The CMS Constitution

Introduction

The CMS organisational structure consists of two parts. There is a federal element, responsible for overseeing the project as a whole, which consists of four bodies:

- the Collaboration Board
- the Management Board
- the Finance Board
- the Technical Coordination Group.

This central structure is complemented by a set of quasi-independent bodies responsible for subprojects. The experiment is logically divided into a number of these subprojects#, each governed by an Institution Board and each having its own management body, led by a Project Manager.

The present document describes the role and composition of the federal bodies and the way they interact with the subprojects. It also describes the general rules under which the Collaboration operates. The subprojects are separately responsible for drawing up their own constitutions and these are filed under a separate cover.

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# At present the CMS Collaboration has defined seven subprojects: Magnet, Central Tracker, Electromagnetic Calorimeter, Hadron Calorimeter, Muon Detector, Trigger/Data Acquisition, and Software/Computing
The CMS Constitution

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1. The CMS Constitution

1.1 CMS Weeks and Collaboration Meetings

An important occasion for the Collaboration to meet, to be informed of the status of the project and to exchange ideas is provided by the CMS Week. At present four CMS Weeks are held each year at intervals of approximately three months. Current practice is for three of these meetings to be held at CERN and for the fourth (normally in the autumn) to be hosted by a CMS institute outside CERN. The venue of the CMS Week outside CERN will be chosen by the Collaboration Board, normally at least one year in advance.

A CMS Week should normally follow a standard format (Annex 1), although departures from this timetable are permitted, particularly when the meeting takes place away from CERN. The dates for CMS Weeks are normally announced by the Spokesperson at the end of the preceding year.

One of the important meetings held during a CMS Week is the Collaboration Meeting which is open to all members of the Collaboration. The purpose of this meeting is to disseminate information on the status of the project and to inform the Collaboration of all major developments and decisions concerning scientific, technical and organisational matters.

1.2 Organisation of CMS Federal Meetings

1.2.1 Language

The working language of meetings of all the CMS Bodies is English, unless otherwise explicitly agreed, and documents should normally be written in English. If for some reason an important document is prepared in another language, an English translation must be made available.

1.2.2 Secretaries to Federal Bodies

It is the responsibility of the Chairperson of each federal body to designate an existing member of that body to act as its Secretary. The Secretaries of the federal CMS bodies are shown in Annex 2.

1.2.3 Agenda and Minutes

For the Collaboration, Management and Finance Boards, the preliminary agenda for the meeting is prepared by the Chairperson assisted by the Secretary. Normally it will be circulated to the members of the Board at least one week in advance of the meeting. Any member of the Board can suggest additional topics to the Chairperson either before the meeting or as items of 'Any other Business' at the meeting. The agenda should be formally approved at the beginning of the meeting.
The proceedings of the Board meetings are recorded in minutes. The minutes are distributed to all members of the corresponding Board in draft form for approval at the following Board meeting.

The minutes are distributed to all members of the respective Board after approval. In addition, the approved minutes of the Collaboration Board are available to all members of the Collaboration. In the case of the Management Board, the approved minutes are also distributed to the members of the Collaboration Board.

For the Technical Coordination Meetings organised by the Technical Coordination Group, the meetings are held weekly or fortnightly at the discretion of the Technical Coordinator. They are open to all members of CMS with relevant expertise or interest in the topics being discussed. Minutes are distributed to attendees, the Management Board and the Collaboration Board, and later to the whole collaboration, with archiving on the web. The date and agenda of the next meeting will be announced in advance, where possible by appending to the minutes.

1.2.4 Meetings

Collaboration Board Meetings are to be held at least four times each year, normally on the morning of the Friday of the quarterly CMS Week.

Management Board meetings are foreseen approximately eight times per year at present. Four of these meetings are scheduled to be held during the quarterly CMS Weeks. The additional meetings will be held between the CMS Weeks. The Steering Committee of the Management Board meets monthly, combining its meetings with full Management Board meetings during CMS weeks, and on other occasions as required.

The Finance Board decides its meeting schedule on an annual basis to include at least one ordinary meeting held during each of the four CMS Weeks. Further ordinary meetings may be scheduled outside the CMS Weeks as needed, coupled where possible to the meeting dates of the CMS Management Board.

In addition, a Chairperson of a CMS Board may call for an extraordinary meeting to deal with specific or urgent topics. In such a case the members of the corresponding Board must be informed well in advance of the meeting.

1.3 Validity and Modifications

CERN must be notified of any proposed major modifications.

All modifications concerning the Collaboration Board rules must be ratified by the Collaboration Board.

All modifications concerning the Management Board rules must be ratified by the Management Board and the Collaboration Board.

All modifications concerning the Finance Board rules must be ratified by the Finance Board, the Management Board and the Collaboration Board.
The original of this document and all the amendments are kept in the CMS Secretariat. Copies will be distributed to all members of the CMS Collaboration Board, the CMS Management Board, and the CMS Finance Board.

1.4 Ratification

The CMS Collaboration Board, the CMS Management Board, the CMS Finance Board, and the CMS Technical Coordination Group declare that they agree on the present CMS Constitution.

For the CMS Collaboration Board, Done at CERN, December 1998
R. M. Brown, Chairperson of the CMS Collaboration Board

For the CMS Management Board, Done at CERN, December 1998
M. Della Negra, CMS Spokesperson

For the CMS Finance Board, Done at CERN, December 1998
D. Blechschmidt, CMS Resources Manager

For the CMS Technical Coordination Group, Done at CERN, December 1998
Alain Herve, CMS Technical Coordinator
2. The CMS Collaboration Board

2.1 Role

The CMS Collaboration Board is the governing body of the experiment and makes all major
decisions within the Collaboration. In most cases a matter will be discussed first in the
Management Board which, after due deliberation, will submit a recommendation to the
Collaboration Board. However, some issues may go directly to the Collaboration Board.
(General procedures for decision taking and voting are described in articles 2.3, and 2.6, and in
Annex 8.)

The Collaboration Board considers applications from institutes wishing to participate in the
CMS experiment and reaches decisions following the procedure described in Annex 3. As an
alternative to full membership, an Institute may apply for Associated status, as defined in
Annex 3.

Particularly important responsibilities of the Collaboration Board are the election of the
Spokesperson and of the Chairperson of the Collaboration Board.

