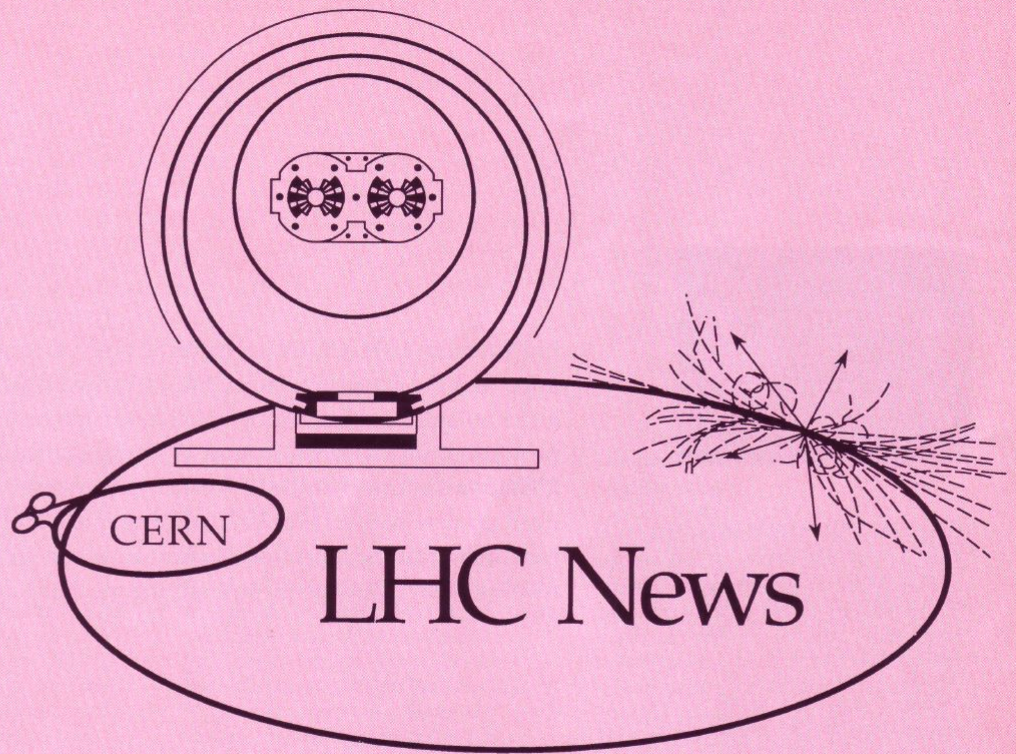


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At the June 1995 meeting of CERN's governing body, Council, Kaoru Yosano (left), Japan's Minister of Education, Science and Culture, presents CERN Director General Chris Llewellyn Smith with a 'daruma' doll, marking the commencement of Japanese collaboration in CERN's LHC proton-proton collider project. In Japan, daruma dolls are traditionally kept in a shrine awaiting the successful fulfilment of an ambition, when the remaining eye is painted. Looking on is Council President Hubert Curien.

*Photo CERN*

The bulletin of CERN's  
Large Hadron Collider – LHC

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## LHC

In December 1994, CERN's governing body, Council, officially approved the construction of CERN's Large Hadron Collider (LHC) - a technologically challenging superconducting ring to provide proton-proton collisions around 14 TeV. Installed in the existing 27-kilometre tunnel of the LEP electron-positron collider, LHC will open up new physics horizons, probing interactions between proton constituents at the 1 TeV level, where new behaviour is expected to reveal key insights into the underlying mechanisms of Nature.

## Contents

LHC - a global project	3
Machine update	4
Magnet string test	7
Progress towards experiments	11
ATLAS and CMS	12
Detectors to resist radiation	18



## LHC – a global project

Particle physics research in general, and CERN's role in particular, are becoming increasingly global in nature, and the LHC is setting a new scale in inter-regional scientific collaboration.

In terms of prospective use, the LHC is already a global project. As well as researchers and engineers from CERN's 19 European Member States, preparations for the LHC's experimental programme now include scientists from 22 other countries in many parts of the world. Nearly 50 per cent of the researchers involved come from countries which are not CERN Member States.

The recent decision by the Japanese Ministry of Education, Science and Culture ('Monbusho') to make a generous contribution of five billion yen (about 65 million Swiss francs) to help finance the construction of the LHC is a major step in the "globalization" of the LHC in terms of support, and a landmark in interregional scientific co-operation generally. This money will be

held in a special fund earmarked for construction of specific LHC components and related activities.

At a historic meeting of CERN's governing body, the Council, on 23 June, Japan was elected a CERN Observer State, with the right to attend Council meetings. Speaking in his new role as Observer State spokesman, Kaoru Yosano, Japan's Minister of Education, Science and Culture, looked forward to the LHC project opening new scientific frontiers.

However with its research programme attracting such interest, CERN is looking to establish new procedures so that countries outside Europe would have a voice in CERN affairs reflecting their increased involvement.

Following guidelines established by ICFA (the International Committee for Future Accelerators), facilities at high energy physics laboratories have traditionally been open to all, regardless of financial involvement in the particular

laboratory, the main criterion being scientific merit.

At the time these guidelines were drawn up, the grouping of world-wide research facilities was more evenly spread and these scientific migrations tended to even out over an extended period. For a *unique* facility, such as the LHC, which will provide a world focus over a long period of time, it is only fair that countries whose physicists will use it extensively should be asked to contribute. In return, however, these users and their funding agencies should be able to influence not only the running of their specific experiments but also policy decisions affecting the overall project.

Non-Member State researchers are already represented as individuals to advise CERN on scientific issues in the Scientific Policy Committee (which advises the CERN Council) and on the various research committees which advise the Director-General. This tradition will be continued and extended with the creation of a new LHC Machine Advisory Committee and an LHC Board. The latter, which will advise the Director-General, will provide a mechanism for discussion and co-ordination with representatives of all outside institutes and funding agencies responsible for construction of LHC components.

To take account of the new situation, CERN is proposing to set up a totally new 'Associate' status for countries that



*At the June 1995 meeting of CERN's governing body, the Council, Japan was accorded Observer status, an important milestone en route to Japanese collaboration in the LHC. The Japanese delegation was led by Kaoru Yosano (left), Minister of Education, Science and Culture.*