

Future Forecast

By Catherine McCormack (Virgin Blue Magazine, November 2009)

Business thrives on innovation. Inspired ideas, new ways of working and cutting-edge technology have all helped to cement the reputations of some of the world's most exciting and respected companies – and made them truckloads of money.

Yet truly great ideas transcend the mighty dollar. Not only do they change the way we work (consider, for example, how your job was done before a couple of tech-heads turned 20,000 vacuum tubes into a computer), the best innovative thinking also changes the way we live.

Sometimes, innovative thinking can change our lives in the simplest of ways: the best thing since sliced bread might just be sliced bread. Sometimes it can change the very structure of our society: the advent of automobiles led to the creation of suburbia and a new middle class. And sometimes it can even save our lives: penicillin has increased our life expectancy.

In most cases, the ideas that change our world are initially responses to the biggest problems of the era. Today, the pressing issues of the environment and sustainability are the two key driving forces behind innovation in most major industries. To give you a glimpse into the future, *Voyeur* asked experts in 10 fields to nominate one innovation that will change their industry and the way we live.

1. THE INFINITY AND BEYOND

Next Big Thing in Aviation – Space Travel

Expert – *Stephen Attenborough, commercial director, Virgin Galactic*

“It takes vision, a big budget and proven technology that rewrites the rule book to get people into space safely – and profitably. Virgin Galactic was born on the back of an extraordinary achievement in 2004 when the world's first privately built and funded manned spacecraft successfully flew to space and back three times. Today, the first Virgin Galactic aircraft, the mother ship *VMS Eve*, is tracking well to commence her inaugural commercial flight in the very near future and more than 300 people have collectively paid more than US\$40 million (A\$46 million) in deposits to be among the first people to experience outer-space tourism. Also, the technology in *VMS Eve* has enormous potential for the aviation industry as a whole. The most obvious example is the extensive use of lightweight composite materials for the fuselage that allows unheard-of-levels of fuel efficiency. Longer term, the venture could be an incredibly

important step towards the dream of fast transcontinental travel via space, which would mean London to Sydney in just a few hours!”

2. DESIGNS ON MOTHER EARTH

Next Big Thing in Design - Biomimicry

Expert – *Stephanie Watson, program director, Australian International Design Awards*

“Biomimicry is the practice of being inspired by nature in the development of new designs and technologies and incorporating that into the man-made product. It’s not a new concept – Velcro, which was invented back in 1941, was inspired by the way burrs hooked onto the hair of Swiss engineer George De Mestral’s dog – but it is an innovative way of approaching design that’s rapidly growing in scope and popularity. A more recent example is the Speedo Fastskin FSII Suit worn by American swimmer Michael Phelps at the 2008 Beijing Olympics. The suit was inspired by shark’s skin, which changes in shape and texture along its body to help reduce drag in the water. Researchers are also developing coatings for ship hulls, submarines and aircraft fuselage that could have a similar effect, helping to reduce our reliance on fossil fuels. Biomimicry has the potential to make our lives easier and more satisfying – think LCD screens that change colour the same way a butterfly wing does, and car exteriors made of self-cleaning plastic based on the design of the lotus leaf, which has a bumpy surface that causes water to bead off, picking up dust and dirt along the way.

As well as that, biomimicry has the real potential to produce solutions that are not only superior in design but also truly sustainable and energy efficient.”

3. MOVE OVER 3-D

Next Big Thing in Technology – Augmented reality

Expert – *Nick Broughall, editor, Gizmodo Australia*

“Augmented reality is where a camera in a computer or mobile device is used in conjunction with information from a variety of sources, such as Wikipedia or GPS location data, to display the information on screen, providing real-world information in a digital capacity. Currently the biggest use of augmented reality is as a promotional tool for sci-fi movies such as *Star Trek*, where you use a webcam to look at a special pattern printed on a piece of paper to see a virtual reality image on screen. If you want to get an idea of where the technology is heading consider Wikitude, an application for the Google-backed Android smartphone platform. Using the phone’s camera, in-built GPS and digital compass, as well as mobile data connection, you can point your phone at a tourist landmark and the phone will connect to Wikipedia to get

live information about the landmark. These applications are just the start BMW has been experimenting with the technology to help its mechanics in fixing cars. As augmented reality advances and is combined with other technology (such as video glasses, so you don't have to physically hold something for it to work) we can expect to see it move into professional applications, such as mechanics, medicine and education.

