MEMORANDUM OF UNDERSTANDING
of
European and Other Funding Organisations
on
Membership and Operation of ECORD
in the
Integrated Ocean Drilling Program (IODP)

November 2003

European Consortium for Ocean Research Drilling (ECORD)

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Ocean Drilling has now reached a critical phase where requirements for achieving many scientific goals aiming at a more comprehensive understanding of the Earth system are becoming increasingly complex. The single ship used for the Ocean Drilling Program (ODP) is unable to cope with these requirements. Therefore a substantial part of the world-wide Earth science community has planned a new programme of a much wider scientific scope, the Integrated Ocean Drilling Program (IODP). Beginning October 2003, IODP will tackle outstanding problems and proposes drilling far beyond the technical capabilities of the drillship used for ODP. It will liberate the science from being tied to a single tool by adding additional drilling capabilities. This will enable the scientists to expand ocean floor exploration and process-oriented studies into realms barely touched before, such as the deeper parts of the Earth below the deep ocean as well as the sub-seafloor beneath very shallow waters and in hostile environments like ice-covered parts of the ocean.

The IODP scientific programme is identified in the Initial Science Plan for the IODP, ***Earth, Oceans and Life***, and includes emphasis on the following research themes:

The Deep Biosphere and the Sub-seafloor Ocean: Drilling will concentrate on defining the architecture and dynamics of the vast sub-seafloor plumbing system, where flowing water alters rock, modifies the long-term chemistry of the oceans, lubricates seismically active faults, concentrates economic mineral deposits, and controls the distribution of the deep biosphere.

The Processes and Effects of Environmental Change: Using a global array of sites, ocean sediment cores will be used to construct a detailed record of the causes, rates and severity of changes in the Earth's climate system and their relation to major pulses in biologic evolution.

Solid Earth Cycles and Geodynamics: Drilling will concentrate on sampling and monitoring regions of the seafloor that currently have the highest rates of energy and mass transfer, and comparing these results to older geologic settings. A crucial initial program of deep drilling will be to study the seismogenic zone responsible for large destructive earthquakes along active plate boundaries.

This ECORD **MEMORANDUM OF UNDERSTANDING** defines how Europe will be a significant partner, with the USA and Japan, in the construction and operation of this global initiative opening a new era of ocean floor exploration. The proposed research concerns a wide range of fundamental and applied issues for society, such as global climate change, bio-diversity, origin of life, natural hazards involving the study of earthquake processes, mineral and energy resources along continental margins, as well as the internal structure and dynamics of our planet.

Japan will provide a drillship (the "Chikyu" launched in January 2002) with a marine riser for safe and controlled drilling in pressurised zones, whilst the US will provide a drillship of the type used in ODP, but with enhanced technical capabilities. However, there remain environments where these two vessels cannot operate and vessels with other capabilities are needed to achieve the scientific objectives of the Initial Science Plan (ISP). To address this, a European research agenda is agreed through this Memorandum of Understanding which proposes to provide Mission Specific Platforms (MSPs) to become the Third Operational Component for IODP.

This needs a concerted action by the European scientific community (including industry) together with funding organisations which have intensively participated in the planning of IODP (e.g. in planning conferences, in the IODP Planning Sub-Committee, International Working Group for IODP (IWG), and the Interim Science Advisory Structure for IODP). This common approach was initiated by European Funding Agencies forming the **European Consortium for Ocean Research Drilling (ECORD)**.

ACCORDINGLY European and Other Funding Organisations join forces under this ECORD **MEMORANDUM OF UNDERSTANDING** (hereinafter the ECORD MoU) to become a Significant Partner of IODP. A Council for ECORD is hereby formed with membership from European and Other Funding Organisations interested in contributing jointly to IODP. ECORD will manage its contribution to IODP through an ECORD Managing Agency (EMA). As the legal entity representing ECORD, the EMA will sign a single IODP Member Memorandum (hereinafter the IODP Memorandum) for membership of IODP with the National Science Foundation (NSF) of the USA and the Ministry of Education, Culture, Sports, Science and Technology (MEXT) of Japan.

Under the ECORD MoU the Council has created the ECORD Science Support and Advisory Committee (ESSAC) responsible for scientific planning and co-ordination. ESSAC will maximise the scientific and technological contribution of ECORD to IODP, as well as promoting appropriate representation of the European scientific community in the IODP Scientific Advisory Structure and other IODP-related entities. ESSAC will also advise on requests to the European Commission (EC) and other funding entities to provide funds in support of IODP science and other European IODP-related activities.

Operating mission-specific platforms will be the responsibility of the ECORD Science Operator (ESO), contracted through the EMA. ESO will be the Mission-Specific Platform (MSP) Implementing Organisation for IODP. ESSAC, through the EMA, will advise the ESO on its actions.

The ECORD Council will co-ordinate a common European approach to IODP policy. The Principles by which ECORD Council will operate its contribution to IODP – the IODP ECORD Principles – are set out in Annex A. These principles complement the principles agreed internationally for IODP – the IODP Principles. This common approach through the establishment of ECORD will secure an appropriate European role in IODP, and is anticipated to contribute significantly to the establishment of a European Research Area.

The Operation of the ECORD MoU will be achieved through Annexes detailing:

- ECORD IODP Principles, defined in Annex A
- ECORD Structure, Annex B
- Membership (ECORD Council), Participation Rights and Responsibilities (including Intellectual Property Rights), Duration and Review, defined in Annex C
- ECORD Science Support and Advisory Committee Terms of Reference, Annex D
- ECORD Managing Agency Terms of Reference, Annex E
- ECORD Science Operator Terms of Reference, Annex F
- Financial Contributions and Principles of Funding defined in Annex G
- Signatories to the ECORD MoU and Rights of Withdrawal from ECORD, Annex H

Parties to this **ECORD Memorandum of Understanding** are given at Annex H. This Memorandum of Understanding comes into effect when enough members have signed, in addition to the EMA, to achieve the equivalent of 2 M.U. of IODP.

European Consortium for Ocean Research Drilling (ECORD)

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ANNEX A

ECORD IODP Principles

In 2001the European funding agencies which supported planning for and launching of the Integrated Ocean Drilling Program (IODP) through their participation in the IODP International Working Group (IWG) agreed to work together to form a single membership. This was based on a set of European principles put together by their European Ocean Drilling Program (ODP) Executive Committee and Scientific Committee representatives.

On 6 January 2002 in Barcelona, Spain the European ODP members (France, Germany, United Kingdom and ECOD) formed the European Consortium for Ocean Research Drilling (ECORD) by agreeing an interim Council. The ECORD interim Council (EiC) adopted the European principles to define the structure of ECORD. These principles, referred to hereinafter as the ECORD IODP Principles, were subsequently formalised in London, UK on 18 April 2002 by EiC members agreeing to sign a Heads of Agreement on co-operation.

The principles have been amended in subsequent EiC meetings to reflect progress in setting up the structure of ECORD.

A Management Principles

1. The European Consortium for Ocean Research Drilling (ECORD) was formed through a concerted action of the European scientific community together with funding agencies to provide a single European-based entity in IODP.

2. European Funding Agencies joined forces under a Heads of Agreement to form an ECORD interim Council for achieving the status of a Lead Agency in IODP comparable to MEXT and NSF. The interim Council is the governing body for ECORD until this ECORD Memorandum of Understanding comes into effect.

3. Under IODP an ECORD Council will provide oversight for all ECORD activity.

4. ECORD is advised on scientific and operational planning and coordination by an ECORD Science Support and Advisory Committee (ESSAC). ESSAC will be

supported by a Science Office. The Science Office will be a component part of ECORD.

5. The Council designates an ECORD Managing Agency (EMA) to act as a single European-led voice in IODP. EMA is a component part of ECORD.

6. The Council appoints an ECORD Science Operator (ESO) for contracting Mission-Specific Platforms and related scientific support within IODP. ESO is a component part of ECORD. The ESO will be contracted by EMA.

7. ESO will be the MSP Implementing Organisation for IODP. The ESO will have a formal arrangement with EMA for this activity and will operate in the best interest of IODP and all IODP member organisations, without preference.

8. Through appropriate formal arrangements EMA will make financial contributions to IODP commingled funds and receive funds for MSP science operation costs.

9. In agreement with the IODP Central Management Office (CMO), EMA will provide funds directly to ESO for MSP science and platform operations costs.

B Membership Principles

1. Membership in ECORD is available to European (EU and non-EU) governmental and / or national agencies (or their representatives). Organisations from non-European countries may be invited to join the Consortium upon request.