The Collaboration Board has created a Committee responsible for considering nominations of
speakers for important conferences. The membership of this Committee is shown in Annex 5.
The Collaboration Board appoints a Chairperson who regularly reports on the business of the
Committee. The Rules for Nomination of Speakers are shown in Annex 6.

The Collaboration Board has agreed on a set of rules for CMS documents as defined in
Annex 7.

2.2 Membership

- The membership of the Collaboration Board comprises Institution Representatives and
  members of the Management Board.

- Every institution with at least five physicists and / or engineers participating in the
  experiment has its own representative.

- Institutions from the same country or region, with too few participants to qualify for
  their own representative, share one or more common representatives.

- Two or three such institutions are allowed one representative, four or more institutions
  are allowed two representatives.

- Each country participating in CMS has the right to at least one representative.

- Responsibility for selecting a representative lies with the institution or institutions
  concerned.
• A representative who is unable to be present at a meeting may designate a deputy to attend. The deputy may be from a different institution from the usual representative, but must be a member of the CMS Collaboration.

• Associated Institutions are represented at Collaboration Board meetings according to the above terms, but are not permitted to vote.

• Institution Representatives are responsible for keeping their 'constituents' fully informed of Collaboration Board matters and for presenting the opinions and wishes of their constituents in meetings.

• All members of the Management Board (article 3.2) are ex-officio members of the Collaboration Board. However, only those who also fulfil the role of an Institution Representative have the right to vote in the Collaboration Board.

2.3 Chairperson

The Chairperson of the Collaboration Board is elected by the members according to the procedure set out in Annex 8. Institution Representatives or their deputies are allowed one and only one vote each.

The Chairperson has the responsibility of nominating a Deputy, the nomination being subject to endorsement by the Collaboration Board.

The Chairperson and the Deputy should generally be based at an institution other than CERN although it is not excluded that they spend extended periods at CERN.

The term of office of the Chairperson and the Deputy is three years; re-election for further terms is allowed.

2.4 Collaboration Board Advisory Group

The Chairperson may form a team to assist in the preparation and management of Collaboration Board business. The current membership of this team is shown in Annex 9.

2.5 Communication and Interaction with other CMS Boards

Interaction with the other Boards of CMS is through the Management Board. The Chairperson of the Collaboration Board and his/her Deputy are members of the Management Board and represent the Collaboration Board at Management Board meetings.

The Chairperson decides, in consultation with the other members of the Management Board, which Management Board decisions are of sufficient weight as to require submission to the Collaboration Board for ratification. Members of the Advisory Group are invited to attend Management Board meetings so that they are able to assist in the subsequent preparation for the Collaboration Board.
The Technical Coordinator and the Resources Manager report regularly to the Collaboration Board on matters from their respective areas of responsibility which are of interest to the Collaboration as a whole.

The Spokesperson will report regularly to the Collaboration Board on important matters concerning the Collaboration, such as meetings of the LHCC or of its referees and meetings between CMS representatives and the CERN Management.

2.6 Decisions

Decisions are to be agreed by consensus wherever possible. If a situation should arise where a consensus cannot be reached, a time scale shall be set for the decision to be reached at a later date. The relevant arguments will be documented and distributed to the Collaboration Board. In cases where the subject has already been discussed and agreed in the Management Board, the issue will be returned to them for further discussion, together with a statement expressing the concerns of the Collaboration Board. The matter will then be decided at a subsequent meeting of the Collaboration Board, by a vote if necessary. A simple majority of those present who are eligible to vote will decide the issue.

2.7 Validity

Article 2 of the CMS Constitution summarises the rules and procedures which have already been agreed and documented in Collaboration Board minutes, or which are currently accepted practice.
3. The CMS Management Board

3.1 Role

The CMS Management Board is chaired by the CMS Spokesperson. The CMS Management Board through the Spokesperson is responsible for directing the CMS project and for drawing up policy. The organisation of the individual subprojects has to be endorsed by the Management Board. It has the mandate to resolve controversies - within or between the various projects. All important Management Board decisions must be submitted to the CMS Collaboration Board for ratification.

All important matters of scientific, technical, organisational and financial nature shall be discussed in the Management Board, either through its own initiative or upon request of other CMS boards.

The Management Board through the Spokesperson also represents the Collaboration in dealing with other organisations and committees. The Management Board interacts, in particular, with the CERN Management and its various scientific committees.

The Management Board prepares responses to all scientific reviews conducted by or on behalf of CERN which are required to monitor the progress of the experiment. In order to fulfil this responsibility, all scientific documents and reports prepared by the Collaboration for this purpose are subject to approval by the Management Board.

3.2 Members and Functions

At present, the members of the Management Board are:

- the CMS Spokesperson
- the CMS Deputy Spokesperson
- the CMS Collaboration Board Chairperson
- the CMS Collaboration Board Deputy Chairperson
- the CMS Resources Manager
- the CMS Budget Coordinator
- the CMS Physics Coordinator
- the CMS Heavy Ions Coordinator
- the CMS Technical Coordinator
- the CMS Deputy Technical Coordinator
- the CMS Electronics Coordinator
- Technical Advisers to the Technical Coordinator
- Advisers to the Spokesperson
- the "Regional Representatives" as listed in Annex 10.
• the Subdetector / Subsystem Project Managers:
  • Central Tracker (2 members)
  • Electromagnetic Calorimeter (2 members)
  • Hadron Calorimeter: - Barrel (1 member)
    - Endcap (1 member)
  • Muon Detector: - Barrel (1 member)
    - Endcap (1 member)
  • Trigger / DAQ: - Trigger (1 member)
    - Data Acquisition (1 member)
  • Software / Computing (1 member)

The present composition of the Management Board is shown in Annex 11.1.

The Spokesperson is elected for a term of three years by the CMS Collaboration Board. He/she nominates his/her Deputy. The Deputy will assist the Spokesperson in carrying out his/her duties. The nomination of the Deputy Spokesperson must be endorsed by the Management Board and the Collaboration Board. Consultation with the CERN Directorate will be part of the procedure for appointing the Spokesperson.

The Resources Manager and the Technical Coordinator are appointed by the Spokesperson in agreement with CERN, and will be (or temporarily become, if exceptionally seconded from elsewhere) CERN staff members. Their appointments must be endorsed by the CMS Collaboration Board. The Budget Coordinator and the Deputy Technical Coordinator are proposed by the Resources Manager and the Technical Coordinator respectively, in agreement with the Spokesperson. Their appointments must be endorsed by the Management Board and the Collaboration Board. The functions of the Resources Manager, the Budget Coordinator, the Technical Coordinator and the Deputy Technical Coordinator are described in articles 4.3.1, 4.3.2, 5.3.1 and 5.3.2 respectively.