4. EATING OUR CITIES

Next Big Thing in Green Spaces – Edible, sustainable urban landscapes

Expert – *Josh Byrne, environmental scientist, Josh Byrne and Associates*

“Food and water security are set to dominate the sustainability agenda in the 21st century. As the reality of peak oil prices hits home, and processing, transport and distribution costs skyrocket, food production, as we know it may be untenable. Changing rainfall patterns and increased demand for water will also mean we have to do more with less. Urban areas are particularly vulnerable to these challenges, and recent trends in increased home-grown fruit and vegetables, rainwater harvesting and grey water recycling will grow and eventually spread out into public spaces. Green walls and roof gardens, which have captured the landscape industry’s imagination, will provide opportunities for food production in high-density areas. The aesthetic value of our private and public gardens will always be considered important, so these spaces will not become purely functional. However, with growing awareness of the potential for urban green spaces to provide environmental services, such as urban food production, water treatment and wildlife habitats, we’ll see increased design sophistication where function and form coexist. By embracing these concepts and continuing to drive innovation forward the landscape industry will become part of the solution towards efficient and sustainable urban environments.”

5. HOME IS WHERE THE ART IS

Next Big Thing in the Workplace - Reshoring

Expert – *Richard Watson, author of Future Files: A History of the Next 50 Years*

“There’s nothing like a crisis to spur on a bit of innovation, and with oil prices looking certain to spike back up to the \$150-per-barrel mark in the near future, sustainability will continue to be a key motivator, in how we do business. Industrial repatriation, or ‘reshoring’ – the term given to companies bringing offshore production and jobs back home – is a growing trend. Already we’ve seen it in Europe, where German teddy bear manufacturer Steiff chose to bring its production back from China. Returning

manufacturing to local shores helps companies to control transport costs and ensure quality control. It also feeds into the idea of ‘purpose’ in business, which is about having a corporate agenda that extends beyond bottom-line profits to include various social, environmental and ethical aims.”

6. HYPER-REAL CHAT

Next Big Thing in Media – Google Wave

Expert – *Mark Pesce, founder, media technology strategy consultancy FutureSt.*

“Google announced its Wave to the world several months ago and all the work behind it is being done in Sydney, so it’s Australian in both its concept and execution. It’s going to radically affect the way we communicate and it’s also the first thing I’ve seen that may start to displace email as a business tool. Google Wave blends the best features of the programs and communication forms we rely on now – email, text, photos, videos and instant messenger – and creates a live ‘Wave’ inside your web browser. Waves are shared, so everything within a Wave can be viewed, edited or commented on by other people in the Wave – all in real time. Google wave has a playback feature, which means every decision and change is recorded and available to view. Its biggest impact will be how much faster, easier and cleaner it will make collaboration, especially for people working across time zones or for a group of people working on a single document. It’s also going to be completely free. Currently, it’s available only to developers, testers and selected corporate users, but it should be rolled out some time next year.”

7. GREY INVASION

Next Big Thing in Tourism – Baby Boomer adventures

Expert – *Tony Wheeler, founder, Lonely Planet*

“Suddenly free from the responsibilities and time constraints of career and family, members of the Baby Boomer generation are taking the travel industry by storm. They have the financial resources they didn’t have when they were young. They’ve already been everywhere. And, most important, they have absolutely no respect for government travel advisories. The recent boom in Antarctic tourism was kicked off by these inveterate travellers, and they’re going to be heading off to plenty more exotic locales in the near future. After all, when you’ve been to six continents like these folks have, adding the seventh one to your list is a no-brainer. In the last couple of years I’ve joined groups on exotic journeys in even more unusual forms of transport. One memorable group chartered an old Russian Mikoyan troop-carrying helicopter to

explore the backblocks of Mongolia and, along the way, drop in on a party of palaeontologists looking for dinosaur skeletons (we found one). Though this niche market probably won't change the way most people go on holidays, for travel companies it's an exciting opportunity that didn't exist before. Expect to see a lot more exotic Baby Boomer package deals being advertised in the coming years.

