

CERN Courier Archive: 1970

A LOOK BACK TO CERN COURIER VOL. 8, JANUARY/FEBRUARY 1970, COMPILED BY PEGGIE RIMMER

CERN

On computing

The amount of computing done at CERN doubled annually from 1962 to 1967. Since then the growth rate has decreased somewhat to a doubling every two years. To keep installed capacity in line with the foreseeable demand for about the next two years, an "interim solution" was completed in January. The CDC 6400, which together with the CDC 6600 provides the central computing service, has been converted into a 6500 with the addition of a second processor, an additional 64 K of core store and some peripheral equipment.

Study groups have looked at computing requirements for the coming years, taking into account such predictable items as the number of bubble chamber pictures, the number of events from electronics experiments, the number of physicists at CERN etc. Their studies show that a computer with several times the capacity of a CDC 6600 will be needed from the beginning of 1972. Beyond that requirements are less clear but the improvement programme at the 28 GeV Proton Synchrotron and the start-up of the Intersecting Storage Rings suggest that by about 1975 the capacity will need to be about 10 times that of a CDC 6600.

Computing Fellowships

CERN has recently extended its long established Fellowship programme in particle physics. The new programme provides opportunities, initially on a modest scale, for Member State scientists and engineers to

participate in aspects of CERN's work where the facilities and expertise are among the most highly developed in Europe. The field of computers is a predominant example and a limited number of scientists can now come to CERN on Fellowships for up to two years to do computer research.

Computing requirements of the Laboratory are often at, or beyond, the limit of commercially available equipment and systems. This has led to CERN carrying out considerable research into developing new computing techniques and in applying them to physical, mathematical or engineering problems.

Looking ahead, CERN is concerned with overall computer system design, and problems associated with communication networks, multi-processor systems, large volume permanent storage systems and multi-access systems.

Computing school

This year, for the first time, CERN is organizing a "Computing and Data Processing School". It will be held at Varenna in Italy and is open to about 70 young computer scientists and high-energy physicists coming principally from the CERN Member States.

The initiation of this school, which may well become an annual event, recognizes the emergence of computer science during the past two decades as a subject in its own right. It is felt that considerable benefit will come from bringing together computer scientists

and computer users. Computer scientists will appreciate the problems of the experimental physicist and may see more clearly the lines of research which could ease them; experimental physicists will appreciate the possibilities and limitations of computers by seeing the current state of the art in computer science.

● Compiled from texts on pp36–37.

Tower of Babel undermined

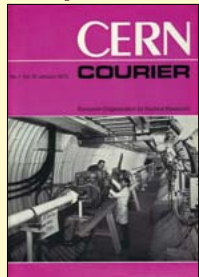
Conventional language courses have been available at CERN since 1957, under the auspices of the Staff Association; nearly 350 pupils took these courses in 1969. For just over a month, a "language laboratory" has been in use for those who wish to learn English or French or Russian rapidly. Using the very latest audio-visual methods, it gives a facility, particularly in the field of pronunciation, almost unthinkable with more conventional systems. As soon as the project became known there was a rush to join and over 400 students are now enrolled.

● Compiled from texts on p46.



The new "language laboratory" at CERN.

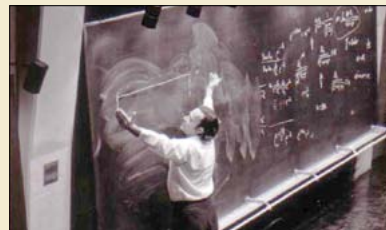
Compiler's Note



At a time when few universities were offering fully fledged computer science degrees, the insatiable need of high-energy physicists for computing power put CERN ahead of the curve. Already primed to tackle problems associated with communication networks and multiprocessor systems, CERN was fertile ground for the invention of the World Wide Web, just 20 years after these articles were written.

And training? Currently 133 of CERN's 545 Fellowships are in computing, and Uppsala, Sweden, hosted CERN's 35th Computing School in August, 2012. And interdisciplinarians? When Nobel laureate Richard Feynman, quantum-computing pioneer, and Nicholas Metropolis, Monte Carlo-method pioneer, grew tired of repairing the mechanical

calculators used by human computers working on the wartime Manhattan Project at Los Alamos, they set up a more robust alternative, using IBM punched cards.



Visiting CERN in January was RP Feynman, who has recently been working on strong interaction theory. On 8 January, he packed the lecture theatre, as usual, when he gave a talk on inelastic hadron collisions and is here caught in a typically graphic pose.

● Compiled from texts on p10.

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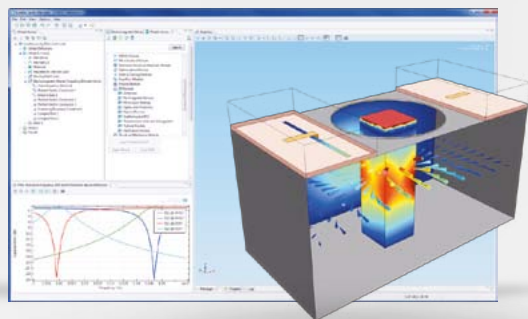


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