Advisors may be invited to serve on the Management Board to provide specialist expertise in important areas. Technical advisors are proposed by the Technical Coordinator, in agreement with the Spokesperson; other advisors are proposed by the Spokesperson. The appointments must be endorsed by the Management Board and the Collaboration Board.

The Subdetector / Subsystem Project Managers, the Physics Coordinator and the Heavy Ion Coordinator are appointed by the Spokesperson. All these appointments must be endorsed by the CMS Management Board and the Collaboration Board. The Subdetector / Subsystem Project Managers are responsible for all matters related to the design, construction, installation and operation of their particular project.

The Physics Coordinator establishes links between the various subdetector groups and organises efforts to optimise the overall physics performance of the CMS detector. He/she is responsible for maintaining an up to date list of physics topics that can be addressed by CMS, and for evaluating the physics reach of CMS. The Heavy Ion Coordinator has particular responsibility for heavy ion physics.

The "Regional Representatives" are selected by the Institution Representatives of the corresponding "Regions" as defined in Annex 10. Regional Representatives should consult regularly the groups of their region and should convey the views of these groups to the
Management Board. The selection procedure and the term of office are defined by each "Region" individually. However, for the representation of "Other CERN Member States Countries" and "Other Non-CERN Member States Countries" the term of office is two years. A new Representative must not be from a country which has provided a previous Representative within the past four years.

The Spokesperson may propose modification of the number of members of the Management Board, in particular those of the Subdetector / Subsystem Project Managers and / or the "Regional Representatives", in order to reflect possible modifications of responsibilities and / or contributions. These proposals are to be endorsed by the Management Board and the Collaboration Board.

3.3 Functions and Interactions with other CMS Boards

The Management Board interacts with the other CMS Boards on scientific, technical, organisational and financial matters. Various Board members holding positions as outlined in article 3.2 report to the Management Board on the activities within the CMS Collaboration:

- the CMS Collaboration Board Chairperson on the Collaboration Board,
- the CMS Resources Manager on the Finance Board,
- the CMS Technical Coordinator on the Technical Coordination Group,
- the Subdetector / Subsystem Project Managers on their respective project boards.

The same persons report back to their respective bodies on matters discussed and decided by the Management Board.

The Management Board is assisted in its task of directing and overseeing the CMS project by the Steering Committee (article 3.3a), which is a sub-committee of the Management Board. The Steering Committee is responsible for the execution of the CMS Project in line with overall policy laid down by the Management Board, it constantly monitors the progress of all projects and reports regularly to the Management Board.

Recommendations from the Finance Board or Steering Committee or Subdetector / Subsystem Boards on important matters are discussed at Management Board meetings. All important matters which are accepted by the Management Board are forwarded to the Collaboration Board for final approval. If the matter cannot be accepted unanimously by the Collaboration Board it is referred back to the Management Board. If after resubmission to the Collaboration Board the matter still cannot be accepted unanimously, a vote is taken by the Collaboration Board following the procedure outlined in article 2.6. In the event that the Management Board does not accept a recommendation, the matter will be returned to the respective board for further consideration and possible modification.

The Chairperson of the Collaboration Board, in consultation with the Management Board, shall decide whether a matter merits being put before the Collaboration Board.
3.3a The Steering Committee

3.3a.1 Members

The members of the Steering committee are:

- the CMS Spokesperson
- the CMS Deputy Spokesperson
- the Subdetector/Subsystem Project Managers
  - Tracker + his/her Deputy
  - Electromagnetic Calorimeter
  - Hadron Calorimeter
    - Barrel
    - Endcap
  - Muon Detector
    - Barrel
    - Endcap
  - Trigger/DAQ
    - Trigger
    - DAQ
- Software and Computing
- the CMS Technical Coordinator
- the CMS Deputy Technical Coordinator
- the CMS Resources Manager
- the CMS Collaboration Board Chairperson

Members of CMS can be invited for discussions on particular issues at the discretion of the Spokesperson.

3.3a.2 Role and Functions

The task of the Steering Committee is to ensure that the best possible overall detector is built for LHC physics using the resources available to the Collaboration. The Steering Committee supervises and reviews the progress and planning of the CMS Project during the construction period through milestones. The Steering Committee receives regular brief reports from the Project Managers on progress in their subdetectors covering technical progress, schedule progress milestones, planning and resources.

The Steering Committee provides help and guidance to the Spokesperson, the Technical Coordinator and the Resources Manager and provides guidance for the work to be performed by the Technical Coordination Group.

All actions for the good conduct of the Project will normally be agreed by consensus. An Executive Summary of the operational decisions taken by the Steering Committee will be written and distributed through the Project Managers, the Technical Coordinator and the Regional Representatives to their respective constituencies. Important issues of any nature, or issues which cannot be resolved by consensus within the Steering Committee, will be passed to the Management Board for decision. This also applies to technical decisions that affect the detector performance.
3.4 Decisions

The Management Board will seek to reach decisions by consensus.

In a case where such a consensus cannot be reached, the Spokesperson shall consider proposing a compromise to the Management Board. Should such a compromise not be acceptable by consensus, the Spokesperson will make the decision, which, as for all important matters, will be forwarded to the Collaboration Board for final approval.

3.5 Communication with the CERN Management

Certain members of the CMS Management Board have been delegated to represent the Collaboration in meetings with the CERN Management, namely:

- the CMS Spokesperson
- the CMS Deputy Spokesperson
- the CMS Collaboration Board Chairperson
- the CMS Resources Manager
- the CMS Technical Coordinator.

The Subdetector Project Managers are invited to attend such meetings when items for which they are directly responsible are to be discussed.

In addition, the Steering Committee shall meet with the CERN Management at least twice per year.

3.6 Meetings

Approximately eight Management Board meetings per year are foreseen. In addition, should urgent matters arise, additional meetings may be called by the Spokesperson. In such a case the members of the Management Board must be informed at least two weeks prior to the meeting.