2. Membership is defined by a Memorandum of Understanding between each member and the ECORD Managing Agency.

3. ECORD member countries are represented with one delegate each in the ECORD Council.

4. European IODP communities will co-operate with all non-European partners.

5. ECORD will join IODP as a single entity, and, as such, will through the EMA sign one IODP Member Memorandum with the NSF and MEXT for participation in IODP.

6. All organisations will be invited to contribute according to their scientific interests and funding commitments.

C Programme Principles

1. The IODP Science Plan will be the driving force behind ECORD participation in the programme.

2. ECORD will seek the role of a “Lead Agency” in IODP. It will contribute both to Platform Operation Costs and Science Operation Costs of IODP at a level in accordance with its role in the programme.

3. In accordance with the importance of MSP operations as outlined in the IODP initial science plan, ECORD will endeavour to ensure that an appropriate percentage of the 10 year IODP budget will be committed to Mission Specific Platform needs.

D Platform Principles

1. The requirement for mission-specific platforms will be defined by the IODP advisory structure.

2. Mission specific platforms provided by ECORD will be considered a "Core Capability" of IODP.

3. ECORD will operate mission-specific platforms as part of IODP. Such platforms might include: Specifically outfitted polar vessels; jack-up rigs; geo-technical vessels; vessel operating remotely operated coring tools (high-resolution, piston cores); anchored barges; and others, as determined by IODP scientific priority and operational efficiency.

E Implementation Principles

1. ECORD will provide the Mission Specific Platforms operations structure of IODP.

2. ECORD will be represented appropriately in all relevant IODP bodies.

3. ECORD will work closely with the Central Management Office and other support offices of IODP, and will implement a liaison process.

4. ECORD will manage and operate MSP drilling operations based on a portfolio of scientifically sound proposals provided by the IODP SAS.

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ANNEX B

ECORD Structure

The structure of ECORD is shown below and the component parts defined in Annexes C to F.

ECORD Council	**Representatives of European and Other funding organisations supporting national IODP-related programmes**
ECORD Science Support and Advisory Committee (ESSAC)	**The ECORD IODP Science Advisory Structure representatives and EMA/ESO science support advisors (membership nominated by funding organisations); plus a Science Office in a European Institution**
ECORD Managing Agency (EMA)	**An Executive Managing Agency for European participation in IODP; set up under the authority of the ECORD Council; fund holder for the consortium in IODP**
ECORD Science Operator (ESO)	**The operational arm of the ECORD Managing Agency; contractor for Mission-Specific Platform operations**

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ANNEX C

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Membership (ECORD Council) and Participation Duration

Background

ECORD was formally constituted in January 2002 in Barcelona by the formation of an ECORD interim Council (EiC). At the third EiC meeting, held in London in April 2002, the Council agreed to prepare a formal structure for operation and membership of the Council. EiC was originally formed by the European Funding Agency representatives on the International Working Group (IWG) of the Integrated Ocean Drilling Program (IODP). At the fourth EiC meeting in Stockholm in June 2002 the framework of the consortium was agreed.

Membership of ECORD is defined in terms of signatories to the ECORD MoU and the criteria for membership of the ECORD Council set out in this annex.

Membership of ECORD Council

- Council membership is restricted to one funding organisation representative for each of the countries that has signed the ECORD MoU. Where a country has more than one funding organization contributing to ECORD, the country will choose a single ECORD Council member to represent those organizations on ECORD Council. The funding organisations other than that with the chosen Council member may, by right, send an observer to both open and closed Council meetings.
- Each member will have a single vote on ECORD Council, qualified by the voting procedure detailed under the section on Council voting.
- A core group consisting of the Chair, Vice-Chairs and 2 designated members will act as an Executive between Council meetings.
- The EMA and ESO will be represented by their respective Directors (or nominees) at both open and closed Council meetings. These representatives are invited in an Ex-Officio capacity and will have no voting or other rights. Countries hosting the EMA and ESO will have Council members who are deemed by ECORD Council not to be conflicted with EMA and ESO.

Council Aims

1. To provide an equitable mechanism for the election, term of office and responsibilities of the Chair and Vice-Chair(s).
2. To set equitable criteria for membership, voting rights and participation.
3. To redefine the role of ECORD Council and ECORD components (EMA, ESO and ESSAC) as necessary.

Council Chairs

The following defines the Terms of Reference for the Council Chairs:

- The Chair and Vice-Chair positions will be held for a period of 6 months.
- A new Vice-Chair will be elected by voting members of Council every 6 months.
- The Vice-Chair will automatically become Chair at the 6 month rotation. Thus the full term of election is for 12 months, as shown in Figure 1.
- The Chair may, at the discretion of Council, become a Vice Chair for a further 6 months at the rotation. Thus the term of office may be extended to 18 months.
- Vice-Chairs will rotate at each election between member countries.
- The Chair will have a casting vote in situations where voting members are equally divided, unless in conflict when the Vice-Chair (Chair elect) will assume the casting vote.
- The EMA Director will be responsible for conveying the ECORD position at IODP Executive Authority meetings along with the ECORD Council Chair(s).
- The EMA Director will lead negotiations, along with the ECORD Chair(s), for ECORD to become the IODP Lead Agency for Mission Specific Platforms (MSPs).

Council Meetings

- Depending upon demand, ECORD Council will normally meet 2 to 4 times annually.
- ECORD Council meetings may have both open and closed sessions. Observers are welcome at open sessions, but may only attend closed sessions by invitation.
- Closed Council meetings will be organised at the discretion of the ECORD Council Chair(s).

Council Observers

Observers may be invited to closed Council meetings. Such observers may be:

- Representatives of countries expressing an interest to join ECORD.
- European funding or research organisations, such as ESF or the European Commission (EC).
- Representatives from non-European countries which are members of IODP.
- Representatives of countries which have expressed an interest in joining IODP.
- Other observers who may contribute to the planning and implementation of IODP.

Council Tasks

These tasks are not prescriptive and will be augmented as the structure of the consortium matures. The main tasks of ECORD Council are:

- Implementation of ECORD as an integrative part of IODP.
- Structuring of ECORD - definition of the tasks and responsibilities of its entities.
- Selection and oversight of the ECORD Managing Agency (EMA) and European Science Operator (ESO).
- Taking measures to secure sufficient funding for IODP and specifically MSP initiatives.
- Negotiation with IODP Lead Agencies.
- Provision of governmental oversight for all ECORD activity; assuring effective planning, management and operation of ECORD.

Council Voting Procedures

(1) Decisions are normally taken by consensus.

(2) If initially no consensus can be attained, reasonable effort will be made to modify the proposed motion so as to attain a formal consensus.

(3) If a consensus cannot be reached in spite of reconsideration, motions are nonetheless adopted without formal weighted voting by the council if approved by all the 'major contributors' (see definition below) and if not opposed by three or more council members present.

(4) If a motion fails to be approved, the council chair can decide either to defer further action, or to call for a formal weighted voting procedure.

(5) The council has the right to determine which matters have to be decided by weighted voting under all circumstances (e.g., budgetary matters).

(6) The number of votes per council member are tied to the financial contributions, and are scaled according to equivalent percentage of a 'Participation Unit' of IODP as follows:

100-80 % : 6
<80-60 : 5
<60-40 : 4
<40-20 : 3
<20-10: 2
<10-1 : 1

ECORD members with 6 votes are the 'major contributors' referred to above. Members holding more than one Participation Unit will have votes according to the above scale for each unit held.

(7) Quorum requirements for weighted voting are : (a) Representatives of all ‘major contributors’ must participate in the voting. (b) The votes to be cast at the meeting must total 75 % of the theoretical maximum number of votes.

(8) No abstentions (or blank votes) are allowed during weighted voting. There is no power of attorney for absent members.

(9) A motion is accepted if approved by 75 % of the votes cast at the meeting.

(10) Voting is normally done by 'show of hands'. The council chair has the right to defer weighted voting to 'closed sessions' of council meetings. Deferment of voting to a closed session of the meeting can also be requested by a council member seconded by one other member.

(11) 'Secret ballots' should be exceptional and restricted to decisions that deal with sensitive 'personal matters'.

(12) When no consensus can be reached with respect to the appointment of an individual person to an IODP committee or panel, the council will have to decide by weighted voting on the election of proposed candidates. A particular candidate is elected if he/she receives '50 % plus one' of the total theoretical number of votes. It is left to the good judgement of the council chair to decide on voting procedures to be adopted in case more than two candidates are in the running in the first round of voting.

Duration of Membership

The start of IODP is on 1 October 2003, although entities such as ECORD have been constituted before the start of IODP to enable continuity of research drilling.

