



Treaty Series No. 53 (1976)

Arrangement

between certain Member States of the European Space
Research Organisation and the European Space Research
Organisation

concerning the Execution of a
Maritime Satellite Programme

Neuilly-sur-Seine, 15 October–30 November 1973

[The Arrangement entered into force on 27 November 1973]

*Presented to Parliament
by the Secretary of State for Foreign and Commonwealth Affairs
by Command of Her Majesty
July 1976*

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**ARRANGEMENT
BETWEEN CERTAIN MEMBER STATES
OF THE EUROPEAN SPACE RESEARCH ORGANISATION
AND THE EUROPEAN SPACE RESEARCH ORGANISATION
CONCERNING THE EXECUTION OF A MARITIME
SATELLITE PROGRAMME**

Preamble

The Governments of the Federal Republic of Germany, the Kingdom of Belgium, the French Republic, the Italian Republic, Spain, the United Kingdom of Great Britain and Northern Ireland (hereinafter referred to as "the Participants"), being Governments of States parties to the Convention for the establishment of a European Space Research Organisation opened for signature in Paris on 14 June 1962⁽¹⁾ (hereinafter referred to as "the Convention"), and the European Space Research Organisation (hereinafter referred to as "the Organisation"),

Having regard to the recognition by the Intergovernmental Maritime Consultative Organisation (IMCO) that the use of space techniques could significantly improve maritime communications and thus the safety and navigation of ships and other units operating at sea, as well as the efficiency and economy of shipping, which carries eighty per cent of the world international trade,

Considering that the attainment of these objectives will call for major technological efforts that will assure the progress of European industry and enable it to participate more competitively in the development of further space systems, in particular for maritime applications,

Having regard to the conclusions of the European Space Conference held in Brussels on 31 July 1973,

Having regard to the uncertainties which still exist in the characteristics of a fully operational system and the urgent need to acquire experimental and preoperational information at the earliest date,

Considering that the platform presently under development by the Organisation for its Communication Satellite programme is available for the purpose of an experimental and preoperational satellite, in conformity with the wish expressed in the Preamble of the Arrangement between certain Member States of the European Space Research Organisation and the European Space Organisation concerning the execution of a Communication Satellite programme,

Having regard to the Declaration made by representatives on the Council of the Organisation, during the 59th Session of this body, of the Governments referred to above (ESRO/C/LIX/Dec. 2),

⁽¹⁾ Treaty Series No. 56 (1964), Cmnd. 2489.

Having regard to the Resolution adopted by the Council of the Organisation during its 59th Session concerning the acceptance of the request to execute this programme within the framework of the Organisation (ESRO/C/LIX/Res. 2),

Have agreed as follows:

ARTICLE 1

The Participants shall undertake a programme, hereinafter referred to as the "MAROTS" Programme, whose objectives shall be to design, develop, construct, launch and operate in orbit an experimental and pre-operational maritime satellite. The elements of this programme which takes due account of the IMCO guidelines, are described in Annex A to the present Arrangement.

ARTICLE 2

1. The "MAROTS" Programme shall provide a space segment for the acquisition of both experimental data and preoperational experience. The configuration of the Orbital Test Satellite (OTS) developed separately in the context of the Communication Satellite programme, shall be used as the basic spacecraft configuration.

2. The Participants agree that they will endeavour to establish separately or communally, outside this Arrangement, the ground facilities (both earth stations and shipborne terminals) necessary for the experimental and pre-operational utilisation of the space segment established under this Arrangement.

ARTICLE 3

1. The Organisation shall, under Article VIII of the Convention, execute the "MAROTS" Programme referred to in Article 1 above, in conformity with the timetable and other provisions set out in Annex A to this Arrangement.

2. Except otherwise provided in this Arrangement, the Organisation shall execute this programme in conformity with the rules and procedures in force in the Organisation.

3. The "MAROTS" Programme shall be executed in close co-operation with the user agencies of the Participants.

ARTICLE 4

1. A Programme Board composed of representatives of the Participants shall be responsible for the "MAROTS" Programme and shall take all decisions relating to it, in conformity with the provisions of this Arrangement.

2. For matters affecting this and any other programme of the Organisation, the Programme Board shall be advisory to the Council, to which it will on such matters make all necessary recommendations.