Members of the Management Board may send a replacement should they be unable to attend a meeting. The Spokesperson should be informed of this prior to the meeting.
4. The CMS Finance Board

4.1 Role

The CMS Finance Board is chaired by the CMS Resources Manager. The CMS Finance Board through the Resources Manager is responsible for dealing with all matters related to the costs and resources of the CMS project (financial, personnel, etc.), evaluation of contributions, relations with funding agencies (drawing up of the relevant agreements), contract policy, and all administrative matters.

The Finance Board endorses all important decisions related to CMS finances. This includes funding, and distribution of charges, income and expenditure, adjudication of large contracts, major decisions with financial implications made by the Subdetector / Project Resources Managers and Working Groups, annual budgets and all subjects related to the CMS Resources Review Board.

4.2 Members

The Finance Board consists of the

- Resources Manager
- Budget Coordinator
- Link-persons to CMS funding agencies
- Subdetector/Project Resources Managers (one per Subdetector / project)
- Spokesperson and / or his / her Deputy (ex-officio members)
- Technical Coordinator (ex-officio member)
- Project Managers for Common Projects* (ex-officio members)
- Project Manager for Infrastructure and Integration (ex-officio member)

The present composition of the Finance Board is shown in Annex 11.2.

4.3 Function of Members

4.3.1 The Resources Manager

The Resources Manager is (or temporarily becomes if exceptionally seconded from elsewhere) a CERN staff member appointed by the Spokesperson in agreement with CERN, to be confirmed by the CMS Collaboration Board.

The Resources Manager must keep the Finance Board up to date on the financial situation of the Collaboration. The Resources Manager consults the Finance Board on all major non-technical decisions concerning the CMS project and in particular the Common Projects.

* The CMS Collaboration has defined two Common Projects: Magnet, and Software/Computing
The CMS Resources Manager is in charge of all matters related to the resources for the CMS project, except those which naturally fall under the direct jurisdiction of the Institutes. In particular, he/she is responsible, in consultation with the Common Project Managers, for the operation of the Common Funds, evaluation of in-kind contributions and contractual policy. He/she monitors the financial and legal aspects of the Common Projects, taking advice from the CMS Finance Board. He/she is concerned, together with the Link-persons to CMS funding agencies, with establishing and maintaining relations with the funding agencies, with drawing up relevant agreements and with obtaining endorsement for these and any other agreements to which the Institutes of CMS are party. He/she also presents the annual budget and expenditures to the CMS Resources Review Board.

The CMS Resources Manager has delegated to the CMS Common Project Resources Managers all matters of contractual policy concerning their projects. In exercising this delegated responsibility, the Common Project Resources Managers must act in accordance with the provisions set out in the CMS Guidelines on Common Project Contributions.

The CMS Resources Manager and the CMS Technical Coordinator link the Collaboration with CERN's administrative and technical services respectively.

The Resources Manager is an ex-officio member of the Collaboration Board, Management Board, Steering Committee, Technical Coordination Group and CMS Institution Boards.

4.3.2 The Budget Coordinator

The Budget Coordinator is nominated by the Resources Manager and appointed by the Spokesperson. The appointment requires endorsement by the Management Board.

The Budget Coordinator provides an operational working link between the Finance Board and the Technical Coordination Group on all matters having a potential impact on costs and funding requirements, and reports to the Resources Manager. The Budget Coordinator coordinates cost and expenditures in all subdetectors.

In particular, the Budget Coordinator coordinates the work of the Subdetector / Project Resources Managers such as drawing up annual financial plans to achieve the technical objectives, the resource sharing for common activities, such as detector construction (incl. Subdetector specific expenditure for beam tests), and the monitoring of expenditure vs. funding for all the collaborating institutes. The Budget Coordinator regularly informs the Resources Manager on the current financial situation (cost estimates and expenditure).

The Budget Coordinator is an ex-officio member of the Collaboration Board, Management Board and CMS Institution Boards, and has a standing invitation to the Technical Coordination Meetings and to subdetector Finance Board meetings.

4.3.3 Link-Persons to CMS Funding Agencies

The Link-persons keep the Resources Manager informed about funding for the detector construction. They coordinate negotiations on funding and budget profiles with their respective funding agencies, where the Resources Manager may assist them.
The Link-persons are responsible for keeping good working relations with the officials in their respective funding agencies and for keeping the Resources Manager informed about any potential change of the funding situation.

A Link-person is nominated by the representatives of the institutions supported by the relevant CMS funding agency.

4.3.4 Subdetector / Project Resources Managers

The Subdetector / Project Resources Managers are nominated jointly by the respective Subdetector Project Manager, the Resources Manager and the Spokesperson. Their appointments are endorsed by the respective Institution Boards.

The Subdetector / Project Resources Managers deal with all matters related to the costs and resources of their Subdetector / Project (financial, personnel, space, etc.), contracts, and in general, all related administrative matters. They must regularly inform the Resources Manager and report to the Finance Board on the resource aspects of their project and on any major changes to the planning. They must inform the Finance Board when large contracts, or groups of related contracts are placed.

4.4 Meetings

Members of the Finance Board may send a replacement should they be unable to attend a meeting. The Resources Manager should be informed of this prior to the meeting.

The Resources Manager may call for extraordinary meetings to deal with specific or urgent topics.

The outcome of all Finance Board meetings is summarised in minutes, which are made available to all participants of the Collaboration on request to the Resources Manager or the Budget Coordinator.

4.5 Relations with other CMS Boards

The Resources Manager reports regularly to the Management Board. The Collaboration Board Chairperson, after obtaining advice from the Management Board, will decide whether to bring a subject before the Collaboration Board.

4.6 Decision Taking

The Finance Board will seek decisions by consensus. In cases where consensus cannot be reached, the Chairperson will propose a compromise to the Finance Board. Should this compromise not be acceptable by consensus, the Chairperson will make a proposal, which, as for all important matters, will be forwarded to the Management Board for final approval.
5. The CMS Technical Coordination Group

5.1 Role

The CMS Technical Coordination Group is led by the CMS Technical Coordinator. Its role is to support the Technical Coordinator in the execution of his/her responsibilities (article 5.3.1). In addition, the Technical Coordination Group works in close harmony with the sub-projects and provides them with assistance when required. It is responsible for requesting hall space for subsystem assembly and tests, for coordinating its use, and for fulfilling the other technical duties of CERN in its capacity of host laboratory. It holds the Master Schedule and all other documents necessary for the execution of the CMS Project.

