

## Housing Challenges and Innovations Critical Horizons Conference Additional Notes and Resources

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The world's economic centre is shifting from west to east and north to south.

- CSIRO Futures 2012 Revision  
<http://newwealth.com.au/docs/2012-09-17-CSIRO-Our%20Future%20World.pdf>

By 2030 the purchasing power of the E7 emerging economies (Brazil, China, India, Indonesia, Mexico, Russia and Turkey) will surpass that of the G7 economies. Today's 'F7' frontier markets – Bangladesh, Colombia, Morocco, Nigeria, Peru, Philippines and Vietnam – will become tomorrow's growth markets.

- PwC Global Annual Review 2014  
<http://www.pwc.com/gx/en/issues/megatrends/shift-in-global-economic-power-silas-yang.jhtml>

Adaptable industries are key. Sectors such as gas, tourism, agribusiness and international education are predicted to power ahead growing at least 10% faster than Global Gross Domestic Product over the next 20 years (2013-2033). Industries need to be prepared to adapt to the ever changing market circumstances.

Growth of cities in the Asian market improves international trade opportunities.

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An increase in the volume of goods and services traded, will be underpinned by the further industrialisation and urbanisation of emerging Asian economies.

- Deloitte. *Building the Lucky Country*  
[https://www2.deloitte.com/content/dam/Deloitte/au/Documents/Building%20Lucky%20Country/Deloitte\\_au\\_business\\_positioning\\_for\\_prosperity\\_2014.pdf](https://www2.deloitte.com/content/dam/Deloitte/au/Documents/Building%20Lucky%20Country/Deloitte_au_business_positioning_for_prosperity_2014.pdf)

From basic communication, to transactions and outsourcing of labour, technology allows us to connect to the world and expands our horizons.

- PwC Global Annual Review 2014  
<http://www.pwc.com/gx/en/issues/megatrends/technological-breakthroughs-bob-moritz.jhtml>
- CSIRO 2012  
<http://newwealth.com.au/docs/2012-09-17-CSIRO-Our%20Future%20World.pdf>

Urbanisation allows for the targeting of high disposable income areas for sales of luxury goods and premium products.

Rapid urbanisation means that businesses will need to refocus the goods and services they offer as well as their marketing and distribution towards a consumer base that is becoming more and more urban.

- PwC Global Annual Review 2014  
<http://www.pwc.com/gx/en/issues/megatrends/rapid-urbanisation-ian-powell.jhtml>



Changing social demographics: people are living longer.

Percentage of Australian population over 65 will grow from 14% in 2011 to 23-25% in 2056. Life expectancy is projected to increase to 87.7 years for men and 90.5 years for women by 2050 from 77 years for men and 82 years for women at the turn of the century.

- Australian Bureau of Statistics 2008 –*Population Projections*  
[http://www.ausstats.abs.gov.au/Ausstats/subscriber.nsf/0/0E09CCC14E4C94F6CA2574B9001626FE/\\$File/32220\\_2006%20to%202101.pdf](http://www.ausstats.abs.gov.au/Ausstats/subscriber.nsf/0/0E09CCC14E4C94F6CA2574B9001626FE/$File/32220_2006%20to%202101.pdf)
- Australian Treasury 2010 –*Intergenerational Report*  
[http://archive.treasury.gov.au/igr/igr2010/report/pdf/IGR\\_2010.pdf](http://archive.treasury.gov.au/igr/igr2010/report/pdf/IGR_2010.pdf)

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An ageing population is both a cost and an opportunity. Older people provide a wealth of valuable skills, knowledge and wisdom which may be under-utilised thus far. However, an older population means an increase in age related illnesses and increased expenditure on health care.

- CSIRO Futures 2012 Revision  
<http://newwealth.com.au/docs/2012-09-17-CSIRO-Our%20Future%20World.pdf>
- Robotic concierge for seniors  
[www.luvozo.com/sam](http://www.luvozo.com/sam)
- “Sense” smart home uses facial recognition  
[silklabs.com](http://silklabs.com)



### **WASP – 3D house printer**

A 3D printer that creates houses from mud. The business is called WASP because it was inspired by the mud dauber wasp, which builds its home entirely from mud.

[www.wasproject.it/w/en](http://www.wasproject.it/w/en)

### **KOMA Modular homes**

In the Czech Republic, KOMA Modular creates modular homes that are not just functional but beautiful as well.

<http://www.koma-modular.cz/en>

### **BRE modular homes**

In the UK, BRE’s modular homes are very affordable: about \$2,000 per square metre, and ready in 8 weeks.

<http://www.bre.co.uk/eventdetails.jsp?id=14012>

### **Heijmans ONE movable homes**

This Dutch company is targeting Amsterdam’s “in between generation”, young graduates who can’t afford high rents, but want something stylish and modern.

They are quick and easy to install, and rent for about EUR 700 per month (about \$1,000). They first fill vacant lots, and then, when developers want to start building, you dismantle them and move them elsewhere.