- ECORD acknowledges that IODP is, in principle, a 10 year programme. However, this ECORD MoU anticipates that a 5 year review of the effectiveness of the ECORD membership will be implemented

It is recognised that individual members of ECORD will require information to feed into national evaluations. A full specification for the review will be developed by the EMA and agreed by ECORD Council.

Amendments

Amendments to the ECORD MoU or any of its Annexes may be proposed to the ECORD Council by any Member Organisation by giving the Council Chair written notice, and providing a copy to the EMA Director. The proposed Amendment needs to be seconded by another ECORD Member (from a different Country). The EMA shall inform all Council Members of any Amendment so notified at least three months before it is discussed in the Council.

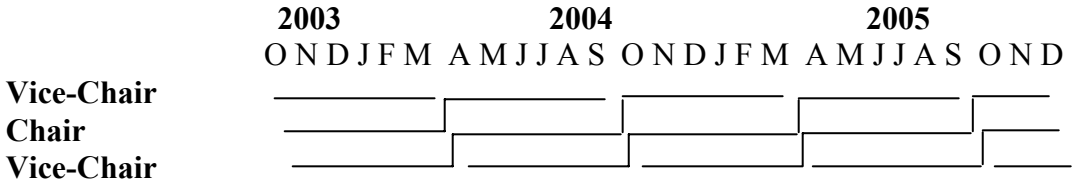
In case an Amendment cannot be adopted with the agreement of all Council Members present at the Council meeting, a majority of 75% of the votes cast shall be required for the adoption of an Amendment to the ECORD MoU or its Annexes. The EMA Director shall inform Member Organizations of Amendments and of the date of entry into force.

Representation at IODP Council

Each country in ECORD is entitled to be represented at IODP Council.

For practical purposes, the ECORD Council will be represented at IODP Council by the ECORD Council Chair, Vice-Chair(s) and EMA Director.

Figure 1 – Rotation of ECORD Council Chair



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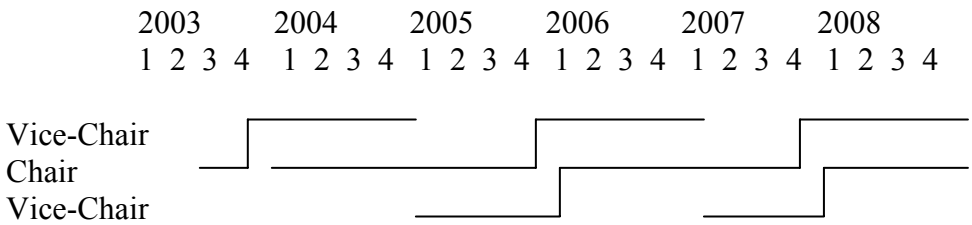
ANNEX D

ECORD Science Support and Advisory Committee (ESSAC)
Terms of Reference

A. Representation

1. The ECORD Science Support and Advisory Committee (ESSAC) consists of a national delegate and an alternate from each participating country in the European Consortium for Ocean Research Drilling (ECORD) appointed by the respective Member Organization(s). Alternates can attend, when in addition to delegates, as non-voting members. Additional non-voting representation may be invited on an ad hoc basis. Terms of office of Committee members will be reviewed every three years. It is advised that there is rotation where possible and that no more than one-third of the membership is replaced each year. The first rotation will be in 2005 after an appointment of 2 years. Terms of office will normally begin in October.

2. A Chair and Vice-Chair shall be elected from among ESSAC members and approved by the ECORD Council. The incoming Chair serves one year as Vice-Chair followed by two years as Chair and rotates off as Vice-Chair during the fourth year (see diagram below). They may not self-succeed. The Chair shall be responsible for reporting to the ECORD Council and liaising with the European Managing Agency (EMA) and European Science Operator (ESO).



3. ESSAC's representation in the Science Planning Committee (SPC) should as a minimum comprise the Chair or the Vice-Chair.

B. Division of membership benefits

1. The IODP assigned quota of Leg participants granted to ECORD shall reflect the financial contributions of each member country and specific interests of each participating country over a rolling three-year period.. ESSAC, in consultation with EMA, shall annually review the division effective as of 1 October 2004 and make recommendations in view of the above target ratio and of specific drilling interests.

2. The delegates and alternates on IODP Science Advisory Structure (SAS) panels shall be designated by ESSAC based on national nominations, authorised by ECORD Council and reflect the financial contribution of each participating country: for the first four years the contribution specified in the MOU and thereafter the contribution over a rolling three year period. Normally all ECORD representatives on SAS bodies shall serve for a three-year period and may not be re-appointed for a second consecutive term.

C. Obligations of ESSAC delegates

3. To ensure that all IODP and ECORD meetings are attended by the delegates or by their alternates. If neither can participate the relevant committee shall be informed and, if possible, a substitute nominated.

4. To ensure that the scientific interests of ECORD as a whole are presented by whoever attends SAS meetings on behalf of ECORD.

5. To ensure that minutes of meetings are distributed to their alternate and to the ECORD bodies.

6. To submit a short written report to ESSAC within two weeks of the meeting.

5. To be prepared to attend ECORD workshops and report to ESSAC when requested.

D. Voting

A quorum is required before decisions can be taken. There is no power of attorney for absent members. A quorum requires the presence of a majority of the members. Where possible ESSAC shall proceed by consensus; if this is impossible there shall be a majority vote. Each delegate present has one vote and the Chair has a casting vote. If no decision is reached, the issue will be passed to ECORD Council.

E. Secretariat

The Secretariat shall be determined by the ECORD Council and located with the ESSAC Chair. It will be funded from the budget of the EMA. It shall rotate, on a two-yearly basis, with the Chair of ESSAC. The budget shall be sufficient to provide for a science coordinator with a scientific background, the full cost of maintaining an office and resources to compensate the Chair.

F. Tasks

ESSAC is responsible for the scientific planning and coordination of Europe's contribution to and participation in IODP. The main purpose of ESSAC is to maximize ECORD's scientific and technological contribution.

ESSAC is responsible for:

- Advising ECORD funding organisations on IODP issues.
- Responding to the ECORD Council on requests for evaluation of its activities and initiation of evaluations of the European scientific input to IODP.
- Interacting with the appropriate IODP bodies, in particular the IODP scientific bodies.
- Reporting to the ECORD Council.
- Liaising with the EMA and ESO.
- Nominating representatives (delegates and alternates) on SAS panels.
- Co-ordinating applications, nominating shipboard participants and reviewing the division of the quota of shipboard scientists between participating countries.
- ESSAC shall assist the ESO in preparing a Science Operations Plan for MSP Operations.
- Assist and advise EMA on the formulation of proposals for funding European related infrastructure.
- Initiating and monitoring Workshops and syntheses of European IODP programs.
- Providing stimulation and guidance for the writing of drilling proposals in accordance with the IODP Initial Science Plan and encouragement of IODP-related activities among participating countries.
- Encourage (a) innovative science and technology development, and (b) the formulation of long-term integrated IODP studies.
- Assist and advise the EMA and ESO on the public outreach.
- Assist and advise the EMA on extending the scientific base of the consortium to non-member countries.

G. Proceedings

1. ESSAC shall meet a minimum of two times each year. Meetings are called at the request of ECORD Council, at the initiative of the Chairman, or at the request of one-fourth of the members. The ordinary agenda shall include:
   - Reports from recent SAS meetings;
   - Staffing nominations, progress and evaluation;
   - Planning of ECORD initiatives for forthcoming SAS meetings;
   - Reports from completed legs;
   - Any other task as set down above.

2. ESSAC can implement working groups and define their terms of reference.

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ECORD Managing Agency (EMA) Terms of Reference

Description of organisation

The ECORD Managing Agency manages the participation of ECORD members in IODP. The Director of the EMA is the official contact point for ECORD in all relationships with the Central Management Office (CMO), IODP Management International Incorporated (IMI Inc) and the Lead Agencies (NSF and MEXT).

The EMA is administered by CNRS-INSU, Paris, France. INSU is a national Institute that has as its central role the co-ordination of national and international programmes and large infrastructure projects in the natural sciences and, in particular, in solid earth, ocean, atmosphere and astronomical observations. INSU is part of the CNRS and its director is also director of the CNRS Department of Earth and Space Sciences (SDU). The deputy director for the INSU Solid Earth Sciences will have the specific role of supervising ECORD activities within his/her division and will oversee the EMA and will facilitate access to the INSU contractual and budgetary offices. A schematic of the EMA structure is shown in Figure 2.

The EMA has a central office located in the Marine Geoscience department of the Institut de Physique du Globe de Paris IPGP. The office is staffed with a Director, assisted by an Executive Secretary and Scientific Officer. The staffing may evolve with time.