5.2 Members

The members of the Technical Coordination Group are:

- CMS Technical Coordinator
- Deputy CMS Technical Coordinator

General CMS Coordinators
- Assembly Scenario and Master Planning
- Electronic Systems Coordinator
- General Integration Coordinator
- General Service Coordinator
- GLIMOS (General Safety Coordinator)
- Machine Interface Coordinator
- Magnet Coil Coordinator
- Magnet Yoke Coordinator
- Quality Assurance Coordinator

Specific Task Coordinators
- Cables and Services
- CERN Drawing Directory
- Detector Safety System
- Gas Systems
- General Engineering and Structural Analysis
- Parameter Book
- Management and Planning Tools
- Rack system
- Technical Support to Test Beams
- others as required
5.3 Function of Members

5.3.1 The Technical Coordinator

The Technical Coordinator leads the technical coordination of the CMS project, reporting to the Spokesperson. He/she is (or temporarily becomes if exceptionally seconded from elsewhere) a CERN staff member appointed by the spokesperson in agreement with CERN, to be confirmed by the CMS Collaboration Board.

The Technical Coordinator undertakes the following tasks:

- implementing the Infrastructure Project and directing the Magnet Project as defined in the MoU.
- assuring the integration of the subdetectors and the magnet, the infrastructure at CERN, the surface and experimental areas, the services, the installation of the experiment and the machine interface.
- providing project oversight insofar as to keep informed, or prepare decisions for, the Steering Committee and the Management Board on the progress of the Project.
- helping in organising periodic reviews of sub-systems, especially of engineering designs (Engineering Design Review) prior to the launch of full scale construction,
- directing the activities of the Technical Coordination Group.

The Technical Coordinator is an ex officio member of the Collaboration Board, Management Board, Steering Committee, Finance Board and CMS Institution Boards. He/she reports regularly to the Collaboration Board, Management Board and Steering Committee at each of their meetings

5.3.2 The Deputy Technical Coordinator

The Deputy Technical Coordinator assists the Technical Coordinator and acts on his/her behalf should circumstances require.

The particular responsibilities of the Deputy Technical Coordinator are:

- following the evolution and impact of changes in the detector design, construction and installation and liaising with the sub-projects
- coordinating the study of common problems and encouraging the development and adoption of common solutions
- helping organise periodic reviews of sub-systems
- coordinating the general support for test beam and assembly activities at CERN.

5.3.3 General/Specific Task Coordinators

The General and Specific Task Coordinators assist the Technical Coordinator by overseeing and reporting on particular aspects of the CMS project.
5.4 Meetings

The Technical Coordination Group holds regular Technical Coordination Meetings with video-conferencing. The meetings are chaired by the Technical Coordinator and are open to CMS members with technical responsibilities. All subdetectors should be represented. In particular the Project Managers and/or their deputies and/or their Technical Coordinators are strongly recommended to attend. The agenda shall include, amongst other topics, general assembly schedule, issues of integration and services, reports on machine interface, general services and infrastructure, and reports from tasks forces approved by the Steering Committee. Following the Technical Coordination Meetings discussions the Technical Coordinator recommends actions for approval by the Steering Committee, Management Board and Collaboration Board.

The proceedings of all Technical Coordination Meetings are summarised in minutes, which are distributed to attendees, the Management Board and the Collaboration Board, and later to the whole collaboration, with archiving on the Web. The date and agenda of the next meeting will be announced in advance, where possible by appending to the minutes.
### Organisation of CMS Week
(at CERN or outside CERN)

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<th>Time</th>
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<td>Management</td>
<td>Collaboration</td>
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<td>11</td>
<td></td>
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<td>Board</td>
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<td>12</td>
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<td>CMS</td>
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<tr>
<td>14</td>
<td>Introduction</td>
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<td>CMS Collaboration Meeting</td>
<td>Parallel</td>
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<tr>
<td>15</td>
<td>Opening &amp; Plenary Session</td>
<td>Parallel</td>
<td>Parallel</td>
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<tr>
<td>16</td>
<td></td>
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<td>Collaboration</td>
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<td>17</td>
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<td>Board</td>
<td>Board</td>
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<td>18</td>
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<td>CMS</td>
<td>Collaboration</td>
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<td>19</td>
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<td>Board</td>
<td>Board</td>
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<tr>
<td>20</td>
<td></td>
<td></td>
<td>CMS</td>
<td>Collaboration</td>
<td></td>
</tr>
</tbody>
</table>

Annex 1: General Schedule of CMS Weeks

Revised December 11 1998

22-Oct-98
Annex 2:
Secretaries to CMS Federal Bodies

At present, the secretaries for CMS Boards are:

- **Collaboration Board**: M. Pimia
- **Management Board**: H. Rykaczewski
- **Finance Board**: K. Aspola
- **Technical Coordination Group**: A. Ball
Annex 3: Participation in the Collaboration

3.1 Procedure for Considering New Collaborators

1. A group wishing to join CMS should contact the Spokesperson expressing their interest. (A 'group' is understood to be a unit from an academic/research institute or a formal collaboration of such units.)

2. The Spokesperson will bring the matter to the attention of the Management Board, and in particular will invite comments from the Project Managers on how the prospective collaborators might be integrated into the experiment and will consult the appropriate Regional Representative. The Regional Representative reports to the Management Board the views of institutes who have associations with the applicant and/or are supported by the same funding agency.

3. If sufficient interest is expressed by the Management Board, a letter (see Annex 4) will be sent to the applicant by the Resources Manager, requesting information concerning the financial viability of the group.

4. If the Management Board judges the reply to be satisfactory, the group will be invited to make a short presentation at a future Collaboration Board meeting, giving information on the composition and experience of the group, its proposed contribution to the experiment and its other commitments.

5. After the presentation, the Collaboration Board will have a first discussion, and any questions raised will be passed on to the applicant or clarification.

6. The application will be considered further at a later Collaboration Board meeting (normally the following one if all questions have been satisfactorily addressed in time) and a final decision will be made.

7. The Spokesperson will communicate the outcome to the applicant.

8. If the Management Board does not express a positive opinion after step 2 or step 4, the matter will nevertheless be put before the next Collaboration Board. If the Collaboration Board supports the Management Board’s view, the Spokesperson will be instructed to write a letter of rejection to the applicant. If the Collaboration Board disagrees with the Management Board and wishes to pursue the application further, the Spokesperson will be instructed to inform the group of the situation, invite them to make a presentation to the Collaboration Board addressing the points listed under paragraph 4 and paying particular attention to any issues which have given rise to concern.
3.2 Security of membership in the Collaboration

1. No group may be expelled from the Collaboration, unless this action is endorsed by the Collaboration Board. Such an endorsement would require a two thirds majority of votes cast in an e-mail or postal ballot, following a full discussion at a Collaboration Board meeting.

