



Crystal ball

It is the year 2050 and... Jerry Tyrrell predicts the future of the building industry where pre-fab rules and disputes disappear.

When I joined the industry in 1972 as a humble labourer, I was surrounded by lots of tradesmen who knew heaps about building. Today, there are still many contractors who know their stuff but there are also a lot of tradesmen who are like process workers doing repetitive tasks all the time, and they often don't know why they make silly and expensive mistakes all the time.

Other things have changed too. Sites are safer. Buildings are smarter and more environmentally friendly. We've got rid of most of the really toxic termite chemicals, and there is more use of panels and prefabricated components. So, where is the industry headed, and what do we all need to know and work towards?

Buildings change people lives

I'm going to start with something that most of us don't think about – that is that the homes, offices and shops we build contribute significantly to the quality of their users' lives.

By 2050, governments will promote buildings that create happy homes and workplaces because this will reduce downstream social costs such as anti-social behaviour, depression, unemployment and violence.

Houses will be crafted sanctuaries for children to grow and blossom. Good design will be everything. This doesn't mean huge, because overall floor area per person will fall. It means the building will utilise direct sunlight and natural ventilation, have good acoustics between bedrooms and living, be different from adjoining homes and provide clever



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services for occupant use. Every home will have some outdoor space and medium density developments will be built around the well resourced recreational facilities to provide healthy choices to residents, especially their children.

Builders will proudly participate knowing the social benefits their good work provides. And, importantly, they will minimise client problems because no one wants the stress and cost of these fights. Everyone will therefore recognise that:

- Teamwork and tolerance between client and contractor is vital
- A building dispute should never arise
- Problems can be easily navigated between reasonable people

- No one will receive final payment until all reasonable major issues are dealt with
- Security of payment will protect contractors from clients who try to hold the last payment.

On the production line

There is no doubt that most parts of a building can be factory made and assembled on site. And there are many benefits of this predictable, automated process: no weather problems, quality systems are more easily employed, most components are computer measured/cut/made to ensure proper fit and workers get to know the process really well.

In 2050, every possible component of

a building will be trucked to site to be assembled in less than half the time it takes to build an existing home. Wet trades, such as brickwork and rendering, will be almost non-existent due to high labour and management content and drying and curing time. Wherever possible materials will be provided with finish applied, and cottage work will start to benefit from some of the high-tech panels/finishes being used in commercial facades.

The more complex, one-off jobs will still use more traditional practices to achieve their unique features.

Multiplex, Eden Brae or BMW?

Just like we want Nike, Callaway or Qantas, owners, developers and buyers will want quality brands. Future consumers will want the safeguard of an established name and reputation, firstly for confidence in the product and secondly in case anything goes wrong.

Manufacturers too will increasingly trade on the quality of their products with accurate information attached including:

- Expected life if not maintained
- Frequency of maintenance
- Warnings eg: stain risk, moisture

THE GOOD SURVIVE!

There are some great materials out there which will continue to thrive, including:

- Glass – especially the thermally efficient ones
- Stainless steel
- Concrete – especially panels, coloured
- Porcelain
- Ceramics and durable, stain resistant stones
- Timber frames – subject to proper protection against timber pests

Some more modern products also find favour, such as the resin benchtops and any coating or finish with a long life and requiring minimal maintenance.

resistance, decay risk etc

- Ecological cost i.e. greenhouse gas cost in production, thermal efficiency, toxicity in use and when demolished
- Sustainability i.e. labelling for future reuse.

Education is the future

How we learn is more important than we realise. For too long professionals have been taught the same building stuff from different angles. We don't even agree on the technical language eg floor waste v floor drain v grate, or plasterboard v gyprock v dry lining. And when we detail

something, there are often 10 different solutions – many of which are wrong.

Yet the core information is the same for every participant and by 2050 will include:

- Generic technical information, especially the principles of how buildings should be built. Hopefully this will be a common curriculum developed by wise fathers from every professional group
- The statutory rules to govern the above
- Who is doing what and how best to work with other participants in the process
- How to evaluate the high risk parts of the process
- How to troubleshoot and solve inevitable problems
- Where to find help and how to research successfully.