3. The Programme Board shall also be responsible for maintaining close links with national and international agencies involved in the maritime field and more particularly in the field of maritime communications. It shall define the rules for using the space segment to be produced by the "MAROTS" Programme, taking into account the relevant national and international regulations.

4. The Programme Board may establish such advisory bodies as it may deem necessary for the proper execution of the programme.

5. The decisions of the Programme Board shall be taken in conformity with the provisions of this Arrangement. Unless expressly provided otherwise, the voting rules laid down in the Convention and in the Rules of Procedure of the Organisation's Council shall apply *mutatis mutandis*.

ARTICLE 5

The expenditure resulting from the execution of the "MAROTS" Programme by the Organisation under this Arrangement shall be met by the Participants, in accordance with the detailed provisions set out in Annex B to this Arrangement, and within the limits of the firm financial envelope mentioned in paragraph 2 of the present Article.

2. The Participants agree to contribute to the financing of the "MAROTS" Programme on the basis of a firm financial envelope of 75 million accounting units (at mid-1973 price levels), which includes a share of the Organisation's common and support costs currently estimated as 12.1 million accounting units.

3. The annual budgets relating to the "MAROTS" Programme shall be subject to the approval of the Programme Board by a two-thirds majority of the Participants within the firm financial envelope.

4. The Government of the United Kingdom of Great Britain and Northern Ireland shall guarantee the payment of sums, shown under the heading "Other Countries" in the table of Annex B, paragraph 2, until such time as they are otherwise covered.

ARTICLE 6

1. The Participants agree, in order that the firm financial envelope may be revised in the event of changes in price levels, to apply the procedure in force in the Organisation at that time.

2. If the envelope needs to be revised for reasons other than changes in price levels, the following provisions shall apply:

- (a) if the cumulative over-runs of estimated costs to completion do not exceed 20% of the amount of the financial envelope, no Participant shall be entitled to withdraw from the programme and the Programme Board shall decide on the additional expenditure by a two-thirds majority;

- (b) if the cumulative over-runs of estimated costs to completion exceed 20% of the amount of the financial envelope, the Participants who so wish may withdraw from the programme subject to the provisions of Article 16. Those Participants that wish to continue the "MAROTS" Programme shall consult among themselves and determine the arrangements for such continuation. They shall report accordingly to the Council, which will take any necessary decision.

ARTICLE 7

Intellectual property rights arising from the execution of the "MAROTS" Programme, as well as access to technical information so arising, shall be reserved to the Participants, but the Organisation shall have the right to make use of them free of charge for its activities as a whole.

ARTICLE 8

1. The Participants authorise the Organisation to conclude the necessary contracts for the execution of the "MAROTS" Programme in conformity with the Organisation's rules and procedures. However, in placing contracts and sub-contracts for the execution of this programme, preference shall be given, wherever possible, to execution of the work in the territories of the Participants, taking into consideration the Council's decisions in the matter of industrial policy and distribution of work.

2. The distribution of contracts shall reflect as nearly as possible the percentage contributions of the Participants without unnecessarily increasing the cost of this programme, it being understood that any unavoidable deficiency will be remedied in the allocation of contracts within the other programmes of the Organisation.

ARTICLE 9

The Organisation, acting on behalf of the Participants, shall be the owner of the space segment developed, as well as the facilities and equipment acquired under the "MAROTS" Programme. Any transfer of facilities and equipment acquired shall be decided on by the Programme Board in consultation with the Council of the Organisation.

ARTICLE 10

1. The Participants shall indemnify the Organisation in respect of any liability it may incur should its international responsibility be involved as a result of the execution of the "MAROTS" Programme.

2. Any compensation for damage received by the Organisation with respect to the programme shall be credited to the annual programme budgets referred to in Article 5, paragraph 3.

ARTICLE 11

1. Any dispute which arises between two or more of the Participants, or between any of them and the Organisation, concerning the interpretation or application of this Arrangement, and which cannot be settled by mutual consent, shall be submitted at the request of any party to the dispute to a single arbitrator to be appointed by the President of the International Court of Justice. The arbitrator may not be a national of a State which is party to the dispute nor be a permanent resident of such a State.

