SCIENCE CITY

Australia turns to the East

Sydney

AUSTRALIA's plans for a A$13,000 million futuristic city populated by high-technology workers from Japan and other Asian countries took a step closer to reality last week with the release of a consultant's report.

The study of the 'Multi Function Polis' by Andersen Consulting and Kinhill Engineers cost A$4.5 million and describes the new city as a "major urban centre of the future with a diverse economic base of knowledge-intensive industries built around a core of education-based activities". The city is essentially an attempt by Australia to internationalize its economy by selling its service industries.

On offer are Australia's strengths in seven areas: education; health; transport; leisure, entertainment and media; information and telecommunications; environment and agriculture; and construction and design. The prize is the skilled workers and professional staff who are at present emigrating to Canada and the United States from Asia.

"Good service industries such as education and health together with a pleasant lifestyle", could turn Australia into a beacon for Asian emigrants, according to Terry Hilsberg, previously first secretary of the Department of Technology, Industry and Commerce (DITAC), and a member of the committee that thought up the technopolis.

The consultant's report favours a single site, to be announced in June, for a city similar to Tsukuba science city in Japan. While a single site, with its central physical infrastructure, is considered more enticing for the overseas investors that will be vital to the project, it sets problems for Australia's dispersed resources — strength in biotechnology is concentrated in Melbourne, in information technology in Sydney and in materials science in West Australia.

A privately funded international university with a population of up to 200,000 from Australia and overseas will provide the core of the city. Infrastructure costs are expected to be provided for by the rise in land values once the site has been announced, according to Hilsberg.

Professor Gavin McCormack of the Centre for Asian Studies at Adelaide University says that Japanese companies will be asked to invest in certain sectors only after the site has been chosen. According to a spokesperson for DITAC, about 80 Japanese and 80 Australian companies have expressed interest and have invested money in the feasibility study.

The city is thought likely to generate up to 30,000 highly skilled jobs. The idea of a "multinational technology park bringing together high technology and other brain-based industries" originally arose four years ago out of a proposal by Japan's Ministry of International Trade and Industry (MITI) for a leisure park in Australia for overworked employees.

The Japanese have experience with large-scale urban planning. In the 1950s, several new towns were created to accommodate heavy industry; in the 1970s the emphasis shifted to planning for knowledge-based industry.

According to Hilsberg, however, Australians might be uneasy with following the Japanese way. "There are two problems — Australians see their future as lying with United States and Europe and still tied up with primary industry, which is a very fragile base for our economy — our future in fact lies with offering service industries such as health and education, which could be big export earners, to Asia."

Tania Ewing

ASTRONOMY

New northern sky atlas

Munich

THE European Southern Observatory (ESO) and Palomar Observatory, California, announced on 26 January that they would collaborate in producing the first new astronomical atlas of the northern hemisphere sky in over three decades. The observations, a series of 2,682 photographic plates that cover the whole northern sky, will be made with Palomar's refurbished 40-inch Oschin Telescope.

Later this year, ESO will begin making high-quality copies of plates. The resulting sky atlas, which will show stars up to seven times fainter than those in the current Palomar sky survey, will become a standard reference for astronomers worldwide.

A spokesman for Palomar said it would be less expensive for ESO to produce the atlas than it would be for Palomar itself, a result of ESO's long experience in the reproduction techniques required. ESO astronomer Richard West, who will supervise the project, said it was "an honour" that ESO had been asked to produce the atlas, and that as a bonus it would be able to provide cheaper copies of the atlas to institutes in the ESO member states.

The atlas will take 10 years to produce. Glass copies, of which fewer than 10 will be produced, will cost DM460,000 (about $270,000). Film copies will cost a mere DM60,000.

Steven Dickman

RADON LEVELS

More UK homes naturally at risk

London

THE number of homes defined as having 'potentially hazardous' levels of naturally occurring radiation may rise from 25,000 to 75,000, following the National Radiological Protection Board (NRPB)'s decision to halve its 'action level' for exposure to radon gas.

Radon, seeping up into buildings from uranium-bearing rocks, is the main source of human exposure to ionizing radiation, and is thought to cause some 2,500 deaths from lung cancer in the United Kingdom each year — the second most important cause of this disease after cigarette smoking.

NRPB first issued advice on radon exposure in January 1987. This was taken up by the government, and set the action level at 400 becquerels (Bq) per cubic metre. For average radiation exposure above this level, householders were advised to make simple alterations — blocking up cracks in floors through which radon could seep, and improving under-floor ventilation — in many cases to be paid for by the government. A lower level, 100 Bq m^{-3}, was suggested for newly built houses.

The new recommendations, released on 12 January and accepted by the government, suggest a single level of 200 Bq m^{-3} for all homes, and are based on surveys of lung cancer rates in uranium miners. These suggest that the risk posed by radon may be two to three times greater than thought previously.

The NRPB suggests that monitoring of radiation levels should be concentrated on 'affected areas', where it is likely that more than one per cent of homes fall above the new action level. Most of these will be in the southwest of England, but the new action level means that parts of Derbyshire and Northamptonshire, in the English Midlands, may also be included.

The NRPB's advice will still not bring the United Kingdom in line with the United States, which adopted a level of 150 Bq m^{-3} in 1986. But Michael O'Riordan, head of NRPB's radon programme, said that the new action level set a proper balance between the risks involved and the feasibility of solving the problem. "Adopting a lower level would . . . mean that attention might not be focused on those parts of the country with the worst problems."

Peter Aldhous