Integrated Wealth Solutions

The Good Life

Ideas, advice, beliefs and perspectives for the enjoyment and education of our clients and friends

Period ending March 2016

Fixed Interest					
Years	**1**	**2**	**3**	**10**	**YTD**
One- year	2.4	2.7	2.8	4.7	0.6
Two-year	2.8	3.1	3.1	5.2	1.0
Five-year	4.6	5.5	4.5	6.8	2.8
Long Term					
Australian Shares					
Large	-10.0	1.8	5.8	4.9	-2.8
Value	-12.3	-2.0	0.8	3.5	-1.7
Small	2.4	2.0	1.7	4.2	0.6
Global Shares					
Large	-4.0	10.7	18.4	3.7	-5.6
Value	-9.2	5.2	15.5	2.4	-7.1
Small	-2.5	9.3	19.7	4.6	-4.4
Emerging Markets	-11.1	2.4	4.9	2.3	3.2
Real Estate	4.3	21.9	18.8	3.2	2.1

Description of Indexes	
One-year FI	DFA Short-Term FI
Two-year FI	DFA Two Yr Div. FI
Five-year FI	DFA Five Yr Div. FI
Long-Term FI	Bloomberg Aus Treas. 10+
Australian Large	DFA Aus Large Co
Australian Value	DFA Aus Value
Australian Small	DFA Aus Small Co
Global Large	DFA Global Large Co
Global Value	DFA Global Value
Global Small	DFA Global Small Co
Emerging Markets	DFA Emerging Markets
Global Real Estate	DFA Global Real Estate
	Data presented may be based on a combination of simulated and actual returns.
	Past performance is not indicative of future performance.

April 2016

What We Are Thinking

Dear Reader,

Welcome to the April edition of The Good Life. Many of you already know that Ian and Wendy are going to Europe for 6 weeks starting mid-April. Of course, it will be a study tour … no fun allowed. Or maybe just a little at the weekend! After all, someone has to visit the Louvre, Chartres Cathedral, the Sagrada Familia in Barcelona, the Capella Degli Scrovegni in Padua or the Bargello in Florence to name a few.

Just as we embrace a diversified investment approach to benefit from what is happening across the globe, so must we embrace foreign cultures to broaden our understanding of humankind – especially non-English speaking destinations.

Good News

It's so easy to forget investment principles. We thought a reminder from Dan Solin's latest epistle on the flaws in the active manager's game was timely.

Solin says: "*Abandon the elusive goal of trying to 'beat the market' by selecting outperforming actively managed funds. Limit your investments to a globally diversified portfolio of low-cost, passively managed funds that capture global market returns. Focus on your asset allocation (the division of your portfolio between stocks and bonds) and deferring or avoiding taxes*."

We've also included a short video on *Perspective on Market Volatility* and some Best and Worst Returns for Classes of Equity Investments over the Past 20 years. Plenty of numbers for you to examine and reflect about.

In the meantime, we're continually blown away by what's happening in what we call the EXPONENTIAL WORLD. This month we look at solar panels as thin as a soap bubble, 3D printers for your smartphone, drone delivery, artificial skin, reverse photosynthesis and implantable devices alleviating pain and more.

Who knows which of these will be main stream in 2, 5 or 10 years and how they will make our life better.

A Bold Way to Pick 'Winners'

April 05, 2016 from Dan Solin Author of the Smartest series of books

It's a mystery to me why so many investors pay brokers to pick "winning" mutual funds. But they do, and it turns out that they aren't alone in this often fruitless quest. Pension funds pay obscene fees to "consultants" who claim the ability to select outperforming mutual funds or other types of investments.

A flawed process

The process these "experts" follow would be amusing if it didn't cause retirement plan beneficiaries so much harm. First, they select fund managers likely to outperform, based largely on past performance. Periodically, they meet with plan sponsors to eliminate fund managers who have failed to continue to outperform. They replace them with new fund managers, again based largely on their recent track record of outperformance.