2. Those parties to the Arrangement which are not parties to the dispute shall have the right to join in the proceedings and the arbitrator's decision shall be binding on all the Participants and the Organisation, whether or not they have joined in the proceedings.

ARTICLE 12

1. This Arrangement shall be open for signature by the Participants from 15 October 1973 to 30 November 1973.

2. The States shall become parties to this Arrangement:

—either by signature not subject to ratification or approval,

—or by depositing an instrument of ratification or approval with the Government of the French Republic if the Arrangement was signed subject to ratification or approval.

3. This Arrangement shall come into force⁽²⁾ when it has been signed by the Organisation and when the aggregate contributions payable, on the basis of the scale set out in Annex B, by the States that have become parties to this Arrangement in accordance with paragraph 2 of this Article, amount to two-thirds of the total contributions payable.

4. For the purpose of paragraph 3 of this Article, the deposit, with the depositary Government, of a declaration of intent to apply the Arrangement provisionally and to seek ratification or approval as soon as possible shall be considered as the deposit of an instrument of ratification or approval.

5. The Government of any Member State of the Organisation which has not signed the Arrangement by 30 November 1973 may become party to it after it has come into force, provided the other Governments party to the Arrangement agree.⁽³⁾ The Government in question must deposit an instrument of accession with the depositary Government mentioned in Article 19.

6. Unless the Programme Board unanimously decides otherwise, a Government that becomes a party to this Arrangement after its entry into force shall pay a contribution equal to that which it would have paid if it had been a party to the Arrangement at the moment of its entry into force and this contribution shall be credited pro rata to the contributions of the Participants.

⁽²⁾ The Arrangement came into force on 27 November 1973.

⁽³⁾ On 16 and 26 July 1974 the Governments parties to the Arrangement agreed by Resolution that the Netherlands and Spain respectively should become parties to the Arrangement and their Governments were invited to deposit instruments of accession with the Government of France.

ARTICLE 13

The Government of a State that is not a Member of the Organisation may present a request to the Council of the Organisation to accede to the "MAROTS" Programme;⁽⁴⁾ a Council decision to grant such a request shall require unanimity and must be taken in agreement with the Programme Board, which shall unanimously determine the terms of accession.

ARTICLE 14

The Organisation shall notify the Participants, after consultation with the Programme Board, when the "MAROTS" Programme has been duly completed in accordance with the provisions of this Arrangement and this Arrangement shall expire upon receipt of such notification.

ARTICLE 15

The Participants may decide to ease the execution of the "MAROTS" Programme by a two-thirds majority representing also at least two-thirds of the contributions to this programme.

ARTICLE 16

1. A Participant wishing to withdraw under the terms of Article 6, paragraph 2(b), of this Arrangement, shall notify its withdrawal to the Organisation. This withdrawal shall take effect at the date of the notification, subject to the following provisions:

- (a) the withdrawing Participant shall be bound to pay in the manner agreed its contributions adopted under the current or previous annual budget(s);
- (b) the withdrawing Participant shall remain bound to pay its share of the payment appropriations corresponding to approved contract authority used under the budget for the current or previous financial year(s);
- (c) the withdrawing Participant shall remain a member of the Programme Board until its obligations under (a) and (b) above have been fulfilled. It shall only have a right to vote on matters which are directly related to these obligations.

2. The withdrawing Participant shall retain the rights acquired up to the date on which its withdrawal takes effect. As regards actions and developments decided upon after its withdrawal, no further right or obligation shall arise in respect of that part of the programme to which it no longer contributes, unless and to the extent agreed otherwise between the remaining Participants and the withdrawing Participant. The provisions of Article XVII of the Convention of the Organisation shall apply mutatis mutandis.

⁽⁴⁾ By an Exchange of Letters on 12 November, 1974 between Norway and ESRO, Norway provisionally became a party to the Arrangement, pending the deposit of an instrument of accession with the Government of France.

3. Should a non Member State which has acceded to the "MAROTS" Programme in accordance with the provisions of Article 13 of this Arrangement wish to withdraw from this programme, the provisions of this Article shall apply mutatis mutandis.

ARTICLE 17

Annexes A and B to this Arrangement form an integral part of it.

ARTICLE 18

1. This Arrangement may be reviewed at the request of a Participant or of the Organisation. Any amendments shall come into force when all parties have notified their approval to the depositary Government.

