Australia

Harvesting biotechnology

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Australia has been a quiet player on the international biotech scene, but in recent years it has been taking strides to reinvent itself as tomorrow's young entrepreneur. This supplement to *Nature* charts that transformation.

The Australian federal government's announcement last month of a ten-year investment programme for research and development (R&D) should please biotech developers. The package includes more than A$1 billion (US$700 million) over the next seven years to help bring Australian research discoveries to market. This will merge and supersede several existing programmes, creating a 'one-stop shop' for developers and investors alike to commercialize Australian research discoveries.

The initiative follows a tendency in recent years for the nation's researchers to focus their attention on areas deemed to be of national priority, an agenda set by the government in 2002 (see *Nature* **420,** 591; 2002). The Commonwealth Scientific and Industrial Research Organisation (CSIRO) — Australia's largest research body — led the movement, redirecting a third of its budget into six priority areas.

This shift towards applied science has stirred controversy among academics, who tend to advocate pure research, unfettered by commercial pressures. Nonetheless, the consequence will probably be a determined drive by Australian researchers to push discoveries through to application and commercial endpoints.

It will be a tough road to follow, but the nation prides itself on backing 'battlers'. Despite its small population, Australia has a solid reputation in basic research spanning the biomedical, physical and engineering sciences, and makes a notable contribution to the international scientific literature — with one of the highest number of publications per capita in the world.

However, its track record in the biotech marketplace is undeniably weak. The lack of biotech success stories is often attributed to a combination of poor commercial skills in the scientific sector and scant interest from the private investment sector. The level of R&D investment trails below the average for countries in the Organisation for Economic Co-operation and Development (OECD), and the biggest challenge seems to be attracting investors, both domestically and abroad.

But the tide seems to be changing, and this inspired us to produce this supplement to coincide with BIO 2004, the annual convention of the Biotechnology Industry Organization and one of the world's largest biotech meetings. In these pages, a team of science and business journalists profiles core areas where Australia has notable potential because of strong research and unique resources.

For a continent that has long lived off the sheep's back, it is fitting that one of the areas where Australia is likely to see considerable biotech growth is in agriculture, in particular crop enhancement. This sector has enjoyed a long and sustained public investment and the returns are starting to flow in the form of strong research prominence and near-term commercial applications. Growing environmental pressures have also seeded investment into land-management technologies.

More recently, there have been speculative forays in the discovery of natural products, harvesting the fruits of unique ecosystems to generate novel drug leads. And, although Australia's medical biotechnology sector has a comparatively modest standing internationally, early signs indicate that it is learning how to garner sufficient support to take discoveries through the development pipeline to clinical trials.

Finally, being on the doorstep of Asia places Australia in a strategic position for joint ventures and for attracting investment from some of the most rapidly growing economies. There are already well-established educational, political and economic ties between Australia and its regional neighbours. Science offers a bridge between vibrant emerging biotechnology communities.

We are grateful for the support of our advertisers, who made it feasible for us to showcase some of the leading talent in Australia's biotechnology industry. *Nature* carries sole responsibility for all editorial content.

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