3. Deploy NSC-owned or -sponsored scientific or technology equipment, including off-the-shelf meteorological recording instruments, surface mobility and ISRU systems, in mutually agreed-upon analogue sites in the United States and Norway in collaboration with American scientists or technology developers;

4. Conduct field studies, including astrobiology science experiments, instrument development studies and technology testing, using NSC-owned or -sponsored equipment deployed in analogue sites in Norway and the United States;

5. Encourage and support joint NASA-NSC scientific analysis activities in Norway and the United States by NSC-selected Principal Investigators and Co-Investigators;

6. Encourage and support joint NASA-NSC technology analysis activities in Norway and the United States by NSC-selected teams;

7. Conduct all field activities in accordance with safety and environmental procedures established for that site by the cognizant Norwegian or American authorities;

8. Provide security for NASA-owned or -sponsored equipment at the mutually agreed upon sites in Norway;

9. Participate, when invited by NASA, in NASA review panel processes such as the Astrobiology Science and Technology for Exploring Planets (ASTEP) Review Panel;

10. Encourage and conduct joint educational and outreach activities involving teachers, students, media, and public outreach programs associated with the field research; and



812

11. Invite NASA participation in studies and prototyping activities to understand user requirements meeting overall exploration architecture for planetary rovers, surface manipulators, on-orbit servicing robots, and ISRU technologies.

## ARTICLE 4
## POINTS OF CONTACT

The NASA Science Mission Directorate point of contact is:

Dr. Mary Voytek
Senior Scientist for Astrobiology
Science Mission Directorate
NASA Headquarters
Washington, DC 20546 USA
Phone: +1-202-358-1577
E-mail: mary.voytek-1@nasa.gov

The NASA Exploration Systems Mission Directorate points of contact are:

Dr. John Olson
Director, Integration Office
Exploration Systems Mission Directorate
NASA Headquarters
Washington, DC 20546 USA
Phone: +1-202-358-3626
E-mail: john.olson@nasa.gov

Dr. Chris Moore
Program Executive
Exploration Systems Mission Directorate
NASA Headquarters
Washington, DC 20546 USA
Phone: +1-202-358-4650
E-mail: christopher.moore@nasa.gov

The NSC designated point of contact is:

Dr. Pål Brekke
Senior Advisor
Norwegian Space Centre
Drammensvn 165
N-0212 Oslo, Norway
Phone: +47 22511800 (Direct: 827)
E-mail: paal.brekke@spacecentre.no



BN

## ARTICLE 5
## LIABILITY

1. Each Implementing Agency hereby waives any claim against the other Implementing Agency, employees of the other Implementing Agency, the other Implementing Agency's Related Entities (including but not limited to contractors and subcontractors at any tier, grantees, investigators, customers, users, and their contractors or subcontractor at any tier), or employees of the other Implementing Agency's Related Entities for any injury to, or death of, the waiving Implementing Agency's employees or the employees of its Related Entities, or for damage to, or loss of, the waiving Implementing Agency's property or the property of its Related Entities arising from or related to activities conducted under this Agreement, whether such injury, death, damage, or loss arises through negligence or otherwise, except in the case of willful misconduct.

2. Each Implementing Agency further agrees to extend this cross-waiver to its Related Entities by requiring them, by contract or otherwise, to waive all claims against the other Implementing Agency, Related Entities of the other Implementing Agency, and employees of the other Implementing Agency or of its Related Entities for injury, death, damage, or loss arising from or related to activities conducted under this Agreement.

## ARTICLE 6
## DATA POLICY

The Implementing Agencies shall have access to and use of all data generated under this Implementing Arrangement. The scientific data generated under this Implementing Arrangement will be made available for public access as soon as practicable.

## ARTICLE 7
## INTELLECTUAL PROPERTY RIGHTS

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

2. Any rights to, or interest in, any invention or work made in the performance of this Implementing Arrangement solely by one Implementing Agency 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 Implementing Agency or Related Entity. Allocation of rights to, or interest in, such invention or work between such Implementing Agency and its Related Entities shall be determined by applicable laws, rules, regulations, and contractual obligations.



