

No. 12359

**CANADA
and
EUROPEAN SPACE RESEARCH ORGANISATION**

Exchange of notes constituting an agreement concerning co-operation on advanced space technology (with memorandum of understanding). Ottawa, 18 May 1972

Authentic texts: English and French.

Registered by Canada on 28 March 1973.

**CANADA
et
ORGANISATION EUROPÉENNE DE RECHERCHES
SPATIALES**

Échange de notes constituant un accord concernant la coopération dans le domaine de la technologie spatiale avancée (avec mémorandum d'accord). Ottawa, 18 mai 1972

Textes authentiques: anglais et français.

Enregistré par le Canada le 28 mars 1973.

EXCHANGE OF NOTES CONSTITUTING AN AGREEMENT¹
BETWEEN THE GOVERNMENT OF CANADA AND THE
EUROPEAN SPACE RESEARCH ORGANISATION (ESRO)
CONCERNING COOPERATION ON ADVANCED SPACE
TECHNOLOGY

I

*The Secretary of State for External Affairs of Canada to the Director
General of the European Space Research Organisation*

No. ECT 484

Ottawa, May 18, 1972

Excellency,

I have the honour to refer to discussions between representatives of the Department of Communications of Canada (DOC) and the European Space Research Organisation (ESRO) concerning a Joint Project by DOC and ESRO in the field of advanced space technology. The purpose of the Project will be to develop and flight test components and subsystems of advanced technological content for the benefit of both Parties, by incorporating these components and subsystems in the satellite developed under the joint Canada-USA Experimental Communications Technology Satellite Project (the CTS Project).

The terms and conditions relating to the technical aspects of the Project between DOC and ESRO have been embodied in a memorandum of understanding signed on this date by the Deputy Minister of Communications of DOC and the Director General of ESRO, and which is attached to this note. It is understood that the implementation and general direction of the Project shall be the responsibility of DOC and ESRO.

I have the honour to propose that, in addition to the provisions embodied in the memorandum of understanding, the Project be governed by the following principles and conditions :

1. Special arrangements will be negotiated between DOC and ESRO on any jointly developed items resulting from the Project with a view to sharing on an equitable basis the property rights to, and any technical information and inventions derived from, such items.

2. The property rights related to any item of equipment developed as a result of the implementation of the Project, shall be the property of the party responsible for funding the development of such item. Such party shall notify the other party whenever the

¹ Came into force on 18 May 1972, the date of the note in reply, in accordance with the provisions of the said notes.

former claims such a property right. Whenever such a property right is established the party so claiming such a right shall use its best efforts, if requested by the other party, to supply the other party with licences following normal commercial practices.

3. The Government of Canada shall bear responsibility for any damage or injury caused to the nationals of Canada, and the Member States of ESRO, through ESRO, shall bear responsibility for any damage or injury caused to the nationals of any of the Member States of ESRO, arising from activities conducted directly pursuant to the Project except when such damage or injury results from the wilful acts or gross negligence of the agents of Canada or ESRO. In the event of claims in respect of damage or injury arising from activities conducted directly pursuant to the Project and caused to persons not nationals of Canada or of any Member States of ESRO, the Government of Canada and ESRO agree to consult promptly on the disposal of such claims and on an equitable sharing of any payments for settlement of such claims. If an agreement on the disposal of such claims or on an equitable sharing of payments is not reached within 180 days, when the matter shall promptly be submitted to arbitration in accordance with such modalities as may be agreed by the Government of Canada and ESRO.

4. Any disputes arising out of the interpretation or application of the principles, terms and conditions contained in this note or in the memorandum of understanding shall be referred for resolution in the first instance to DOC and ESRO. Should DOC and ESRO be unable to resolve the dispute, then it shall promptly be submitted to arbitration in accordance with such modalities as may be agreed by the Government of Canada and ESRO.

5. The Government of Canada and ESRO shall, in accordance with the laws and regulations applicable in Canada and the Member States of ESRO respectively, use their best efforts to obtain free customs clearance for equipment relating to the Project, and shall facilitate the admission and sojourn of nationals of the Member States of ESRO and of Canada respectively to pursue activities relating to the implementation of this Project.