There's only one problem. This process doesn't work. Actually, let me clarify that. It works great for brokers and pension plan consultants. They reap commissions and fees for the dissemination of their "expertise." It doesn't work so well for investors and plan beneficiaries, however. They typically end up with returns that underperform risk-adjusted benchmarks, and are charged handsomely for this poor result.

A recent academic paper exposes this process for the sham that it is.

"Losers" beat "winners"

The study examined whether selecting fund managers based on recent performance was likely to lead to a favourable outcome prospectively. It looked at the performance of U.S. equity mutual funds in three-year tranches from January 1994 to December 2015. It also evaluated a number of strategies for picking outperforming mutual funds. These included a "winner" strategy (picking from top-performing funds), a "median" strategy (picking from average-performing funds) and a "loser" strategy (picking from funds not on recommended buy lists and not recommended by advisors). The authors then analyzed the performance of the very poorly performing funds (those that underperformed their benchmarks by 1 percentage point or more, as well as those that underperformed by more than 3 percentage points).

Here's the bottom line of the findings in the study: "A heuristic of hiring recently outperforming managers and firing recently underperforming managers turns out to be 180 degrees wrong."

The study found that hiring managers with mediocre track records led to better results than hiring past winners. And the strategy of hiring past losers had the best track record. Funds that underperformed by at least 3 percentage points (the "losers") went on to outperform funds that had outperformed by at least 3 percentage points (the "winners"), returning 10 percent versus 8.9 percent.

The big charade

The ramifications of this study are profound. It exposes the conduct of pension plans, endowments, 401(k) plans and brokers who claim to be able to select outperforming actively managed mutual funds as a charade. The study notes that firing managers with poor recent performance and hiring those with recent positive performance is "one of the most important statistics for firing managers, and is critical in the hiring decisions as well." It's also consistent with the algorithm behind Morningstar's star rating, "which gives the heaviest weight to the past three-year performance."

The study turns this process on its head, noting, "If the results are accepted at face value, and if past performance is used at all for hiring and firing managers, it is the best-performing managers who should be replaced with those who have performed more poorly."

Don't ignore the data

The authors of the study note the "immense literature" finding little evidence that fund managers can consistently outperform the market on a risk-adjusted basis. The securities industry and investment consultants hope you will ignore this data. Alternatively, you could follow the results of the study to their logical conclusion and adopt a strategy of picking funds with a recent history of poor returns, but here's a better idea:

Abandon the elusive goal of trying to "beat the market" by selecting outperforming actively managed funds. Limit your investments to a globally diversified portfolio of low-cost, passively managed funds that capture global market returns. Focus on your asset allocation (the division of your portfolio between stocks and bonds) and deferring or avoiding taxes.

As an individual investor, you can easily implement this strategy. If you are a beneficiary of a pension plan or a participant in a 401(k) plan, you have to hope your plan sponsor pays attention to this study and changes its policy for selecting the funds in your plan. If it doesn't, maybe the threat of litigation holding them responsible for not paying attention to the "immense literature" will cause them to change their fund-selection policy.

Dan Solin is a New York Times *bestselling author of the* Smartest *series of books, including* The Smartest Investment Book You'll Ever Read*,* The Smartest Retirement Book You'll Ever Read

We hope you enjoyed this issue and would like to receive your feedback on articles you would be interested in or ways we can improve our newsletter. We have a lot more information on our website at www.integratedwealthsolutions.com.au where you can register to receive this free monthly newsletter.

John McMorrow
Editor

That Bit Extra...

More Amazing Research Happenings in the EXPONENTIAL WORLD to Make Our Life Better

A Drone Startup Just Conducted the First Legally-Sanctioned Urban Drone Delivery

What it is: Last year, we covered Flirtey CEO Matt Sweeney's first-ever legal drone doorstop delivery of medical supplies to a rural Virginia health clinic. Now he's made history once more with the first autonomous urban drone delivery in the U.S. -- an emergency supplies parcel that travelled about a half-mile using GPS coordinates.

Why it's important: This test proved that drones can safely deliver goods to their destination without hitting street lamps, rooftops, power lines or other obstacles (like pedestrians).