SM

3. It is not anticipated that there will be any joint inventions made in the performance of this Implementing Arrangement. Nevertheless, in the event that an invention is jointly made by the Implementing Agencies in the performance of this Implementing Arrangement, the Implementing Agencies 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 Implementing Agencies or granted by one Implementing Agency to the other Implementing Agency.

4. For any jointly authored work by the Implementing Agencies, should the Implementing Agencies 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).

5. Subject to the provisions of Article 8 (Release of Results and Public Information) and Article 9 (Exchange of Technical Data and Goods) of this Implementing Arrangement, each Implementing Agency 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 Implementing Arrangement for its own purposes, regardless of whether the work was created solely by, or on behalf of, the other Implementing Agency or jointly with the other Implementing Agency.

## ARTICLE 8
## RELEASE OF RESULTS AND PUBLIC INFORMATION

1. The Implementing Agencies retain the right to release public information regarding their own activities under this Implementing Arrangement. The Implementing Agencies shall coordinate with each other in advance concerning releasing to the public information that relates to the other Implementing Agency's responsibilities or performance under this Implementing Arrangement.

2. The Implementing Agencies shall make the final results obtained from any astrobiology or analogue campaigns 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.



SN

3. The Implementing Agencies 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 an Implementing Agency under this Article without the other Implementing Agency's prior written permission:

   (a) data furnished by the other Implementing Agency in accordance with Article 9 (Exchange of Technical Data and Goods) of this Implementing Agreement that is export-controlled, classified, or proprietary; or

   (b) information about an invention of the other Implementing Agency 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 9
## EXCHANGE OF GOODS AND TECHNICAL DATA

Pursuant to Article 2 of the Framework Agreement, Article 6 (Exchange of Technical Data and Goods) of the Framework Agreement is not applicable to this Implementing Arrangement. Rather, the following sub-provisions of the Implementing Arrangement apply.

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

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

2. The transfer of technical data for the purpose of discharging the Implementing Agencies' responsibilities with regard to interface, integration, and safety shall normally be made without restriction, except as required by paragraph 1 above.

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

   (a) In the event an Implementing Agency 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 an Implementing Agency) 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.



BM

(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 Implementing Agency and its Related Entities only for the purposes of fulfilling the receiving Implementing Agency's or Related Entities' responsibilities under this Implementing Arrangement, and that such goods and data shall not be disclosed or retransferred to any other entity without the prior written permission of the furnishing Implementing Agency or its Related Entity.

(c) The receiving Implementing Agency 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 Implementing Agencies to this Implementing Arrangement shall cause their Related Entities to be bound by the provisions of this Article through contractual mechanisms or equivalent measures.

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

## ARTICLE 10
## RELATIONSHIP TO THE FRAMEWORK AGREEMENT

This Implementing Arrangement, concluded pursuant to Article 2 of the Framework Agreement, incorporates by reference and is subject to the terms and conditions of the Framework Agreement, except as otherwise provided for in this Implementing Arrangement.

## ARTICLE 11
## AMENDMENTS

This Implementing Arrangement may be amended through mutual written agreement by the Implementing Agencies.

## ARTICLE 12
## ENTRY INTO FORCE AND DURATION

This Implementing Arrangement shall enter into force on the last date of signature and shall remain in force for ten (10) years unless terminated by one Implementing Agency by providing at least ninety (90) days' advance written notice to the other Implementing Agency of its intent to terminate.



BM

The obligations of the Implementing Agencies set forth in the provisions in Article 5 (Liability), Article 7 (Intellectual Property Rights), and Article 9 (Exchange of Goods and Technical Data) of this Implementing Arrangement shall continue to apply after the expiration or termination of this Implementing Arrangement.

**DONE** in two originals in the English language.

FOR THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION:

Michael F. O'Brien
Associate Administrator
for International and Interagency Relations

May 3, 2011
Date

Washington, DC
Place

FOR THE NORWEGIAN SPACE CENTRE:

Bo Andersen
Director General

10-05-2011
Date

Oslo
Place



BA