I have the honour to propose that if the principles and conditions contained in this note are acceptable to ESRO, this note, together with the attached memorandum of understanding, which are authentic in English and in French, and your reply in confirmation, shall constitute an agreement between the Government of Canada and ESRO for cooperation in a joint DOC/ESRO Project on advanced space technology which shall enter into force on the date of your reply.

Accept, Excellency, the assurances of my highest consideration.

MITCHELL SHARP
Secretary of State for External Affairs

Dr. A. Hocker
Director General
European Space Research Organisation
Neuilly-sur-Seine, France

MEMORANDUM OF UNDERSTANDING BETWEEN THE DEPARTMENT OF COMMUNICATIONS OF CANADA AND THE EUROPEAN SPACE RESEARCH ORGANISATION CONCERNING THEIR COOPERATION IN THE FIELD OF ADVANCED SPACE TECHNOLOGY

ESRO/DOC COOPERATION

1. The Department of Communications of Canada (hereafter referred to as DOC) and the European Space Research Organisation (hereafter referred to as ESRO) consider it desirable to establish cooperation between DOC and the Member States of ESRO, through ESRO, in the field of advanced space technology and affirm their mutual interest in implementing such cooperation within the framework of the joint Canada-U.S. Experimental Communications Technology Satellite Project (hereafter referred to as CTS or as the CTS Project), ESRO acting in respect of this project on behalf of certain Member States of ESRO. Accordingly they wish to enter into a joint cooperative ESRO/DOC Project (hereafter referred to as the Project).

OBJECTIVE OF THE PROJECT

2. The objective of the Project is to develop and flight test components and subsystems of advanced technological content for the benefit of both Parties, by incorporating these components and subsystems in the satellite developed under the CTS Project.

ESRO COMMITMENTS

3. ESRO will use its best efforts to provide DOC, at no cost to the latter and in accordance with CTS schedules and specifications, the following :

- (a) Appropriate models of a 20 Watt Travelling Wave Tube Amplifier (TWTA) complete with all essential ancillaries, including directly associated thermal interface equipment, the associated power conditioning unit to allow the tube to operate from standard spacecraft supplies, and all necessary spares.
- (b) Appropriate models of a parametric amplifier complete with all essential ancillaries, including directly associated thermal interface equipment, associated power conditioning unit to allow the amplifier to operate from standard spacecraft supplies, and all necessary spares.
- (c) The development of the extendible solar blanket and solar cells, provided DOC agrees to procure the flight model solar blankets from European

sources. In addition, ESRO may undertake responsibility for a portion of the manufacturing of the solar array blankets in cooperation with DOC.

The net effect of the foregoing (items (a), (b) and (c)) shall be such that ESRO's participation in the Project does not create any additional cost to the DOC.

Some of the major milestones of the current CTS schedule and the approximate number of models involved, are indicated in the annex.

4. ESRO will assume financial responsibility for all attendant changes required to modify the present design of the Canadian Super High Frequency Transponder in order to incorporate the ESRO parametric amplifier.

5. ESRO will also provide project support and assistance to DOC on such items as DOC may procure in Europe for the implementation of the CTS Project outside of this joint Agreement, and in such other operations as DOC might conduct in Europe in this connection.

6. In all cases, the contracts to be let by ESRO in connection with the Project will be subject to and take account of prior consultations with DOC.

7. DOC has the final authority at all times for the acceptance and/or continued use of any of the items supplied by ESRO, if DOC determines that any of the items do not meet the CTS requirements.

8. ESRO will provide in any contracts that it concludes for the development or production of CTS components or subsystems, that if for any reason ESRO is unable to fulfil its commitments under such contracts, DOC may assume management and financial responsibilities for their completion. The foregoing will in no way constitute an obligation on DOC to take this course of action.

DOC COMMITMENTS

9. DOC will use its best efforts to incorporate the following items in the satellite, provided that they meet the CTS requirements :

- (a) The ESRO 20 Watt TWTA,
- (b) The ESRO Parametric Amplifier,
- (c) Such flight model solar array blankets and solar cells as DOC decides to procure from a European source, pursuant to paragraph 3 (c) above.

The ESRO Parametric Amplifier will be installed in one arm of the dual receiving chains of the Super High Frequency Transponder. The ESRO

TWTA will be installed for normal operation in either a primary or secondary mode, with the primary mode preferred.