2. The Annexes to this Arrangement may be revised by the Programme Board in accordance with the provisions of the revision clauses of those Annexes.

ARTICLE 19

The Government of the French Republic shall be the depositary of this Arrangement and shall notify the Participants and the Organisation of the date of entry into force of this Arrangement and any amendments thereto, and of all instruments of ratification, approval, accession and declaration of intent to apply the Arrangement provisionally.

ARTICLE 20

Upon entry into force of the Arrangement, the depositary Government shall register it with the Secretariat of the United Nations, in accordance with Article 102 of the United Nations Charter.⁽⁵⁾

In witness whereof the undersigned representatives, having been duly authorised thereto, have signed this Arrangement,

Done in Neuilly-sur-Seine, this twenty-first day of September nineteen hundred and seventy-three, in the English, French and German languages,⁽⁶⁾ all three texts being equally authoritative, in a single copy, which shall be deposited in the archives of the depositary Government, which shall transmit certified copies to each of the Participants.

[For signatures, ratifications, etc., see page 13.]

⁽⁵⁾ Treaty Series No. 67 (1946), Cmd. 7015.

⁽⁶⁾ After the Arrangement has been registered with the United Nations, texts in French and German will appear in the United Nations Treaty Series, available through Agency Section, Her Majesty's Stationery Office, PO Box 569, London SE1 9NY—Telephone: 01-928 6977, ext. 410.

ANNEX A

1. Objectives of the Maritime Orbital Test Satellite Programme

The "MAROTS" Programme shall provide a space segment for the acquisition of both experimental data and preoperational experience in the field of maritime space applications.

2. Description of the programme

The "MAROTS" Programme shall provide for the placing in geostationary orbit over the Atlantic Ocean in 1977, and the subsequent in-orbit evaluation, of a satellite providing adequate communication capacity and quality to ensure satisfactory preoperational capability between ship and shore stations to comply with the following requirements:

(a) *General Communications*

The satellite shall permit:

- evaluation of various types of ship terminals;
- evaluation of ship/shore links for telephony, telegraphy, data transfer and facsimile using L-band frequencies between satellite and ship, various modulation and signal processing techniques and a range of signal to noise ratios;
- demonstration of compatibility with public telephony and telegraphy networks;
- demonstration of access to satellite communication by multiple ship and shore stations.

(b) *Distress, Search and Rescue and Safety*

The satellite shall permit:

- evaluation of immediate priority access techniques for distress communication;
- evaluation of special distress equipment, including Emergency Position Indicating Beacons;
- demonstration of "all ships" information broadcasts and weather routing via satellite to individual mobiles.

(c) *Radiodetermination*

The satellite shall permit the evaluation of ranging techniques for line of position determination.

3. Outline Description of the Satellite

The satellite will be based on the Orbital Test Satellite being developed under the ESRO Communication Satellite programme, taking advantage of the modular nature of this vehicle to incorporate a maritime communications package on the basic OTS spacecraft platform.

The MAROTS spacecraft will therefore be a 3-axis stabilised vehicle of modular conception, carrying sun oriented solar panels, and compatible with a launch by a vehicle of the Delta class. Its design life shall not be less than 3 years.

The communication package shall permit communication between the satellite and ships using frequencies at L-band (1,535–1,542.5 MHz for satellite-to-ship liaisons and 1,636.5–1,644 MHz for ship-to-satellite liaisons). Links from the satellite to the shore will make use of the frequency allocations for satellite services [at 11 and 14 GHz or alternatively at 4 and 6 GHz].

The communications transponder will be capable of providing the following 4 types of channel:

- (a) communications channels for shore-to-ship (forward channels) voice and data messages;
- (b) communications channels for ship-to-shore (return channels) voice and data messages;
- (c) access channel for shore-to-ship (forward) access messages;
- (d) shore-to-shore communications channels to relay voice and data messages for network coordination purposes.

Some of the (a) and (b) channels shall be sufficiently linear to carry frequency multiplexed teleprinter and telex signals, ranging signals and distress signals.

The coverage will include the whole segment of the earth visible from the satellite's position in the geostationary orbit.

