

## The Construction Industry

Consists of those businesses mainly engaged in the construction of:

- Residential
- Non-residential buildings } (including alterations and additions)
- Engineering structures

- Vital part of the nation's economy: all industries interact for building/maintaining physical assets
- Industry output = 8.3% GDP
- Employs approx. 1 million people, 10% all workers in Australia = largest no. of businesses of any sector
- Total money spent on construction 2012-2013= \$189.5 billion

### Multiplier Effect:

For every \$1 million of output:

- 9 additional construction jobs created
- 7 additional manufacturing jobs created
- additional jobs in other industries too
- other economic output increases by a further \$2.9M

- Main reason for such big expansion in building over last few decades= POPULATION GROWTH

Residential building	Non-residential building	Engineering construction
■ Houses	■ Retail/wholesale	■ Roads
■ Apartments	■ Offices	■ Rail, ports, harbours
■ Major alterations and additions	■ Industrial	■ Electricity, pipelines
■ Minor alterations and additions	■ Health, aged care	■ Water, sewerage
	■ Accommodation	■ Telecommunications
	■ Education	■ Mining
	■ Entertainment	■ Recreation
	■ Miscellaneous	

### Residential Construction

- Of the approx. 25 000 residential construction firms, 90% have less than 5 employees – often family owned
- More houses than 'other residential' = cheaper, smaller, different equipment and machinery
- Reliance on sub-contracting (tradies/ someone else to do the work for you e.g. electricians, painters, brick-layers usually due to lack of skills or qualifications)
- 95% new dwellings for private sector (people purchasing for themselves as occupants or investors)
- 5% = public sector (gov. funded projects)
- Smaller projects= owner has more say, most of the materials are Australia produced.
- Larger projects= more imported machinery and materials

Larger companies	Smaller companies
<ul style="list-style-type: none"> <li>• Have a competitive advantage= provide <i>cheaper</i> houses: packages (house &amp; land) and reduce the cost of construction by having “off the shelf”, very similar designs= cheaper because don’t have to draw up each time.</li> <li>• Can get a discount for bulk-purchasing materials</li> </ul>	<ul style="list-style-type: none"> <li>• Can’t afford to buy land upfront,</li> <li>• Tend to be more specially designed = more <i>expensive</i> for client</li> <li>• Can’t bulk buy materials usually</li> </ul>

- Last 30 years: **average floor area** of new residential buildings has **risen** a lot  
- *effect on environment*= less efficient use of land- could be used for agriculture etc. also more energy consumption: larger houses need more energy for lighting, heating and cooling, need more appliances, more materials needed in construction, more furniture needed- energy consumption associated with that too
- Since 1950: **floor area per person has almost doubled** (1950: 25m/person, 2008:95m/person) but we **now have less people per house**= many more older couples, singles, smaller families

### Non-Residential Construction

= somewhere where people don’t reside for an extended period of time

- 3000 firms
- E.g. hotels, offices, shops, hospitals, factories, other commercial and institutional buildings
- 72% of firms have less than 5 employees
- Mature industry with many established, well-known, highly regarded firms
- 70-75% of output is funded by the private sector
- Much more foreign investment

### Tiers of Building Companies

-Tier 1: largest, wealthiest, most experienced, only 5 in Australia – exclusive, usually \$20m projects or more

- Tier 2: more likely to take on commercial not residential projects

- Tier 3: Lots more, smaller projects, usually around \$1m range, usually residential or small-scale commercial

## **Building Culture**

= a coordinated system of knowledge, rules, procedures, expectations and habits that surrounds the building process and results in building artefacts in a given place and time

### **Health Building Culture**

- *Long term value of buildings and types:* e.g. can be re-used for different purpose- the longer a building lasts= better
- *Shared knowledge of understandable and sensible rules and rule systems*
- *Cultural sustainability*
- *Balance between stability and change, tradition and innovation* (balance between what we know and what we could do) – tradition and innovation should be complimentary not contradictory
- *In support of the life of its members:* respect the work put in by every person. E.g. in Dubai- workers are imported, have to stay in camps, bussed around to sites

→ Within a healthy building culture, the rules that govern the form of the built world form a dynamic system that can change gradually over time, as need warrants, and that reflect differences from place to place.

→ Such subtle difference occurs most effectively when the rules themselves are known and understood and when the players in the building culture have the ability to change the rules as needed

Building cultures are important and need to be acknowledged because they set up constraints & provide indications as to: what one can and can't and should and shouldn't do

E.g. within Australia's building culture, it's much more common to use precast concrete panels here than in other countries as they require less manual labour and we have high labour costs

### **Process of Building:**

- Making the decision to build
- Choosing and developing appropriate building sites
- Regulating the character and placement of building on these sites
- Financing the construction
- Designing the building
- Producing and supplying materials
- Constructing the building
- Regulating the building's construction
- Occupying, using and modifying the building