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BUILDING CONSTRUCTION TECHNOLOGY ROADMAP

Part 1:

Introduction

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The purpose of a technology roadmap is to use the best available knowledge to look into the future with regard to a particular technology need and to map a plan of action to meet that need.

In Australia, home construction has enjoyed a periodic cycle of high growth for some time and the industry is going through considerable change. Consolidation in the industry is one example. Of the approximately 30,000 builders active in 1992, the top 100 accounted for 17 per cent of the market for dwellings, while in 2004 it is predicted that the top 100 builders will supply 51 per cent of this market. Over the same 12-year period, there has also been a 16 per cent increase in house construction costs from \$605 per m² to \$705 per m² in 2004 dollars.

In 2001, the number of dwellings of all types in Australia totalled close to 7.6 million [2001 ABS census]. In 2002 and 2003 there were respectively 164,407 and 169,945 new starts. If future starts are projected at, say, 150,000 dwellings per year, then, from a figure of 7.9 million dwellings in mid-2004, there will be a further 3 million dwellings built between now and 2025.

At the same time, the market is changing, with significant shifts in the demographics of Australia's population. The 70-to-84 age group is projected to increase from 1.5 million in mid-2004 to 3.1 million by 2025. Over the same period, the 85+ age group will more than double from 325,000 to 770,000.

Concurrently, there is a remarkable increase in available high technology associated with communications, microprocessors and microsensors and systems convergence, plus the possibly disruptive application of nanotechnology.

Many of these technologies have undergone a high degree of development in the aircraft and motor vehicle industries and, as the costs of such technologies are also decreasing, new and wide ranging applications for the home are emerging.

The purpose of this Technology Roadmap is to look forward to the year 2025 and develop a view of the home as it may appear in 20 years' time, to predict the **issues** that will affect the home; to predict the **trends** in building design and construction, the services up to and built into the home, the amenities and appliances that will be available; and then to list the **enabling technologies** that will allow these trends to take place.

The results of this study will alert both large and small industries associated with home building to the opportunities which may emerge for them in the future and encourage them to develop the enabling technologies to meet the demands of the market 20 years hence. Not only will suppliers of technology benefit from the results of the study, but property developers, architects, designers and builders will become aware of new technologies and what they have to offer for the home owner of the future.

Further spin-off could arise from the export of our technology to overseas markets, particularly China, where modernisation means the demand for high quality housing is escalating rapidly.

This study has been initiated by the Copper Industry and there will be useful outcomes for copper. There will also be benefits for all stakeholders in the building construction industry.

**BUILDING CONSTRUCTION
TECHNOLOGY ROADMAP**

Part 1

END

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