Aiding the above will be:

- Internet based advisory and technical portals accessible on the job
- General emphasis on the prevention of problems
- A mechanism to provide feedback or alerts about any mistakes or faulty products
- Improved verification of product claims before approval for use
- More readable Standards (plain English and well illustrated)

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BUILDINGS OF THE FUTURE

Flat, high resolution screens will be everywhere for control of lights, air conditioning, music, security, water features or to order a pizza. Most electronic controls, such as switches, will be wireless. Traditional hard wired phones will be replaced with wireless mobiles. Cameras will monitor all external doors and probably the driveway and pool areas.

Zero energy, zero waste footprint is a worthy objective and we will be a lot closer to this in 2050. Everything will be low voltage with an increasing proportion of power being provided by highly efficient solar cells. All internal materials will be rated for smoke and fire risk.

Natural ventilation will change internal temperature with the opening of a louvre window or the start of an exhaust fan.

Tanks will collect roof and shower water for

reuse. Tertiary sewer treatment options will provide access to a larger volume of waste water. Even street stormwater will be retained for public use in parks and ovals.

Safety will require floors finishes to have a guaranteed 'non slip' rating. Safe access will be built into formally inaccessible areas of the building.

Durability, especially in public or rental housing, will be paramount. No owner will want to maintain or replace hardware or finishes unnecessarily. The bigger the project the more the design team will look into the value of longer lasting components. Every exterior fixing will be stainless steel or brass. Top quality plastics will replace today's rusting steel ones.

Finishes will be easy-clean and UV resistant.



The house of the future will be fully automated with touch screens used to control lights, air conditioning, music, security, or to order a pizza.

- Contracts which encourage fairness and dispute-free relationships
- More concise, well illustrated BCA and greater use of performance terms.

Ironically, education of the consumer about the building process will be a vital ingredient in the success of our industry. Every consumer will be able to research the likely cost of their job from a published table of rates relating to the specific type of work.

Warranties and after sales service

When we build correctly and handle inevitable mistakes and misunderstandings

professionally, we won't need insurers and lawyers or even licensing. Consumers will know that selecting inexperienced contractors, or a price lower than cost, will lead to unacceptable quality and performance.

Hopefully, we will have generated a large unused, fidelity fund for the small number of emergency remedial jobs where the contractor is a crook or has serious personal problems during the job. Before every job commences, both parties will have agreed on a joint troubleshooting expert who will help them through any problems.

Trends of tomorrow

Renovations will be on the rise in all areas, except close to stations or established employment centres where land value makes redevelopment profitable.

Maintenance work will be a huge part of our industry with owners upgrading the increasing number of out-of-date buildings at the same time as the periodic painting and other cyclical repairs.

Large builders will be even larger to maximise economies of scale. Smaller contractors will have a big market share of unique more complex jobs under \$2m. Skilled craftsmen of any type will be in demand.

Your office will be paperless and extremely efficient with all jobs and key staff online 24/7. There will be handheld software for everything from a reminder about sashcords, to a costed variation form which the client can approve.

I can't see everything but I hope we will have a robust profession with minimal government interference.

As with Australia's outstanding sporting and scientific successes it will depend upon teamwork. It will start with a few sharing a sensible vision and then many supporting their leadership.

I suggest that if we get this right Australia's building industry will lead the world in innovation, quality and trouble-free results, and provide the secure, profitable and largely problem-free future we all deserve. ■

Jerry Tyrrell is co-founder of Tyrrells Property Inspections. He has 30 years' experience as a labourer, tradesman, contractor, architect, mediator, building consultant and author, and has been involved with the inspection and building of more than 55,000 properties, including 30,000 timber pest inspections. He can be contacted at jutyrell@tyrrells.com

Next issue: the BCA made simple Part 1.