4. Ground Facilities included in the MAROTS Space Segment

The MAROTS space segment includes the following ground elements:

(a) Satellite Control Facilities (SCF)

One set of Satellite Control Facilities (SCF) consisting of a Satellite Control Centre (SCC) connected to a Satellite Control Earth Terminal (SCET) which will perform telemetry, tracking and all command services and link calibration functions.

(b) Electronic Test Sets (ETS)

A few Electronic Test Sets (ETS) which will support system performance evaluation and calibration and will be capable of transmitting and receiving all L-band signals to and from the satellites.

5. Timetable

The tentative timetable of the development of the MAROTS vehicle is as follows:

- phase A: October 1973–December 1973;
- phase B: January 1974–mid-1974;
- phase C/D: mid-1974–mid-1977;

The launch of the satellite is foreseen for mid-1977.

6. Revision clause

The provisions of this Annex may be revised by a unanimous decision of the Programme Board.

ANNEX B

1. Cost of the Programme

The firm financial envelope for the "MAROTS" Programme is 75 MAU, expressed in mid-1973 prices. This amount includes:

- overall direct expenditure for the period 1973–1979, comprising:
 - internal costs of the Organisation,
 - satellite development and manufacture,
 - SCF/ETS investment and running,
 - launch vehicle and
 - studies;
- and a share of the Organisation's common and support costs. This share will depend on the size of the overall programme of the Organisation and on the future method of reassignment.

2. Scale of contributions

Each Participant shall contribute to the expenditure resulting from the execution of the "MAROTS" Programme by the Organisation under the foregoing Arrangement in accordance with the following scale:

<i>State</i>	<i>Scale of contributions^(?)</i>
	%
Federal Republic of Germany	20·00
Belgium	1·00
Spain	1·00
France	12·50
Italy	2·30
United Kingdom	58·50
Other Countries(*)	4·70
TOTAL	100·00

The first payment of the Italian contribution shall take place during January 1975.

(*) Weight of vote to be attributed to United Kingdom as long as the provisions of Article 5, paragraph 4 of the Arrangement are applicable.

(?) The scale was revised to include contributions from Sweden, the Netherlands and Norway and is now as follows:

	%
Belgium	0·95
France	11·92
Germany, Federal Republic of	19·08
Italy	2·20
Netherlands	4·63
Spain	0·95
Sweden	2·96
United Kingdom	55·81
Norway	1·50
	100·00

3. Reports by the Organisation on the financial and contractual situation

The Director General of the Organisation shall issue the necessary instructions for the presentation of reports on the progress and geographical distribution of the work, on the call-ups of contributions, the expenditure to date and the latest estimates of cost-to-completion of the "MAROTS" Programme, in accordance with the relevant provisions of the Organisation's Financial Rules and with the provisions adopted by the Council of the Organisation concerning the periodical reports to be presented (documents ESRO/C/306, add. 2, rev. 1).

4. Financial Rules to be observed

The direct expenditure resulting from the execution of the "MAROTS" Programme by the Organisation under the foregoing Arrangement shall be charged to a programme budget which shall be established and administered by the Organisation in accordance with the relevant provisions of its Financial Rules. The programme's share of the Organisation's common and support costs shall be established and allocated to the programme budget in accordance with the relevant principles and procedures adopted by the Organisation.

5. Revision Clause

The provisions of paragraphs 1 and 2 of this Annex may be revised by a unanimous decision of the Programme Board. The provisions of paragraphs 3 and 4 of this Annex may be revised by a two-thirds majority decision of the Programme Board.

SIGNATURES

	<i>Date of signature</i>	<i>Date of deposit of Instrument of Ratification</i>
Belgium*	30 Nov. 1973	
France†	28 Nov. 1973	
Germany, Federal Republic of (with declaration)‡	14 Nov. 1973	
Italy*	30 Nov. 1973	27 Oct. 1975
United Kingdom	26 Nov. 1973	
European Space Research Organisation	27 Nov. 1973	

ACCESSION

Sweden		4 June 1974
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Note : The Netherlands, Norway and Spain are also participating in the Programme. See footnotes on pages 7 and 12.

* Subject to ratification.

† Subject to approval.

‡ In a communication dated 14 November 1973 the Government of the Federal Republic of Germany declared that the Arrangement would apply equally to Land Berlin with effect from the date on which it entered into force for the Federal Republic of Germany.



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