Interaction with components of ECORD

EMA, via CNRS-INSU, pools the funds from all the European participants and may accept funds from non-European members of ECORD. EMA prepares and signs the Memorandum of Understanding with ECORD members and issues requests for a timely contribution of annual funds. The CNRS (via CNRS-INSU) is the banker for ECORD and has the financial responsibility for the EMA.

EMA administers the financial contributions from ECORD members and the other funding sources, made in support of IODP:

- on advice of the CMO, EMA, via CNRS-INSU, negotiates an annual contract with and transfers funds to the ECORD Science Operator (ESO). ESO has the role of planning and executing the Mission-Specific Platform (MSP) contribution to the IODP science plan and must ensure the appropriate liabilities.
- on advice from ECORD Council and in negotiation with the ECORD Science Support and Advisory Committee (ESSAC), EMA, via CNRS-INSU, provides funds to support the ESSAC Chair.

EMA will seek to extend the scientific base of the consortium to non-member countries and aims to increase European funding to support ECORD membership in IODP.

EMA reports regularly to the ECORD Council on its actions and other issues as required.

In coordination with ESSAC, EMA is responsible for maintaining the scientific and administrative memory of ECORD's role in IODP.

Interaction with IODP Structure

On behalf of ECORD members, EMA signs contracts and the Member Memorandum with MEXT, NSF and other IODP funding agencies, on implementation of IODP.

EMA, via CNRS-INSU, provides a single ECORD contribution to IODP comingled funds, to cover Science Operation Costs (SOCs) of IODP.

EMA represents ECORD in all the relevant IODP panels and committees.

On the basis of an operational plan from the CMO for MSP operation, the EMA negotiates a budget for MSP operations in a given year. EMA ensures that SOCs are provided from IODP co-mingled funds to the ESO for MSP operations.

EMA provides the IODP CMO with a mission specific drilling activity report.

EMA ensures that the public and private liabilities associated with the ECORD contribution in IODP are all understood and that all ECORD substructures have the appropriate liability insurances in place.

Communication

EMA coordinates, in consultation with ESSAC and ESO, the communication (education and outreach) activity of IODP in Europe, specifically:

- in association with ESSAC, the EMA Paris office is responsible for organizing ECORD workshops and conferences ;

- in association with the ESO and ESSAC, EMA is responsible for informing the public and the scientific community of the scientific and technological advances in IODP. This activity will be coordinated with the CMO, and focus on the specific role of European scientists in the programme. It will include coordination of press-releases

in the European press on MSP operations and on the participation of ECORD scientists in IODP.

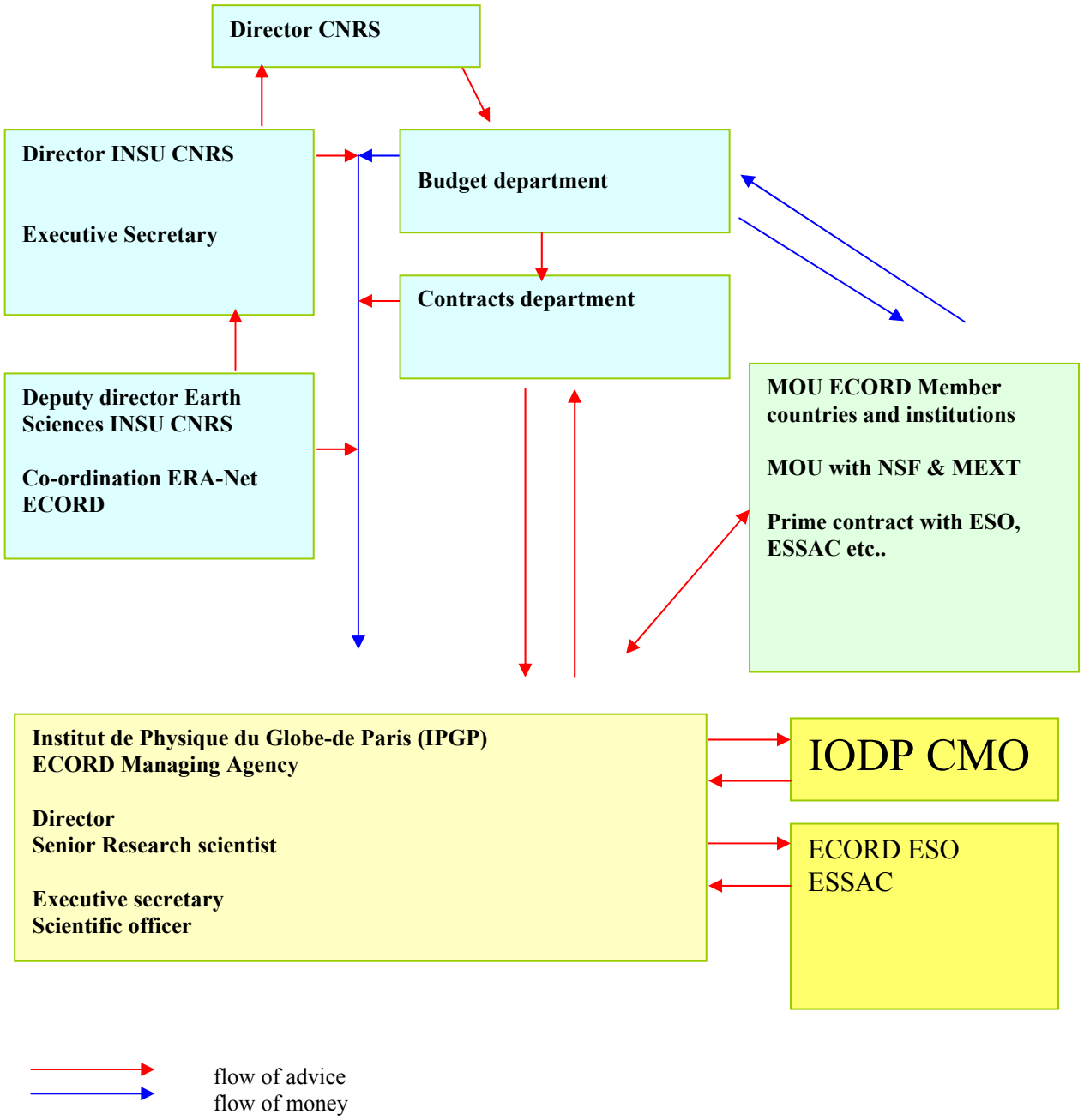
Establishing the Annual Workplan

EMA provides the ECORD Council with an ECORD program plan for approval and a budget for each upcoming fiscal year, consistent with the IODP program plan and budget. It includes :

- the support for the EMA, ESO and ESSAC offices
- the SOCs provided by ECORD to IODP
- the POCs provided by ECORD to operate MSPs activities
- the SOCs provided by IODP to support MSPs activities
- the ECORD member cash and in-kind contributions
- the support from European central funds (eg European Commission contracts)

EMA provides the ECORD Council and funding sources, when appropriate, with an annual audited financial report.

Figure 2 : The ECORD Management Office within CNRS-INSU



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ANNEX F

ECORD Science Operator (ESO)

Terms of Reference

1. Description of Organisation

1. ESO is a consortium of European scientific institutions formed to undertake Mission Specific Platform (MSP) operations for ECORD on behalf of the Integrated Ocean Drilling Program (IODP). The ESO Implementing organisation (IO) comprises:
    a. British Geological Survey (BGS)
    b. University of Bremen
    c. European Petrophysical Consortium (EPC)
2. BGS will act as Consortium Co-ordinator responsible for overall ESO management under a contract from the ECORD Managing Agency (EMA) as designated by ECORD Council. BGS will carry out best practice in project management, including bugetary control and financial probity. The Science Manager of ESO will act as the main contact with both the EMA and ECORD Council.
3. BGS personnel will act as the Operations Manager and Science Manager of ESO (see organogram); the ESO will operate from BGS's Lands & Resources Directorate (Continental Shelf and Margins Programme); the Programmes Director is responsible to the BGS Executive Committee and Board of Management, and ultimately to the Chief Executive of the Natural Environment Research Council (NERC).
4. The University of Bremen will be contracted by BGS to carry out curation and data management tasks (see organogram).
5. The European Petrophysical Consortium will be contracted by BGS to carry out logging and petrophysical activities (see organogram).
6. BGS will contract other organisations on behalf of the ESO as required by the IODP annual science and operations plan.