8. HERE-AND-NOW FASHION

Next Big Thing in Fashion – The 'now season'

Expert – *Sharon Rae, founder, Fashion Forecast Services*

"Fashion is increasingly an on-demand business. Globally the industry is moving away from the outdated 'four season' model of retail (where labels offer spring, summer, autumn and winter collections that sit on the shelves for several months at the wrong time of the year) towards what I call the 'now season'. For example, most retailers in Australia offer new swimwear designs to consumers in July, but the majority of customers are not shopping for swimwear until November when we're heading into summer. Consumers are not in the frame of mind to try on 'new season' swimwear when the weather is still cold. High-end designers will continue to offer the latest, hottest looks and there will always be demand from the minority for new trends, but it's about recognising new trends in how the majority of people shop and then capitalising on their consumer spending. At the heart of this is the fact that today's consumers are always looking for something new to wear right now, not in anticipation of the next season, and the retailers that will thrive going forward are the ones that can offer customers more fashion on a bimonthly basis. It's already working for chains such as Supre, Sportsgirl, Dotti and Alannah Hill in Australia, as well as Zara and Topshop in the UK. The result will be more consistent retail sales and a move away from the big end-of-season sales. Good news for retailers but possibly a disappointment to bargain hunters!"

9. CANCER BREAKTHROUGH

Next Big Thing in Biotechnology – Synchrotron X-rays to detect cancer

Expert – *Dr Anna Lavelle, CEO, AusBiotech*

"Biotechnology is leading the way in the medical field, and Australian scientists have been at the forefront of some of the most important developments in biotechnology in recent years. A finalist in this year's INNOVIC International Next Big Thing Awards, Sydney company Fermiscan Holdings Ltd's Fermiscan Breast Cancer test aims to help save thousands of lives every year. Unlike the current mammogram breast

cancer screening technique, which is painful, time-consuming and generally unsuitable for younger women, the Fermiscan test is safe, painless and generally unsuitable for women for younger women, the Fermiscan test is safe, painless and suitable for women of all ages. This new test is based on the discovery that the molecular structure of human hair changes with the presence of breast cancer. The test uses an X-ray beam generated from a synchrotron (a facility the size of a football field that accelerates electrons to almost the speed of light to produce high-intensity X-rays) to screen for this change in the hair. So far the test has been shown to be around 80 percent accurate in clinical trials and is currently in the regulatory approval process. It is hoped it will be widely available through medical specialists some time soon, though a release date has not yet been made available.”

10. PLUG-IN-CARS

Next Big Thing in Motoring – Extended-Range Electric Vehicles

Expert – *Richard Marshall, director, Energy & Environment, Holden*

“Today’s energy challenges are the biggest driver of innovation in the motoring industry right now and there are a number of big-impact technologies set to change the way we drive. Electric cars are still the biggest news, and Holden’s Volt Extended-Range Electric Vehicle (E-REV) will be coming to Australia in 2012. The car uses electricity as its primary power source, travelling for up to 64 kilometres a day without using petrol or producing exhaust fumes. The Volt E-REV can be recharged overnight using less electricity than a household refrigerator, and you simply plug it into an ordinary electricity socket. Beyond the electric car there’s ongoing research into fuel cell vehicles, which are powered by hydrogen and have no carbon emissions. These alternative technologies – as well as fuels such as e85 ethanol, which is a clean-burning renewable fuel that can be made from household garbage – will profoundly affect the future of motoring and, ultimately, how we live our lives.”