3.3 Associated Institutes

1. The status of Associated Institute provides a means of formally recognising a group supplying specialist expertise in computing or engineering, but not interested in participating in the physics analysis of CMS. Such an Institute appears in all listings of the Collaboration membership, with a flag referring to an appropriate explanatory footnote. If the group has five or more members, it has observer (non-voting) membership of the Collaboration Board. If it has less than five members, it is represented by an established member of the Board. The Institute is not normally expected to pay a Common Fund Contribution or contribute to the general running costs of the experiment.

2. The mechanism for considering an application for Associated status is the same as that for considering applications for full membership.

3. Members of a group from an Associated Institute will not normally be included as authors of CMS physics publications. They may appear as authors of CMS related technical papers arising from their contributions to the project.

4. The status of an Associated Institute may be subjected to review by the Collaboration Board should the circumstances, under which Associated status was originally agreed, undergo a significant change.
Annex 4:
Letter for Considering New Collaborators

Subject: Proposed participation of Institution in CMS Experiment

Dear ..........,

We acknowledge the interest of your institute to participate in the CMS Collaboration. However, before you can be invited to the CMS Collaboration Board to present your application we need clarification on whether your institute will be able to

– fund the construction of the detector components for which you will accept responsibility,
– make the appropriate contribution to the CMS Common Projects,
– contribute to the cost of detector R&D, prototyping, calibration, etc.
– pay for the travel and subsistence of your own personnel without support from CERN,
– bear your appropriate share of future operating expenses.

Would you please confirm that your institution will be able to meet these conditions.

Yours sincerely,

Diether Blechschmidt
CMS Resources Manager

Please note also that for all institutions from countries which are not a CERN Member State, CERN may request, in addition to the above mentioned contribution to the LHC Experimental Programme, a contribution to the LHC machine construction.

cc. R. Brown/Chairperson of Collaboration Board
M. Della Negra/Spokesperson
Annex 5:
Members of the Committee for Nomination of Speakers to Conferences

At present, the members of the Committee for Nominations of Speakers to Conferences are:

- Chairperson of the Committee: C.-E. Wulz
- Chairperson of the Collaboration Board: R. Brown
- Spokesperson: M. Della Negra
- Deputy Spokesperson: T. Virdee
- Technical Coordinator: A. Hervé
- Physics Coordinator: D. Denegri
- Representative from Software / Computing Project: V. Innocente
- Representative for Europe: J. Tuominiemi
- Representative for Russia / Dubna Member States: V. Gavrilov
- Representative for USA: H. Newman
- Representative for other Countries: S. Ganguli

The Chairperson of the Committee is nominated by the Chairperson of the Collaboration Board. The nomination must be submitted to the Collaboration Board for approval. The term of office of the Chairperson is three years and may be renewed.

In some cases membership of this Committee is associated with a position of responsibility in CMS and, as a consequence, the terms of office are already defined elsewhere.

Representatives from the Software / Computing Board and for regions are nominated by the Chairperson of the Collaboration Board. The nomination must be submitted to the Collaboration Board for approval. The term of office for these positions is three years and may be renewed.
Annex 6:
Rules for Nomination of Speakers to Conferences

1. The organization of the CMS representation in High Energy Physics and related Conferences, as well as in open presentations of CMS, is the responsibility of the CMS Conferences Committee.

2. The general procedure for nominations to conferences is the following:
   - the Collaboration Board members are asked for names of candidates to represent CMS;
   - other names can be added by the Committee members;
   - from this list the Committee will select a final proposal to be approved by the Management Board and endorsed by the Collaboration Board.

3. In case of subdetector related conferences the subproject Technical Board, in coordination with the Committee, will select the speakers; the decision must be endorsed by the subproject Institution Board.

4. Invited speakers to international conferences or international laboratories inform the Committee.

5. The Committee should be informed of invited speakers to national conferences or national institutes.

6. In urgent cases the Committee will select the CMS speaker and will inform afterwards the Management Board and the Collaboration Board.

7. The criteria to be used in the selection are the following:
   - competence in the conference topic;
   - degree of involvement in CMS;
   - balance between countries and institutes in CMS.

8. The Chairperson of the Committee is responsible to maintain a proper account of the CMS representation to conferences. This information will be published regularly.
Annex 7: Rules for CMS Notes and Reports

CMS documents which are intended for distribution (internally and / or externally) can be classified in different categories. At present, rules have been defined only for the following three classes of CMS documents:

- CMS NOTES designated by the code - [CMS Note year/xxx]
- CMS CONFERENCE REPORTS - [CMS CR year/yyy]
- CMS INTERNAL NOTES - [CMS IN year/zzz]

1. CMS NOTES

- are an official instrument of documentation and publication.
- are reviewed and must be approved by an independent referee (i.e. a CMS physicist who is not an author of the note). The first iteration of the reviewing process is limited to two weeks. The name of the referee must be accessible to all members of CMS.
- will be distributed to major high energy physics laboratories and institutes.
- contain only information which is approved to be distributed outside of CMS.

The author(s) of a CMS Note must send the paper draft either to the overall coordinator or to the appropriate contact person (see below).

2. CMS CONFERENCE REPORTS

- are written by CMS members who presented a CMS related talk at a conference, a workshop or an official meeting outside of CMS.
- may also carry (institute) preprint number(s).
- need not be reviewed by a referee.
- may be distributed, on request by the author, outside of CMS similar to CMS Notes.
- may thus contain only approved information (i.e. information contained in CMS Notes or which has been approved by the respective Institution Board; see details in the CMS Constitution).

3. CMS INTERNAL NOTES

- are for CMS internal reference and use only.
- are intended for fast and informal dissemination of information to members of CMS.
- need not be reviewed by a referee.
- must however be sent to the contact person (for information only).
4. Common Guidelines

- all notes must be available in LaTeX or in Microsoft Word. Style files for these will be provided and must be used.
- in addition, all notes must be provided as a Post Script file, to be stored on the CMS WWW home page alternatively, PDF format may also be accepted).
- note and report numbers are issued by the CMS secretariat (CMS Notes: only if approved by referee).