2. Interaction with components of ECORD

1. ESO will report to EMA on an as-needed basis, but as a minimum every six-months. Communication between ESO and EMA will be very frequent. As will be defined in the contract between EMA and ESO, EMA, on behalf of the ECORD Council, is the only body authorised to direct the ESO.
2. ESO will submit to the EMA an annual workplan, including an estimated budget, for the consideration of the ECORD Council. This workplan will be prepared in consultation with all relevant IODP bodies, the ECORD Science Support and Advisory Committee (ESSAC) and the EMA. Once agreed, the annual workplan is the definitive statement of work, and can only be changed through a written contract variation which will be communicated to Council via the EMA.
3. BGS will, on behalf of ESO, receive monies from the EMA and subsequently disburse these as appropriate both within ESO and to contractors in accordance with approved public financial management practice.
4. ESO will report directly to ECORD Council when requested by the ECORD Council Chair or Vice-Chairs, but the normal channel of communication will be through the EMA.
5. ESO will be an observer at all ESSAC meetings, and will advise ESSAC on ESO actions and plans.
6. ESO undertake to provide guidance to all IODP prospective drilling proponents who require MSPs to carry out their proposals.

3. Interaction with IODP structure

1. ESO will undertake to implement MSP operations as prioritised by the IODP Science Advisory Structure (SAS) and the IODP Operations Committee (OPCOM), and carry out all logistics as required by the IODP ECORD Member Memorandum and IODP Principles.
2. ESO will report to the Executive Authority of IODP, the Central Management Office (CMO) on at least an annual basis and more frequently if requested.
3. ESO will contribute to the IODP Annual Program Plan as required.
4. ESO will communicate regularly with other IODP Implementing Organisations (IO), and attend IO meetings.
5. ESO will act as an observer on relevant SAS advisory panels and committees, and will report to such panels and committees as requested.

4. Communication

1. ESO will communicate regularly and as required with the European IODP science community, partly through ESSAC and ECORD Council sponsored events.
2. ESO recognise the importance of education and outreach in the IODP programme, and all its component organisations will take responsibility in their area of specialisation. ESO will co-operate with other ECORD, ESSAC, EMA and IODP bodies in education and outreach programmes as they affect MSPs.

5. MSP Operations

1. ESO will undertake all aspects of MSP operations for IODP in accordance with agreed procedures. ESO and/or EMA shall be a party to the formulation of the procedures.
2. Such activities will be: operational and scientific planning, platform and equipment procurement, contracting, essential training of personnel, safety surveys, data management, curation, shore sampling parties, publication and other related pre-, intra- and post-operational activities.
3. ESO will undertake the staffing of MSP scientific parties in consultation with the CMO, USSAC, J-DESC and ESSAC.
4. ESO will, where required, align its procedures with those of IODP, notably in data management, minimum acceptable measurements and publication.
5. ESO will, in common with other IOs, observe best practice in Health, Safety and Environmental issues.
6. ESO will obey appropriate international standards and undertake all operation according to programme management procedures.
7. ESO will ensure compliance with international and national regulations and obligations.

6. Logging and Petrophysics

1. The European Petrophysics Consortium (EPC) comprises a consortium of:
    a. University of Leicester (Co-ordinator)
    b. Université de Montpellier
    c. RWTH Aachen University
    d. Vreije University of Amsterdam
2. On behalf of the ESO, and as directed under the contract, EPC will provide appropriate staff and facilities to enable and integrate all aspects of the acquisition, management and distribution of petrophysical measurements on core and downhole petrophysical measurements resulting from IODP MSP operations.
3. EPC will be responsible for maintaining and developing petrophysical shore-based support facilities and training as required by the scientific community and as mandated by the IODP ECORD Member memorandum and IODP Principles.
4. EPC will sub-contract services as required.

7. Curation

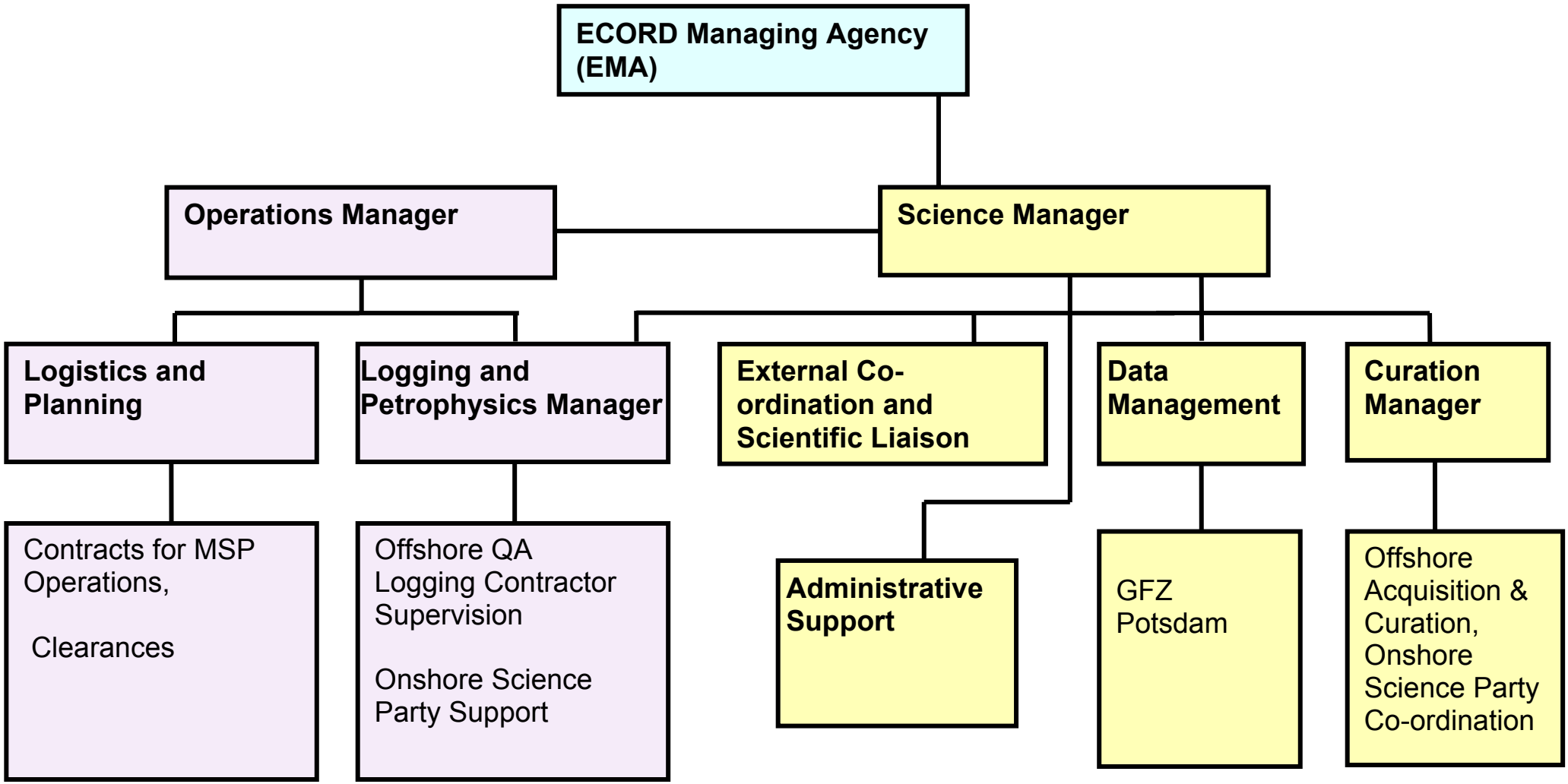
1. University of Bremen undertake, as directed under the contract, to provide ESO with curatorial services and appropriately staffed ship- and shore-based laboratory facilities as required by each MSP operation.
2. The University of Bremen manage a core repository for geographically selected IODP cores, and provide appropriate facilities under IODP principles.
3. University of Bremen will also contribute data management services using the World Data Center for Marine Environmental Sciences (WDC-MARE) Pangaea Network to the ESO.

4. University of Bremen will sub-contract services as required.

8. Annual Workplan

1. The ESO will provide facilities and staff to ensure the maintenance of capability in science operations for ECORD on an year-by-year basis, irrespective of carrying out any MSP operations. This capability will include:
    a. Consultation with the IODP SAS and ESSAC
    b. Co-operation with other IOs
    c. Preparation of annual plans for CMO and ECORD
    d. Communication with EMA and demonstrating accountability to ECORD Council
    e. Advising on engineering developments
2. As required by the IODP SAS, ESO will, subject to IODP funding from POCs and SOCs, carry out MSP operations in accordance with the terms outlined in Section 5.

ESO Management Structure



European Consortium for Ocean Research Drilling (ECORD)

MEMORANDUM OF UNDERSTANDING
of
European and Other Funding Organisations
on
Membership and Operation of ECORD
in the
Integrated Ocean Drilling Program (IODP)

ANNEX G

ECORD Financial Structure

Background

At the fourth ECORD interim Council (EiC) meeting held in Stockholm, Sweden in June 2002, the Council agreed a formal structure for its operation and membership. EiC recognised at this meeting that preparation for the Integrated Ocean Drilling Program (IODP) needed European funding organisations to make a commitment **within Europe** before the formal start of IODP in October 2003.

