

Unique Technology Driving High Growth in Production

James Hardie's high growth strategy is supported by the development and exploitation of unique production technology, and differentiated products.

Last year, we increased our research and product development expenditure by 30% to around US\$21 million, or 3% of our sales. We employ over 100 scientists, engineers and technicians in Core Research and in Product & Process Development. Over 50% of our scientists have advanced degrees, and 45% have worked for James Hardie for over five years.

Core Research, based at our Global Research & Development Centre in Sydney, Australia, develops technologies that have the potential

to become new generations of products and production processes.

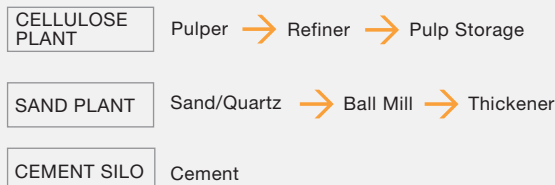
Product & Process Development units in Sydney and in Fontana, California, transform these technologies into new and more efficient ways of manufacturing our products, and into new products that meet specific market needs.

By investing in process technology, we aim to keep reducing our capital and operating costs, and at the same time find new ways to make existing and new products.

Over the past ten years, advances in process technology have allowed us to build new plants significantly faster and at a lower cost than our competitors. We have also been able

SHOWN BELOW: HOW WE MAKE FLAT SHEET PRODUCTS

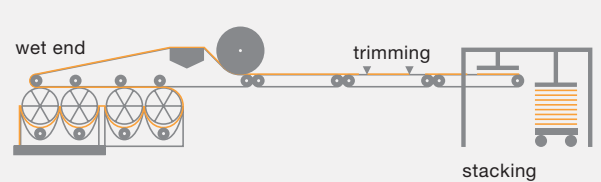
RAW MATERIALS



MIXING PROCESS



SHEET MACHINE



THE COMPANY HAS NUMEROUS GROWTH OPPORTUNITIES. OUR CHALLENGE IS TO SELECT



30%
Increase in research and product development expenditure

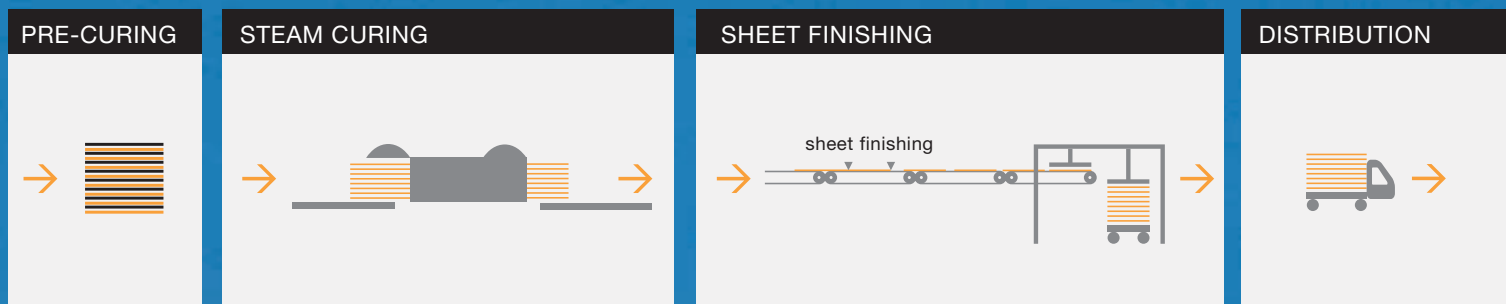
to significantly reduce the incremental cost of additional capacity at existing sites. For example, we increased the capacity of our plants in Texas and Washington by 33% but at a cost equal to just 15% of the cost of the original capacity.

At the same time, we have reduced the cost of raw materials through yield improvements in the plants; by providing technological support to drive process improvements in our suppliers' operations; and from the greater competition that comes from our business scale.

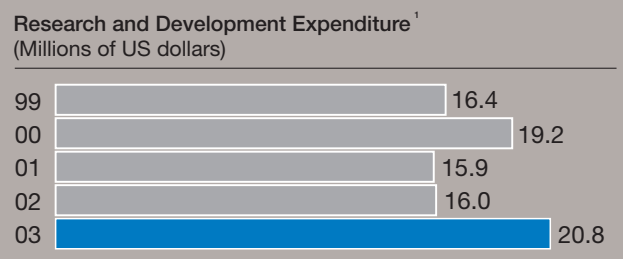
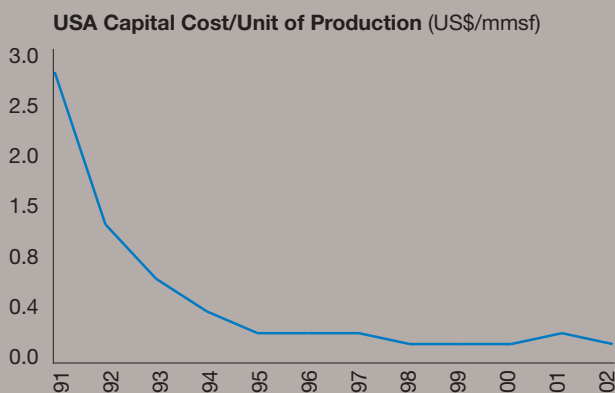
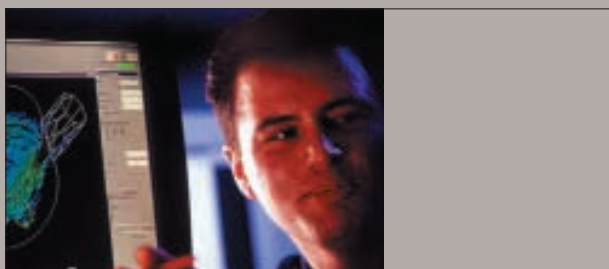
We also benefit from superior economies of scale, since we operate plants that are two to three times larger than our competitors.

- Our goals are to:
- continue to lower the capital cost of each unit of production at new plants by learning from past projects and through continuing innovation in engineering, and
 - reduce operating costs at all plants by improving manufacturing processes, raw material yields, and machine productivity.

Efficient, low-cost manufacturing, coupled with our unique technology, will allow us to generate higher returns on invested capital because we will be able to sell our products at prices that are attractive to our customers, and achieve a profit margin that is attractive to shareholders.



THE MOST APPROPRIATE AND OPTIMISE OUR RETURNS ON THE INVESTMENT



¹ Research and development expenditure includes amounts classified as selling, general and administrative expense for US GAAP purposes in the amounts of US\$2.7 million, US\$1.9 million, US\$1.4 million, US\$0.9 million and US\$0.6 million for the years ended 31 March 2003, 2002, 2001, 2000 and 1999, respectively.