5. Overall Coordination

The Spokesperson has ultimate responsibility for issuing all CMS Notes although he / she may delegate tasks to an overall coordinator who will:

- supervise the organisation and distribution of all CMS notes.
- designate internal referees (CMS Notes).
- decide in cases where referee and author(s) do not agree.

6. Contact Persons

The contact persons are, in general, the project managers, or later, if physics results are to be presented, the convenors of the respective physics working groups. They either review the paper themselves or appoint another referee.

7. Resolution of Conflicts

Should a conflict arise between authors or between author and referee, the Contact Person will decide. In extraordinary cases it may be necessary for the Chairperson of the subdetector Institution Board concerned, or the CMS Spokesperson, to inform the editors of a journal that a submitted paper is not endorsed by CMS. Should this occur, the CMS Collaboration Board will decide on what further action should be taken.

8. Backward Compatibility

CMS Technical Notes which were written before the implementation of these rules may be turned into CMS Notes. In this case the note must undergo the same procedure as that required for all CMS Notes.
## Annex 8: Election Rules

### Positions - Elections / Nominations - Terms

<table>
<thead>
<tr>
<th>Position</th>
<th>Elected by</th>
<th>Nominated by</th>
<th>Regular Term</th>
<th>Next Term Starts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spokesperson</td>
<td>Collaboration Board(^{(1)})</td>
<td>Spokesperson(^{(2)})</td>
<td>3 years</td>
<td>1/1/2001</td>
</tr>
<tr>
<td>Deputy Spokesperson</td>
<td></td>
<td>Spokesperson(^{(2)})</td>
<td>3 years</td>
<td>1/1/2001</td>
</tr>
<tr>
<td>Chairperson of Collaboration Board</td>
<td>Collaboration Board</td>
<td>Chairperson of Collaboration Board(^{(2)})</td>
<td>3 years</td>
<td>1/1/2000</td>
</tr>
<tr>
<td>Deputy Chairperson of Collaboration Board</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMS Resources Manager</td>
<td>Spokesperson(^{(3)})</td>
<td></td>
<td>3 years</td>
<td>1/1/2001</td>
</tr>
<tr>
<td>CMS Budget Coordinator</td>
<td>Resources Manager(^{(7)})</td>
<td></td>
<td></td>
<td>1/1/2001</td>
</tr>
<tr>
<td>CMS Technical Coordinator</td>
<td>Spokesperson(^{(3)})</td>
<td></td>
<td>3 years</td>
<td>1/1/2001</td>
</tr>
<tr>
<td>CMS Deputy Technical Coordinator</td>
<td>Technical Coordinator(^{(7)})</td>
<td></td>
<td>1/1/2001</td>
<td></td>
</tr>
<tr>
<td>&quot;Regional&quot; Representatives in Management Board</td>
<td>&quot;Region&quot;(^{(4)})</td>
<td></td>
<td>2 years (suggested)</td>
<td></td>
</tr>
<tr>
<td>Subdetectors Project Managers</td>
<td>Spokesperson(^{(5)})</td>
<td></td>
<td>3 years</td>
<td>1/1/2002</td>
</tr>
<tr>
<td>Subdetectors Technical Coordinators</td>
<td>Subdetector Project Manager(^{(6)})</td>
<td></td>
<td>3 years</td>
<td>1/1/2002</td>
</tr>
<tr>
<td>Subdetectors Resources Managers</td>
<td>Subdetector Project Manager(^{(6)})</td>
<td></td>
<td>3 years</td>
<td>1/1/2002</td>
</tr>
<tr>
<td>Chairpersons Institution Boards</td>
<td>Institutes in Subdetector</td>
<td></td>
<td>2 years</td>
<td>1/1/1999 (1st part) or 1/1/2000 (2nd part).</td>
</tr>
</tbody>
</table>

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1. Consultation with the CERN Directorate will be part of the procedure for appointing the Spokesperson.
2. To be endorsed by the CMS Management Board and the CMS Collaboration Board.
3. In consultation with CERN, to be endorsed by the CMS Collaboration Board.
4. "Regional" Representatives are reviewed on a regular basis (suggestion: every two years) by the institutes within a given (regional) structure, usually a country or a group of countries (i.e., Russia / Dubna Member States etc.). The "regions" presently represented in the CMS Management Board are shown in Annex 10 of this document.
   The term for the representation of "Other CERN Member States" and for "Other CERN Non-Member States" in the CMS Management Board is limited to two years. For the following two terms (four years) the new representatives must come from different countries. Reelection after two terms is possible.
5. Project Managers are nominated by the Spokesperson after consultation with the appropriate Institution Board towards the end of the current term. The Physics Coordinator, the Chairpersons of the Magnet Technical Board, the Software Coordination and the Electronics are nominated in the same way as the Project Managers after consultation with the CMS Management Board. All nominations are to be endorsed by the CMS Management Board and to be ratified by the CMS Collaboration Board.
6. The Spokesperson and the respective Project Manager are jointly responsible for appointing a Technical Coordinator and a Resources Manager for the project. Their nominations are endorsed by the respective Institution Board and the CMS Management Board.
7. In consultation with the Spokesperson, to be endorsed by the Management Board.
Annex 8 - continued

GENERAL CONDITIONS

The renewal of a position - either elected or nominated - at the end of the term of office is allowed.

The holder of each of these positions may choose to nominate a Deputy who would serve for the same term of office. The nomination would be subject to approval by the relevant board.

All regular votes shall always be held in the middle of a year such that the following term begins on January 1 of the following year.

The responsibility for monitoring the performance of the Project Managers and their Management Teams lies primarily with the respective Institution Board. If shortcomings are found, the Institution Board may recommend to the Spokesperson that a change should be made to the management structure.

Similarly, the CMS Collaboration Board and CMS Management Board should monitor the performance of holders of senior federal positions within the Collaboration. Should problems arise concerning the Spokesperson or Deputy Spokesperson, the recommendation for change should be made to the Chairperson of the CMS Collaboration Board. In all other cases it is the Spokesperson who should be consulted.