A finance paper was presented and discussed at the fifth EiC meeting in Salamanca, Spain, September 2002. The principles of the paper were subsequently agreed as an Annex to the Heads of Agreement between participating organisations at the next EiC meeting in Copenhagen, November 2002. An additional clause on In-Kind contributions was discussed at the EiC meeting in Frankfurt, February 2003, and ratified at the Dublin EiC meeting, April 2003. The financial principles have also been modified to reflect the level of contribution likely from funding organisations and the European Commission.

This Annex presents the financial principles for ECORD membership as agreed by the Council.

ECORD financial principles aim:

1. To provide an equitable mechanism for financing ECORD.
2. To set funding levels for membership of ECORD.
3. To define the financial contribution of ECORD in IODP.

IODP Financial Principles

Financial arrangements for IODP must set the background to ECORD financing. An extract of financial principles contained within the IODP Principles and agreed by the International Working Group (IWG) is provided in Appendix 1 to this Annex.

In IODP funding is divided into participation units which set the minimum cost of membership for IODP. Each participation unit provides the member with rights (and responsibilities) in the programme, such as participants on cruise legs, access to data

and cores, etc. It also defines the membership of science advisory panels and membership of governing bodies (see Appendix 1).

By definition, an IODP Member (which could be a consortium) must purchase one participation unit with a cash contribution. In order for the programme to be viable Members and Lead Agencies must purchase sufficient participation units to provide Science Operations Costs (SOCs) for annual programme plans. Platform Operations Costs (POCs) must also be covered by the country (consortium) providing the platform. It is the intention of ECORD to be the Mission Specific Platform (MSP) provider and operator of IODP.

The IODP Principles were agreed by IWG before Europe formed a consortium and offered MSPs to the programme. Subsequently, and partly due to the changing financial climate in Japan and the US, the Lead Agencies made concessions on the Principles. Of most note for financing of ECORD is the ramping up of programme costs during the first few years of the programme (see Table 1 of Appendix 2 to this Annex). This is because the US and Japanese ships will not be in full international operation until at the earliest, 2005 and 2007 respectively. The total anticipated costs of the programme to 2008 are shown in Table 2 of Appendix 2 to this Annex.

ECORD Financing

The Financial Principles agreed for ECORD are based on individual funding organisations (and therefore individual countries) contributing the finances necessary to acquire at least two IODP Participation Units with cash contributions. These principles are detailed in the following sections. Further sections describe the mechanism for monetary flow within Europe and to IODP commingled funds.

The financial base of ECORD must of necessity be more complex than for simply IODP membership. This is because ECORD must obtain funds from sources additional to national organisations in order to operate Mission-Specific Platforms in IODP. This Annex presents options to be pursued for funding MSPs and co-ordinating a European infrastructure.

ECORD Financial Principles

As agreed by ECORD interim Council:

- ECORD will aim to provide, on average over the ten year program, three cash Participation Units for IODP.
- ECORD will aim to provide, on average over the ten year program, an additional Participation Units per annum either as Platform Operations Costs (POCs) for Mission Specific Platforms or as cash contributions towards Science Operations Costs (SOCs).
- ECORD funding agencies will aim to increase their financial contributions in line with the ramping of IODP Participation Unit costs.
- To be accepted as a full member of ECORD, all European members that contributed to ODP will contribute a minimum starting cash contribution at least equal to their ODP contribution.

- France, UK and Germany will each aim to contribute at a level equivalent to one full IODP participation unit each, as a minimum.
- Countries which start as former members of the ODP ESF consortium (ECOD) will aim to contribute funds at least to the former minimum ODP level for the first four years.
- Other members of ECORD will negotiate a minimum cash contribution with the ECORD Managing Agency (EMA).
- Funding contributions to ECORD for the first year and projections for the first 5 years of IODP are detailed in Annex H.

Principle on In-Kind Contributions

To be a member of ECORD and have voting rights on ECORD Council a member has first to make a financial contribution at a level agreed with the ECORD Managing Agency (EMA). This contribution has to be a cash contribution. When a full cash contribution has been made a member may offer additional in-kind contributions to fulfil a requested requirement of highly ranked MSP proposals which have been agreed in the IODP annual plan. Such an offer might, for example, be the provision of a ship to support an MSP operation. The ECORD Council, in consultation with the ESO, will decide on the suitability of the in-kind offer and the level of financial contribution represented by the offer.

Rights and Responsibilities

Rights and responsibilities are here defined for each member of ECORD, as agreed by ECORD interim Council in Salamanca, September 2002:

- Members will receive benefits in direct proportion to their financial contributions.
- Benefits will be allocated to give the best return for ECORD as a whole and as such individual member benefits may not be directly proportional to contributions for an individual year.
- Scientific benefits accruing to members from any European Commission contributions will be in proportion to national contributions.

Benefits are defined as entitling members to representatives on ECORD and IODP panels and participants on cruise legs. More than nominally allocated participants on a cruise leg may be acceptable as offset by reduced participation in other legs. ECORD Council will determine the ratio of participants dependent upon the number of IODP Participation Units (PUs) acquired in the overall programme. The EMA will inform the ECORD Council of any anomalies in member benefits for each year and appropriate adjustments will be made as set by ECORD Council policy.

Members will have the right to: (1) participate in all drilling cruises, (2) be represented on all planning and advisory panels, (3) be represented on IODP Council, (4) have access to data, samples, scientific and technical results. (5) submit proposals to the advisory structure for drilling or engineering developments in support of IODP science, (6) etc. as defined in the IODP Principles. These rights are qualified as set out in the ESSAC terms of reference.

Members will have the responsibility to: (1) actively participate in all aspects of the IODP, (2) ensure publication and sharing of scientific results, (3) participate in providing data and proposals for planning of drilling programs, (4) etc. as defined in the IODP Principles.

The exact nature of participation of scientists in cruise legs for the different drilling platforms in IODP will be defined by the Implementing Organisations of IODP. It is envisaged that the JR replacement will operate much in the same way as the current ODP programme. Ship legs on the Japanese Chikyu will likely be defined by length of time on board. It is likely that MSP legs will involve limited participants aboard the drill ship and that shore-based parties will be assembled. The operation of MSP legs will be defined by ECORD Council in conjunction with the ECORD Science Operator (ESO).

Intellectual Property Rights

The Intellectual Property Rights (IPR) associated with participation in ECORD will be governed by European Commission (EC) IPR arrangements.

Financing of the ECORD Managing Agency, ECORD Science Support and Advisory Committee, and ECORD Science Operator

ECORD Council has agreed to funding of the EMA, ESSAC and ESO from ECORD co-mingled funds, based on an agreed workplan, provided by the EMA, which will include the workplan of the ESO and ESSAC, including annually agreed budgets.

1. ECORD Managing Agency (EMA)

Costs for the ECORD Managing Agency (EMA) are defined by the proposal at Annex E and will be reviewed annually by ECORD Council. ECORD Council will decide on reasonable funding levels. The EMA will act as the banker for ECORD, receiving funds from ECORD members and other funding organisations and distributing funds to the IODP commingled funds held by NSF and to the ECORD Science Operator (ESO).

ECORD funding organisations will fund the activities of the EMA from pooled funds before making contributions to the IODP co-mingled funds.

The EMA will manage cash flow as detailed in tasks under Annexes C and E of this ECORD MoU.

2. ECORD Science Support and Advisory Committee (ESSAC)

The EMA will advise ECORD Council on reasonable funding levels for support of the European Science Support and Advisory Committee (ESSAC), including a Science Office to support ESSAC. Indicative costs are given in Annex E. ECORD Council will agree these funding levels on the basis of annual plans submitted by the EMA in accordance with the IODP annual plan.

3. ECORD Science Operator (ESO)

Costs for the ECORD Science Operator are defined in Annex F. The EMA will advise ECORD Council on reasonable funding levels. ECORD Council will agree these funding levels on the basis of annual plans submitted by the EMA in accordance with the IODP annual plan.

ECORD funding organisations will fund the activities of the ESO from pooled funds before making contributions to the IODP co-mingled funds.

