

3D Printing Places To Call Home

There are teams of scientists worldwide who have stepped beyond the fantasy and science fiction and are making giant leaps in 3D imaging to build structures.

The Dutch, Americans and Chinese are tapping into 3D printing technology to build houses.

Perhaps the boldest plan, is architect Adam Kushner's vision to take the technology to a whole new level by 3D printing an entire estate. Kushner plans to fabricate an entire 222 square-metre four bedroom home complete with a swimming pool in New York. If the project is successful, it would be the first 3D-printed estate in the world.

In May this year, architects in Amsterdam started building a full-sized 3D-printed houses.

The structure is being built using a plastic heavily based on plant oil.

The team behind the house claim it is a waste-free, eco-friendly way to design and construct the cities of the future.

Earlier this year, Chinese company, WinSun Decoration Design Engineering built 10 one storey houses in Shanghai using four giant 3D printers.

The printers are 10 meters wide and 6.6 meters high. They produce a mix of cement and construction waste to construct the walls layer by layer.

Each house is approximately 200 square-metre and cost less than \$5,000 to construct.

Eco friendly and quick to construct, the 3D homes built by the Chinese used waste materials to create the building materials.

In the US, University of Southern California's Professor Behrokh Khoshnevis has designed a giant robot that has a nozzle on a gantry. The nozzle squirts out concrete and can quickly build a home according to a computer pattern.

It is "basically scaling up 3D printing to the scale of building," Prof Khoshnevis said.

The technology, known as Contour Crafting, could revolutionise the building industry.



The Contour Crafting system is a robot that automates tools normally used by hand. These are wielded by a robotic gantry that builds a three-dimensional object.

Strong walls are built up layer by layer using concrete with automatic reinforcement, while plumbing and electrics are also added by the system during the building process. The technology means it will also be possible to create curved walls and specialty architecture.

The Money Pit

The Need for Value Management

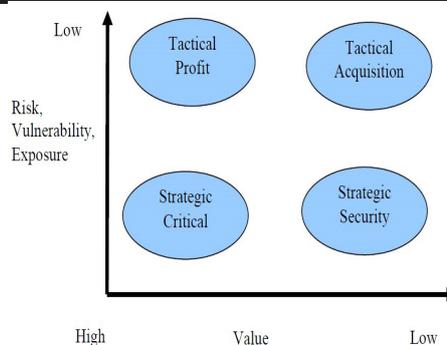
Sticking to a budget is the ultimate goal for everyone; whether you are managing a home or a million dollar project. With only so much to go around, costs savings are important.

Working in the construction space, the process of value management encapsulates the same concept.

Evolving out of the US post World War Two, supply shortages meant the manufacturing industry had to find alternatives or substitutes.

Value management (VM) is now used in a large number of industries including the development and construction industries.

What VM has spawned is high levels of cost savings.



In Australia, VM is a structured and systematic approach to get the maximum benefit from limited resources whether that be through value for money in products, processes, services, organisations and systems.

It's used widely by private sector

as well as federal, state and local government organisations and is covered by Value Management AS 4183.

It is not about being cheap; the cheapest option does not equate to cost savings. The idea is to work towards getting the 'best value' option or the best system for the job.

VM can solve problems creatively and economically by:

- Improving communications
- Resolving conflicts
- Challenging assumptions
- Identifying unnecessary expenditure
- Generating alternative ideas
- Promoting innovation
- Maximising resources



Signature message

Dean Gavrilovic

This month has been absolutely frantic in my office. It has made me realise how important time management is within both project management and in general day-to-day running of the office.

I have had to become an expert in time management over the years, not because I wanted to but more because I had to.

Time management strategies have varying success for different people, here are a few tips that work for me:

- Use an appointment book.

Schedule appointments with yourself and create time blocks for high-priority conversations, and actions.

Role of the Superintendent

The role of the superintendent is defined entirely by the construction contract. In the past, this role was referred to as the "clerk of works".

It's a role that is far from a walk in the park.

Some of the key duties involved in this role include:

- Assessing claims and issuing progress certificates
 - Issuing directions
 - Preventer of disputes between the principal and the contractor
 - Assessment of variations, additional time (EOTs), cost variations, quality workmanship and materials
 - Supervising the performance of the contractor
 - Acting as an independent assessor
- Having a good superintendent on site is like having a faithful advisor.

They can assist to get the best possible outcome because of their

Schedule when they will begin and end. Have the discipline to keep these appointments

- Plan to spend at least 50 percent of your time engaged in the activities

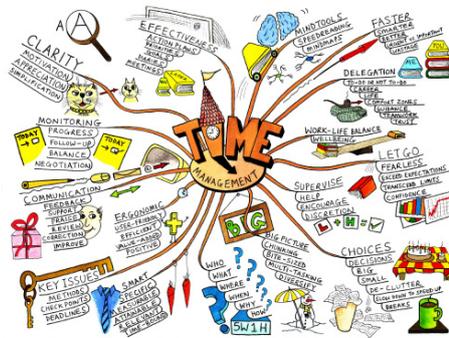
and conversations that produce most of your results.

- Take the first 30 minutes of every day to plan your day. Don't start your day until you complete your time plan.

- Put up a "do not disturb" sign

when you absolutely have to get work done.

- Practice not answering the phone just because it's ringing and e-mails just because they show up. Instead, schedule a time to answer email and return phone calls.



Latest news...

Economic rebalancing

Recent construction figures reveals the economy is rebalancing. The figures show that residential building - adjusting for price changes and seasonality - growing well in the June quarter.

There was a 2.2 per cent rise, which meant the volume of home-building was almost 10 per cent higher than 12 months ago.

Activity in non-residential building - offices, shops, hotels, factories - only rose 0.5 per cent, with annual growth under 3 per cent.

Growth in the residential building and the parts of non-residential building is positive.

However, construction including ports, roads, bridges, mines and pipelines fell by 3.1 per cent in the quarter to be down by nearly six per cent for the year.

Construction App Could Save Time and Money

An award-winning app developed by a Victorian construction veteran could reduce needless expenses incurred by the industry due to cost miscalculations.

The app, called CivilWorks, is designed specifically for the performance of on-site calculations, providing a set of formulas for sewer mains and drainage calculations, civil engineering calculations, and road and civil construction calculations.

Sunshine Coast New Construction Hot Spot

The Master Builders Association of Queensland says the Sunshine Coast has emerged as the region with the most promising construction outlook, scoring an impressive 70.3 on a scale of 0 to 100 on an index of builder sentiment whereby any score above 50.0 indicates net optimism about the short term future.



knowledge of the legal obligations and excellent project management skills.

Under a traditional construction contract, the superintendent has two separate and distinct roles:

- to act as agent for the principal
- to act as an independent certifier.

Thought of the Month

"If you are deliberately trying to create a future that feels safe, you will willfully ignore the future that is likely."

— Seth Godin



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