The decision whether or not to hold a vote on such an issue will be taken by the Chairperson of the relevant Institution Board, or CMS Collaboration Board. Voting will be conducted by the Institution Board if the competence of the member of a project team is called into question, and by the CMS Collaboration Board if the issue concerns holders of federal posts. A decision for change will require a 2/3 majority.
Annex 8 - continued

Procedures for Election of the CMS Spokesperson, and the Chairperson of the CMS Collaboration Board, to be elected by the CMS Collaboration Board

- Each institution representative of the Collaboration Board has one vote, to cast on behalf of their institution(s).

- The ballot is secret.

- All members of the CMS Collaboration are eligible to stand for election to the position. The Spokesperson and the Chairperson of the Collaboration Board should not hold another Management Board position except "Regional Representative". This means that such a candidate, if elected, has to resign from the other position.

- The organization and management of the elections will be carried out by an Election Committee. In preparing the election, the Committee shall invite nominations from all CMS institutes, consider these nominations and prepare a list of candidates for election to the Collaboration Board.

For the election of the Spokesperson, the Chairperson of the Collaboration Board will be a member of the Committee. For the election of the Chairperson of the Collaboration Board, the Spokesperson will be a member of the Committee.

Each member of the Management Board representing a region shall nominate one representative of their region for the Election Committee. Members of the Election Committee must be members of the CMS Collaboration. The nominations for the Election Committee are to be endorsed by the Collaboration Board.

The CMS Resources Manager is responsible for organizing the business of the Election Committee, acting as its secretary. The Committee members designate one member of the Committee as Chairperson.

- In case of absence, the member of the Collaboration Board may nominate a delegate who is present during the discussions preceding the election. The delegate must be a member of the CMS Collaboration, but could come from a different institute as the usual representative. The Election Committee must be informed in advance and in writing about the delegation of vote. The delegate may vote on behalf of the institute whose usual representative is absent.

- A delegate may represent only one absent institution representative and may therefore cast no more than one vote in the election.

- Voting by mail, fax, e-mail or other means will not be accepted.
Annex 8 - continued

– The regular votes shall be held on the Tuesday of CMS Weeks at CERN. If possible, they should be held about six months before the regular term expires.

– All elections must be announced at the preceding Collaboration Board meeting, but at least six weeks in advance.

– The Spokesperson (Chairperson of the Collaboration Board) will nominate his/her Deputy Spokesperson (Deputy Chairperson of the Collaboration Board) within two days after election. The choice of the Spokesperson (Chairperson of the Collaboration Board) has to be endorsed by the Management Board and the Collaboration Board.

– The candidate who has received at least 50% of all cast votes is elected. If no candidate receives this majority, the two candidates with the largest number of votes will participate in a runoff election, which will take place on the same day.

– If there is only one candidate who accepts nomination, the election will proceed and the choice offered will be to vote for or against one single candidate. The candidate will be declared elected if the 'Yes' votes amount to at least 50% of the votes cast. (It should be noted that in this situation, namely where there is only one candidate on the ballot sheet, an abstention effectively counts as a 'No' vote.) If there is a single candidate who fails to receive at least 50% of the votes cast, or if there is no candidate willing to stand, a new election will be scheduled for the following Collaboration Board meeting.

– In exceptional cases, the Chairperson of the Election Committee may ask the Management Board to fix the date for a non-regular election. Also these non-regular elections must be held at Collaboration Board meetings and must be announced six weeks in advance.

– Modifications, amendments or alterations of these rules will require a 2/3 majority.
Annex 9:

Members of the Collaboration Board Advisory Group

At present, the members of the Collaboration Board Advisory Group are:

- Deputy Chairperson of the Collaboration Board | S. Bethke
- Secretary of the Collaboration Board | M. Pimiä
- Secretary of the Management Board | H. Rykaczewski
- Chairperson of the Committee for Nominations of Speakers to Conferences | C.-E. Wulz

The composition of the Advisory Group is at the discretion of the Chairperson of the Collaboration Board. The membership needs not always correspond to the list above, but it will always include the Deputy Chairperson and the Secretary of the Collaboration Board. The membership does not require endorsement by any other body of CMS.
Annex 10:

Regional Representatives in the CMS Management Board

At present, the following "Regions" are represented in the CMS Management Board:

- CERN
- France
- Germany
- Italy
- Russia and Dubna Member States
  (at present: Armenia, Belarus, Bulgaria, Georgia, Slovak Republic, Ukraine and Uzbekistan)
- Switzerland
- United Kingdom
- U.S.A.
- Other CERN Member States Countries
  (at present: Austria, Belgium, Finland, Greece, Hungary, Poland, Portugal and Spain)
- Other Non-CERN Member States Countries
  (at present: China, Croatia, Cyprus, Estonia, India, Korea, Turkey and Pakistan)
Annex 11.1:
Organisational Structure of the CMS Management Board and Steering Committee
Annex 11.2: Organisational Structure of the CMS Finance Board

CMS Finance Board

- CMS Budget Coordinator: J. Varela
- CMS Resources Manager: D. Blechschmidt
- CMS Spokesperson: M. Della Negra, T. Virdee (Deputy) (ex-officio)
- CMS Technical Coordinator: A. Hervé (ex-officio)

Subdetectors:
- Tracking: M. Mannelli
- ECAL: H. Rykaczewski
- HCAL: J. Hanlon
- Muons: C. Peroni
- Trigger / DAQ: J. Varela

Common Projects:
- Magnet: H. Rykaczewski
- Software & Computing: I. Willers
- Infrastructure: D. Campi

Link-Persons to CMS Funding Agencies:

- Austria: C.E. Wulz
- Croatia: J. Tudoric-Ghemo
- France: J. Badier (IN2P3), J. Rander (Saclay)
- India: S. Ganguli
- Poland: J. Krolikowski
- Switzerland: H. Hofer (ETH), Q. Ingram (PSI)
- Belgium: W. Van Doninck
- Cyprus: P. Razis
- Germany: T. Müller
- Italy: R. Castaldi, G. Zumerle
- Portugal: J. Varela
- Turkey: M. Zeyrek
- CERN: D. Blechschmidt
- Estonia: E. Lippmaa
- Greece: A. Vayaki
- Korea: N.N.
- Russia/Dubna: I. Golutvin (Dubna), V. Matveev (Russia)
- United Kingdom: R.M. Brown
- China: W. Li
- Finland: J. Tuominiemi
- Hungary: G. Vesztergombi
- Pakistan: H. Hoorani
- Spain: M. Cerrada
- USA: E. Temple (DOE), S. Reucroft (NSF)

30 Oct. 1998