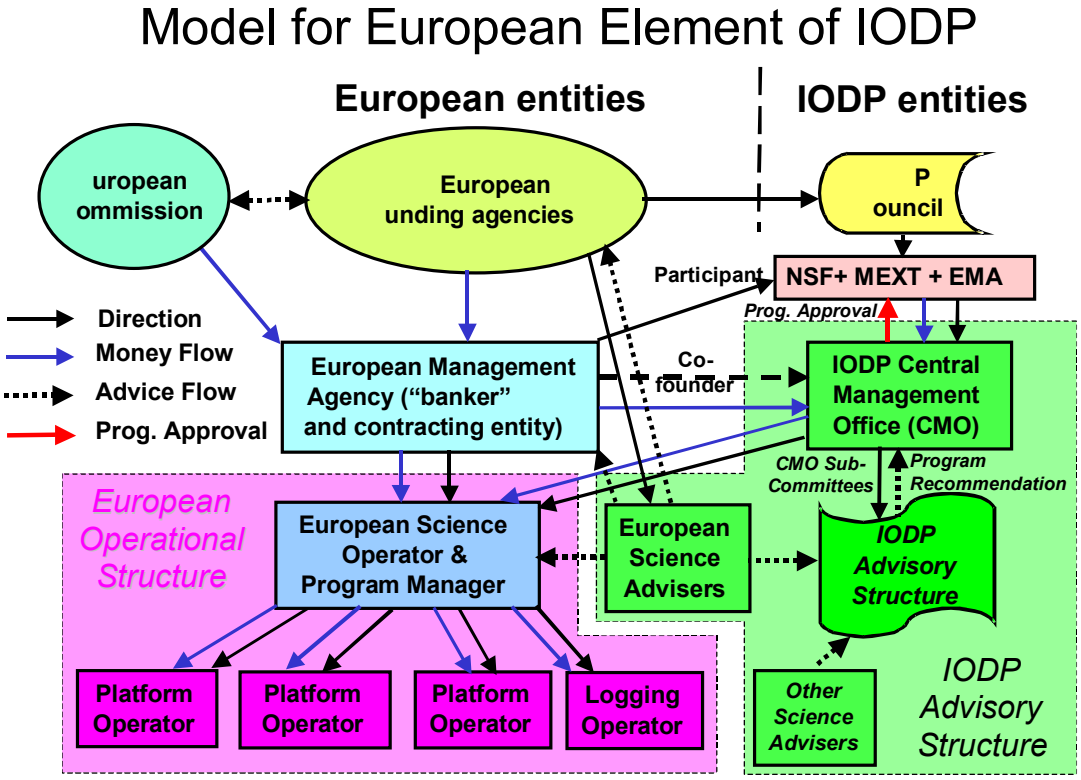
European Commission Funding

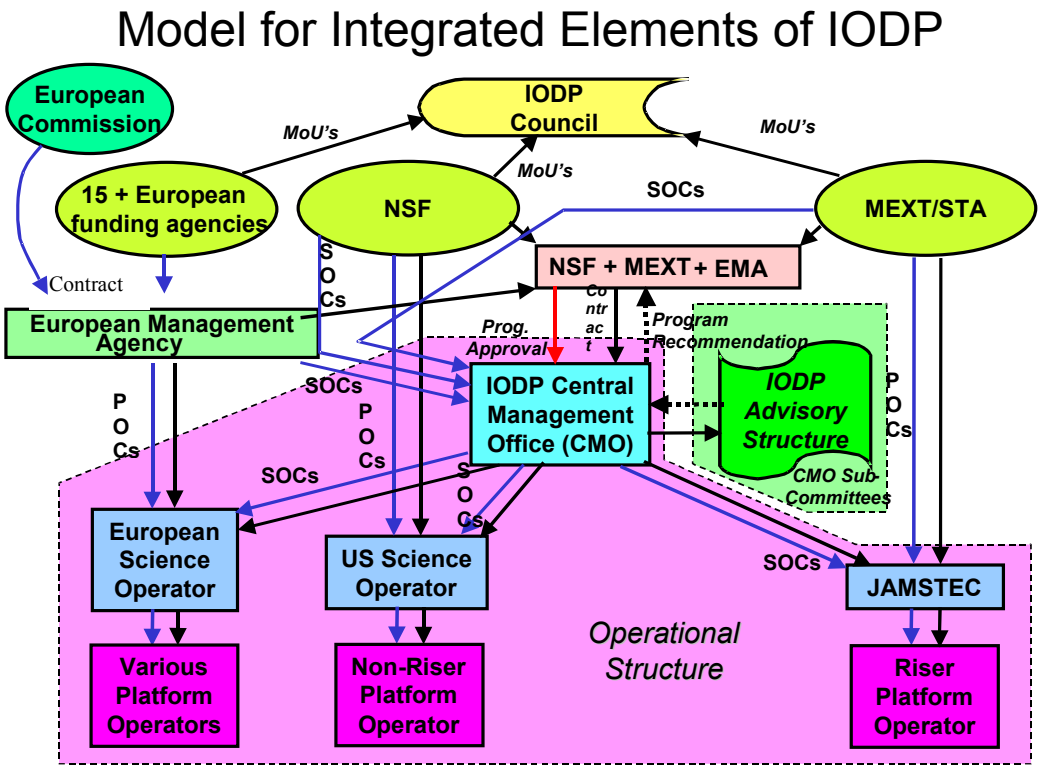
Funding will be sought from the Commission through applications to the 6th Framework Programme (FP6). There is a possibility of seeking regional development funds. This will be the responsibility of those members that qualify for such funding.

Money Flow

The EMA will be the organisation responsible for managing all money flows. A schematic representation of IODP money flow is shown at Figures 3 and 4.

Figures 3 and 4





APPENDIX 1

Financial Principles extracted from IODP Principles

The following financial principles have been agreed by the International Working Group (IWG) of IODP:

- Lead agencies will contribute equally to total Program costs (*Membership Principles 3*).
- Based on present projection of total annual Program costs ($130-140M) for a two drilling vessel program, the financial contribution for membership in the IODP will be $5 million/year. Financial contributions from international partners will be commingled to support science operations costs. This contribution will entitle a member to one participation unit, with one participation unit equivalent to one member per panel and two scientific participants per "cruise leg," or equivalent. More than two participants on a cruise leg may be acceptable as offset by reduced participation in other legs. A member may acquire additional participation units through a corresponding increase in financial contribution, and/or long-term provision of mission specific platforms. It is understood that the Lead Agencies will contribute equally to total Program cost and acquire additional participation units necessary to fully support the program. When the Program is established, Associate Membership status will be considered (*Membership Principles 7*).
- The IODP is based on international cooperation and sharing of financial and intellectual resources (*Program Principles 2*). Program costs will be determined by the IODP Lead Agencies (presently NSF and MEXT). The Lead Agencies will contribute equally to Program costs. [Program costs are composed of platform operations costs and science operations costs. Platform Operations Costs will support the basic operation of the vessel as a drillship, and will include, for example: (1) costs of the drilling and ship's crew, (2) catering services, (3) fuel, vessel supplies and other related consumables, (4) berthage and port call costs, (5) disposal of wastes, (6) crew travel, (7) inspections and insurance, (8) drilling equipment, supplies, and related consumables, (9) administration and management costs of the platform operators. Science Operation Costs will provide for those activities onboard program platforms necessary to the proper conduct of the scientific research program and those shore-based activities required to properly maintain and distribute samples and data, support seagoing activities, and administer and manage the program. These costs will include, for example: (1) technical services, (2) computer capability, (3) data storage and distribution, (4) description, archiving, and distribution of data and samples, (5) deployment of a standard suite of logging tools, (6) development of new drilling tools and techniques required by IODP research, (7) program publications, (8) costs of consumables (exclusive of those identified under platform operations costs), (9) costs required for administration and management, including the Central Management Office, (10) engineering or geophysical surveys required for hole design or evaluation of drilling safety during final site selection.] Platform operations costs of the two primary vessels are to be the responsibility of MEXT and NSF. Mission specific platform operation costs will be the responsibility of the member(s) providing the platform. Members in the IODP

(including MEXT and NSF) will contribute financially to support of the science operations costs (*Program Principles 7*).