10. Prior to the CTS launch, DOC and ESRO will develop a test flight plan for those items supplied by ESRO, taking into account the ESRO requirements. DOC will use its best efforts, subsequent to the CTS launch, to adhere, in the actual post-launch schedule, to the test flight plan and will make available to ESRO timely information, in accordance with the actual post-launch schedule concerning the behaviour in orbit during the two-year mission of CTS of those items supplied by ESRO.

11. DOC participation in the Project shall be consistent with the relevant provisions of the DOC/NASA memorandum of understanding on the CTS project, of April 20, 1971.

ADMINISTRATIVE ARRANGEMENTS

12. This Project will be implemented under the general direction of the Assistant Deputy Minister (Research) of DOC and the Director General of ESRO. In addition, each agency will designate a Project Manager who will be responsible for the day-to-day implementation of the Project and for ensuring that adequate arrangements are made for review of interface problems related to the ESRO-furnished items. It is anticipated that a joint DOC/ESRO working group will be established.

13. A joint steering group will be designated by DOC and ESRO, each appointing two members. This group, which will meet only when required, will be the primary means of resolving policy issues that cannot be resolved at the Project level.

14. ESRO shall provide DOC with complete and timely information on a monthly basis on the progress of work on the ESRO-furnished items, and with full and timely access to all design review data for such items. This will normally be achieved through the regular reports required by ESRO from their contractors. DOC may attend the regular Technical Progress Meetings, and, as arranged by ESRO, DOC or its designated agent may discuss progress directly with the ESRO contractors and may obtain required information directly from the ESRO contractors. DOC will consult with ESRO prior to making any changes in the CTS specifications and schedules that are likely to affect the ESRO delivery dates and costs.

15. There will be no exchange of funds between ESRO and DOC.

FUTURE COOPERATION

16. DOC and ESRO will use their best efforts on future space technology projects undertaken by Canada and ESRO, to achieve maximum cooperation,

including the greatest possible participation of the industry of the Member States of ESRO and of Canada respectively.

REVISION

17. The details of the Project may be modified as required by the mutual agreement of DOC and ESRO.

EXCHANGE OF NOTES

18. Implementation of this memorandum of understanding is subject to the approval of the Government of Canada and ESRO to be expressed by an exchange of diplomatic notes.

DONE in Neuilly-sur-Seine this 18th day of May 1972

For the Department of Communications of Canada :

ALLAN GOTLIEB

For the European Space Research Organisation :

A. HOCKER

ANNEX TO THE MEMORANDUM OF UNDERSTANDING BETWEEN THE DEPARTMENT OF COMMUNICATIONS OF CANADA AND THE EUROPEAN SPACE RESEARCH ORGANISATION CONCERNING THEIR COOPERATION IN THE FIELD OF ADVANCED SPACE TECH- NOLOGY

Provisional delivery dates of ESRO-furnished equipment

TWTA

Breadboard model 1 August 1972
Engineering model 1 May 1973
Qualification model 1 September 1973
Flight and spare models 1 April 1974

Parametric amplifier

Breadboard model 1 September 1972
Engineering model 1 May 1973
Qualification model 1 September 1973
Flight model 1 January 1974
Spare model. 1 April 1974

Solar Array Blanket

Prototype model 1 December 1973
Flight models 1 June 1974

II

*The Director General of the European Space Research Organisation to the
Secretary of State for External Affairs of Canada*

Neuilly-sur-Seine, May 18, 1972

JUR/6-16/DRK/CT/5668

Sir,

I have the honour to refer to your note No. ECT 484 of 18 May 1972 concerning the Joint Project between the European Space Research Organisation (ESRO) and the Department of Communications of Canada (DOC) for the development and flight testing of components and subsystems of advanced technological content for the benefit of ESRO and DOC, by incorporating such components and subsystems in the satellite developed under the joint Canada-United States of America Communications Technology Satellite Project (CTS).

I have the honour to inform you that the ESRO Council has approved the principles and conditions contained in your note. I concur therefore that your note, together with the memorandum of understanding attached thereto, and this reply, all of which are authentic in English and in French, shall constitute an agreement between ESRO and the Government of Canada for cooperation in the joint ESRO/DOC Project on advanced space technology which shall enter into force on the date of this reply.

I have the honour to be, Sir, Your obedient Servant,

A. HOCKER
Director general

Hon. Mitchell Sharp
Secretary of State for External Affairs
East Block
Ottawa, Ontario