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[www.heijmans.nl/en/heijmans-one](http://www.heijmans.nl/en/heijmans-one)

### **Kasita movable homes**

These are compact but well-equipped movable apartments, which rent out for about \$400 per month.

They sit on a scaffold on small lots that generally can't be developed, so they're using space that can't otherwise be used for housing.

It's movable. When you get sick of your neighbours, you pull out your smartphone, pull up the app, and call a truck that picks up the entire home and moves it to another city that also supports these homes.

[www.kasita.com](http://www.kasita.com)

### **Tempohousing "container city"**

Here's another option, which is an apartment block for uni students in Amsterdam. It looks like any other apartment block, but has one big difference: It's actually a big shipping container.

<http://www.tempohousing.com/>



Massive Open Online Courses give us access to a world-class education from anywhere.

[www.open2study.com](http://www.open2study.com)

Customer-Centric World:

- Carte Blanche: <http://www.carteblanche.ly/>
- Streetmix: <http://streetmix.net/>
- Monmouth – world's first Wikipedia town: <http://goo.gl/QZXUB>

### **B&Bee sleeping pods**

This is an idea from an amateur in Belgium, who had the idea of creating these small sleeping pods for people who want to crash after a big day and night at a music festival.

<http://www.flanderstoday.eu/innovation/sleep-easy-festival-pod>

### **New Story - Crowdfunding for Haiti**

In Haiti and El Salvador, you can fund the buildings of new homes for displaced families after natural disasters. You go online, read about the individual family, and then donate money.

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[www.newstorycharity.org](http://www.newstorycharity.org)

### **Real Estate Investment Trusts**

Real estate investment trusts offer the same kind of service for investing in property development.

<http://www.investopedia.com/terms/r/reit.asp>

### **Brickraise**

The Brickraise platform has just launched in Australia.

[www.Brickraise.com](http://www.Brickraise.com)

### **Sweden – The House of Clicks**

In Sweden, this house was built using big data from a property portal. Architects analysed 200 million clicks and 100,000 listings to create Sweden's most statistically sought-after property.

[www.hemnet.se](http://www.hemnet.se)



### **BedZED**

In London, the Beddington Zero Energy Development is a housing development that's completely carbon neutral.

<https://en.wikipedia.org/wiki/BedZED>

### **Energy-plus houses**

In Germany, they even have energy-plus houses, which produce more energy than they use. They don't give up on the luxuries, either – but they cleverly use energy-efficient appliances and fixtures to reduce energy needs.

<https://en.wikipedia.org/wiki/Energy-plus-house>

### **Ecocapsule**

The Ecocapsule from Slovakia is powered by wind and solar, and has a bed, dining area, en suite bathroom, kitchen, and storage space.

[www.ecocapsule.sk](http://www.ecocapsule.sk)

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**Lucy – smart adaptive mirror**

Lucy is a robot mirror that reflects sunlight into a room to brighten it. So you don't need as much artificial lighting, and it's healthier for people who have to be inside all day. It automatically adjusts during the day as the sun moves. And of course, it's solar-powered.

[www.preorderlucy.com](http://www.preorderlucy.com)

**Simar Design - LED lights**

On a bigger scale, these are LED panels you can put on your walls or roof, and they create realistic natural scenes.

[www.simar-design.com/en](http://www.simar-design.com/en)

**Eco BLAC bricks**

The Eco BLAC brick is made from recycled industrial waste, which is much better for people and the environment than traditional clay-fired bricks. It was created by students at MIT to help building in India.

[www.tatacenter.mit.edu](http://www.tatacenter.mit.edu)

**ModRoof roofing panels**

Again in India, ModRoof creates roofing panels from recycled materials – for about a third of the price of concrete slabs.

[www.re-materials.com](http://www.re-materials.com)

**Bloque Termoisipador BT**

In Colombia, this semi-hollow brick will naturally keep a building cool, by reflecting sunlight at different angles than just a flat brick wall.

[www.valoralespacio.wix.com/sumart](http://www.valoralespacio.wix.com/sumart)

**Solar cooling**

<http://www.dw.com/en/cooling-buildings-with-the-power-of-the-sun/a-5597668>

**Cortex Composites rollable concrete**

Here's a new form of concrete that can be rolled out like wallpaper. So you don't need expensive cement trucks. It's cheaper than concrete, and faster to install.

[www.cortexcomposites.com](http://www.cortexcomposites.com)

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### **Project DOM Indoors**

Reconfigurable rooms built by tiny robots

[www.asmbld.com/dom-indoors](http://www.asmbld.com/dom-indoors)

### **Tetris House**

Tetris-style blocks for customizable homes

[www.tetrishouse.nl](http://www.tetrishouse.nl)

### **PopUp House**

This Lego-style home can be built in a few weeks with just a screwdriver

<http://www.techinsider.io/lego-pop-up-house-construction-2016-1>

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