

are 'hors statut' are employed on contract for a limited period, whereas usually, in 'la recherche publique', researchers have the status of a civil servant, and are therefore guaranteed tenure).

There is also to be a large increase in the funds allocated to university research, due to go up from FF76 million in 1976 to FF120 million in 1977. This increase will rekindle the en-

thusiasm of the professors, who in return are urgently asked to put the affairs of the State Secretariat for Universities in order.

The research priorities of the Seventh Plan are, of course, the best safeguarded. Among these is research to reduce France's dependence on other countries for energy and basic materials. So FF195 million will be spent on providing new energy sources,

and FF45 million on uranium prospecting. In addition, special efforts are to be made to improve food production, scientific and medical instrument manufacture, prevention of pollution, and cooperation with underdeveloped countries.

It is indeed a budget which is misleading in its generosity, but which follows well-marked political intentions. □

## SOUTH AFRICA

●South Africa is to embark on the construction of a 200 MeV open sector cyclotron early in 1977, thanks to the award of a government grant of R570,000 (£1=R1.45) for the next stage of the project. This is in addition to the more than R200,000 already spent on feasibility studies.

The facility, which will be built near Cape Town, has been 4 years in the planning and is expected to be operational in 1983. In due course the cyclotron and its staff will absorb the functions of the present Southern Universities Nuclear Institute at Faure, and progressively replace the CSIR's cyclotron, which is expected to have a lifetime of only a further 6 years. The new cyclotron will be used primarily for the production of radioisotopes for medical research, for radiotherapy, and for nuclear physics research.

Responsibility for the facility will be vested in an independent company, still to be set up, the funding for which is likely to come directly through the office of the Prime Minister's Scientific Adviser.

●The Prime Minister's Scientific Adviser, Dr S. Meiring Naude, will retire at the end of the year. His successor is to be Dr A. P. Burger, a former director of the National Research Institute for Mathematical Sciences and currently a vice-president of the CSIR. Dr Naudé, a former president of the CSIR and one of South Africa's most respected scientific administrators, oversaw the introduction in 1973 of the procedure which is now followed for funding government-supported scientific research in South Africa. All requests for research grants are now channelled through the office of the Scientific Adviser, who alone pleads the case for state support for science with Treasury. Major research organisations in the public sector submit estimates for the coming year for both ongoing research and new projects.

Recent practice has been to award an across-the-board increase of at least 6% in grant aid to all appli-

cants mostly for ongoing research. As a means of exercising control on the direction of the national research effort, however, approximately 15% of the funds available have been assigned at the discretion of the Scientific Adviser to support projects recognised as being in the national interest. By this means, agricultural



research, which a few years ago was automatically given more research money than it had the resources to use effectively, now receives about 32% of the total compared with nearly half four years ago. In contrast, the budget of the National Institute for Metallurgy has been growing at about 25% annually, and that of the Human Sciences Research Council by at least 15%. Overall the national R&D budget has been growing by about 11% annually.

To help him in this sensitive task, Dr Naudé made use of an independent committee to set research priorities, consisting principally of eight senior scientists. Some were retired and others were attached to industry; none had a direct interest in the research organisations seeking support.

●Until it was closed down earlier this year, the deep space tracking station operated by the CSIR at Hartebeesthoek, 40 miles from Pretoria, had earned a reputation for being one of the most reliable of NASA's worldwide network of satellite tracking

facilities. Far from going out of business, the team of skilled engineers and excellent technical facilities built up during that period will now provide the basis for converting Hartebeesthoek into a monitoring station for remote sensing satellites.

The deputy president of the CSIR, Dr F. J. Hewitt, recently announced that plans are in hand to establish a line scan image processing facility service in conjunction with, initially, the Meteosat and Landsat satellites. When it becomes operational, Meteosat will play a crucial role in monitoring weather conditions over Southern Africa and the adjacent oceans. As for Landsat imagery, the new facility with its sophisticated electronic processing equipment will make it possible to collect remotely sensed data of much higher quality than is presently available from NASA in the form of transparencies of images recorded in different spectral bands.

The CSIR has become concerned that, in Southern Africa, too little advantage has so far been taken of what remote sensing satellites have to offer and, recognising that they are here to stay and bound to develop, is now to make a major effort to provide whatever facilities of hardware and software are needed to keep abreast of satellite technology. The CSIR will accept responsibility for the development of the more fundamental image processing methods, as well as for the provision of the usual infrastructural services at the tracking station. It is expected, however, that users will in time develop procedures for their own particular problems. Encouragement will also be given to sharing the facility with neighbouring territories, four of whom are already actively involved or interested in remote sensing.

Hewitt hopes that the station would be operational by August of next year, and that the sophisticated data processing and information extraction service will be available early in 1978.

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