- Support of scientific research and development costs for shore-based analysis and research on IODP samples and data, and for non-routine downhole measurements, are the responsibility of member countries/agencies. Support of geophysical and geological research to prepare drilling proposals or identify drilling targets are also the responsibility of member countries/agencies (*Program Principles 8*).
- Legal and financial responsibility including mobilization and platform operation costs for the riser capable vessel will reside with Japan and for the non-riser vessel with the United States (*Platform Principles 2*).
- Access to mission specific platforms (beyond the two primary vessels) will be required to meet specific objectives identified by the science advisory structure, but resources to support these activities have not been identified at this time (*Platform Principles 3*).
- Legal and financial responsibility, including mobilization and platform operation costs of mission specific platforms, is to reside with the organization(s) or country (ies) which make the decision to offer this additional capability to the Program. Provision of such a capability will not be considered a contribution in lieu of annual IODP membership contribution (*Platform Principles 4*).
- IODP commingled program funds will be used to support costs of science operations on IODP drilling platforms (*Platform Principles 5*).
- The CMO will negotiate with the implementing organizations and the Science Advisory Structure to produce an annual IODP plan, which is consistent with budget guidance from the Lead Agencies (*Management Principles 2*).
- Those organizations supported by science operations costs will be selected by processes agreed to by the IWG or its successor, and the CMO as required (*Management Principles 3*).
- The annual IODP plan will include presentation of science operations costs and platform operations costs (*Management Principles 4*).
- NSF will provide commingled funds to the CMO, which in turn will provide funds to implementing organizations for science operation costs through appropriate formal arrangements (*Management Principles 7*).

Membership rights are defined by:

- Members will have the right to: (1) participate in all drilling cruises, (2) be represented on all planning and advisory panels, (3) be represented on IWG or its successor, (4) have access to data, samples, scientific and technical results. (5) Submit proposals to the advisory structure for drilling or engineering developments in support of IODP science, (6) etc. (*Membership Principles 5*).
- Members will have the responsibility to: (1) actively participate in all aspects of the IODP, (2) ensure publication and sharing of scientific results, (3) participate in providing data and proposals for planning of drilling programs, (4) etc. (*Membership Principles 6*).

APPENDIX 2

Table 1 IODP Participation Unit Costs (in US$m) and IODP total cost.

US fiscal year	IODP P.U.	IODP total cost	platforms in use
2004	1.5	47	MSP, NR
2005	3.5	76	MSP, NR
2006	3.5	76	MSP, NR
2007	5.6	161	MSP, NR, R
2008	5.6	161	MSP, NR, R

European Consortium for Ocean Research Drilling (ECORD)

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ANNEX H – PART 1

Membership and Financial Contributions

The member elects to be an ordinary member with rights, privileges, and financial commitments as defined in this ECORD MoU. All cooperative activities under this ECORD MoU, including exchange of technical information, equipment and data, shall be conducted in accordance with international law, as well as the international obligations, national laws and regulations of each party and within the limits of available funds.

The ECORD MoU is not legally binding and will have no effect as a legal or political precedent.

The member endorses cooperation in the Integrated Ocean Drilling Program, with commitment, in principal, as an ordinary member to support of the IODP science program in the period 1 October 2003 to 30 September 2013.

The member will have rights as defined in this ECORD MoU on a pro-rata and equitable basis dependent upon the IODP Memorandum signed by the EMA, on behalf of ECORD members, with the Lead Agencies.

Obligations arising from the ECORD MoU may be terminated by any of the ECORD members giving all other members written notice at least one year in advance.

The members are listed in table H1 and the agreed financial contributions of each member in table H2.

Each member will sign the ECORD MoU to agree the contributions listed in table H2, as detailed in Part 2 of this Annex, with the EMA.

This ECORD Memorandum of Understanding can be altered **by written agreement** of all ECORD members.

Table H1 (FY05)

Country	Organisation	Signed by	Address
Austria	Austrian Academy of Sciences (ÖAW)	**Herbert Mang,** President **Herwig Friesinger**, General Secretary	Österreichische Akademie der Wissenschaften (ÖAW) Dr. Ignaz Seipel-Platz 2 A-1010 Wien, Austria
	Austrian Science Fund (FWF)	**Georg Wick,** President	Fonds zur Förderung der wissenschaftlichen Forschung (FWF) Weyringergasse 35 A-1040 Wien, Austria
Denmark	Forskningsstyrelsen (SNF)	**John Renner Hansen**, Chairman	Forskningsstyrelsen Randersgade 60 2100 København Ø
Canada (Provisional member)	University of Victoria	**Martin Taylor,** Vice President Research	University of Victoria PO Box 1700 STN CSC Victoria, B.C. V8W 2Y2
Finland	Suomen Akatemia (AF)	**Riitta Keiski**, Chair of the Research Council for Natural Sciences and Engineering	Academy of Finland Vilhonvuorenkatu 6, PO Box 99 00 501 Helsinki, Finland
France	Institut National des Sciences de l'Univers - Centre National de Recherche Scientifique (INSU-CNRS)	**Sylvie Joussaume**, Director	INSU-CNRS 3, rue Michel-Ange BP 287 75766 Paris Cedex 16
Germany	Deutsche Forschungsgemein-schaft (DFG)	**Ernst-Ludwig Winnacker**, President	Deutsche Forschungsgemeinschaft Kennedyallee 40 53175 Bonn
Iceland	The Icelandic Centre for Research (RANNIS)	**Hans Gudmundsson**, Director	The Icelandic Centre for Research - RANNIS Laugavegi 13, 101 Reykjavik, Iceland
Ireland*	Geological Survey of Ireland (GSI)		Geological Survey of Ireland Beggars Bush, Haddington Road Dublin 4, Ireland
Italy	Instituto Nazionale di Oceanografia e di Geofisica Sperimentale (OGS)	**Iginio Marson**, President	Instituto Nazionale di Oceanografia e di Geofisica Sperimentale OGS Borgo Grotta Gigante 42/c I-34010 Sgonico (Trieste) Italy

Italy	Consiglio Nazionale delle Ricerche (CNR)	**Enrico Bonatti**, Director, Istituto di Scienze Marine CNR	CNR Dipartimento Attivita' Internazionali (DAI) Piazzale Aldo Moro 7 00185 ROMA
Netherlands	De Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO)	**Peter Nijkamp**, Chair, NWO Governing Board	Netherlands Organisation for Scientific Research Laan van Nieuw Oost Indië 300, 2593 CE Den Haag, The Netherlands
Norway	Norges Forksningsråd (NFR)	**Roy H. Gabrielsen,** Executive Director Division for Science	The Research Council of Norway P.O. Box 2700 St. Hanshaugen N-0131 Oslo, Norway
Portugal	GRICES - Gabinete de Relações Internacionais da Ciência e do Ensino Superior	**Virgínia Corrêa,** Director General,	GRICES - Gabinete de Relações Internacionais da Ciência e do Ensino Superior Av. 5 de Outubro, N 85-5° 1050-050 LISBOA Portugal
Spain	Ministerio de Education y Ciencia (MEC)	**Salvador Ordonez Delgado**, Secretary of State for Universities and Research	Ministerio de Education y Ciencia (MEC) C/José Abascal 4, 28003 Madrid, Spain
Sweden	Vetenskapsrådet (VR)	**Pär Omling**, Director General	The Swedish Research Council, S-103 78 Stockholm, Sweden
Switzerland	Der Schweizerische Nationalfonds zur Förderung der wissenschaftlichen Forschung (SNF)	**Heidi Diggelmann,** President of the Research Council **Hans Peter Hertig,** Director of SNF	Swiss National Science Foundation (SNF) Wildhainweg 20 3001 Bern Switzerland
UK	Natural Environment Research Council (NERC)	**John Lawton**, Chief Executive	Natural Environment Research Council Polaris House, North Star Avenue, SWINDON SN2 1EU
Belgium*	FWO * pending		

countries that have expressed interest

Korea	KIGAM
Greece	NCNR, IGME
Russia	Academy of Sciences

Table H2 -: in principle, agreed financial contributions

ECORD contributions	2003/2004 $m	2004/2005 $m	2005/2006 $m	2006/2007 $m
Austria				
Belgium*				
Canada				
Denmark				
Finland				
France				
Germany				
Iceland				
Ireland*				
Italy				
Netherlands				
Norway				
Portugal				
Spain				
Sweden				
Switzerland				
UK				
Total				

* still pending

European Consortium for Ocean Research Drilling (ECORD)

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ANNEX H – PART 2

Membership and Financial Contributions

The party signing this ECORD Memorandum of Understanding will support, subject to its budget process, ECORD in the Integrated Ocean Drilling Program (IODP) with a total contribution of_____ United States dollars (U.S. $_____) in cash for the period 1 October 20___ to 30 September 20___. Payment shall be made to the ECORD Managing Agency in one instalment, made payable to CNRS, France, on or about 1 April 200_. Should the IODP be terminated before 30 September 200_, the party will be reimbursed on the basis of one-twelfth of its contribution for each month of curtailment, after due commitments made by ECORD have been settled.

Should the party withdraw from ECORD, and therefore IODP, no refund of contributions will be made.

FOR AND ON BEHALF OF _____

_____

Signature *Date*

Name (block capitals) *Position*

_____ _____

FOR AND ON BEHALF OF THE ECORD MANAGING AGENCY (EMA)

Signature *Date*

Name (block capitals) *Position*

_____ _____