Spotted by Aryadeep S. Acharya

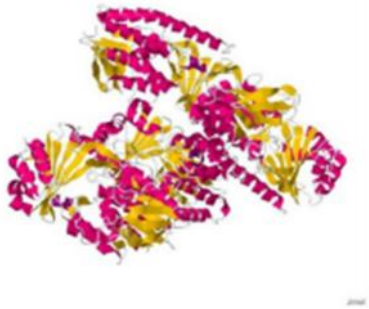
Artificial Skin That Can Grow Hair and Sweat

What it is: We've seen lab-grown skin grafts and even 3D printed skin but scientists at the RIKEN Center for Developmental Biology in Japan have created lab-grown skin that can sweat and even grow hair. Unlike today's lab-created skin which has just 1 or 2 layers, RIKEN has the typical 3 layers of tissue found in human skin which is why it can hold hair follicles and sweat glands.

Why it's important: One step closer to truly lifelike artificial skin which will revolutionise how we treat burn victims and skin diseases.

Spotted by Marissa Brassfield

Reverse Photosynthesis: Energy Source of the Future?



What it is: University of Copenhagen researchers have recently announced a breakthrough discovery — reverse photosynthesis. In contrast to photosynthesis (solar rays building plant material), reverse photosynthesis means the energy in solar rays *breaks down*. When combined with natural enzymes called monooxygenases, solar rays can be used to produce biofuels and chemicals for plastics in an incredibly resource-efficient manner.

Why it's important: In nature, reverse photosynthesis enables fungi and bacteria to access the nutrients and sugars found in plants. Researcher David Cannella explains the implications for industry: "... by using the sun, we can produce biofuels and biochemicals for things like plastics -- faster, at lower temperatures and with enhanced energy-efficiency. Some of the reactions, which currently take 24 hours, can be achieved in just 10 minutes by using the sun."

Spotted by Jens Krabbe

Africa Internet Group is the Country's First Unicorn

What it is: Africa has its first billion-dollar company: Africa Internet Group. Founded in 2012, AIG operates 71 companies in 26 industries — all of them focused on bringing Africa online and into the 21st century. Most recently, AIG landed an US$85 million investment from French mobile company Orange, which will no doubt help AIG increase its influence in Africa's mobile space.

Why it's important: We've heard Peter say that the best way to become a billionaire is to help a billion people. AIG is doing exactly this in Africa and we're excited to see what happens as millions of its clients / consumers begin participating in the global economy.

Spotted by Marissa Brassfield

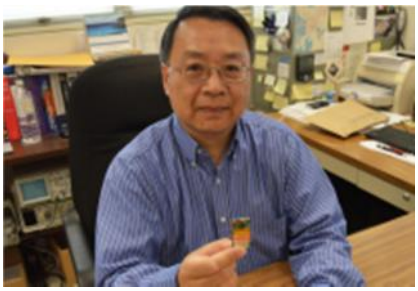
If Google Built a Tech-Filled City From Scratch, Would You Move There?

What it is: Dan Doctoroff, CEO of Alphabet subsidiary company Sidewalk Labs, recently made a comment at *The Information Summit* in New York that piqued journalists' interest. When asked about a rumoured technology city test bed, Doctoroff replied coyly that it " … would be a great idea and that " … thinking about a city from the internet up is really compelling…[but] cities are hard. You have people with vested interest, political, physical space … But the technology ultimately cannot be stopped."

Why it's important: Technology is changing how we do just about *everything*. Why not city planning? If we were able to run Google-like experiment sprints on social programs, recreation, transportation, employment, education and environmental issues, we'd gather priceless data — and possibly world-changing insights.

Spotted by Marissa Brassfield

New Implantable Device Alleviates Pain by Tricking Your Brain With Electrical Pulses



What it is: Researchers from the University of Texas at Arlington have developed a pain management solution that involves electrical stimulation of the brain. Unlike similar technology available today — for example, transcutaneous electrical nerve stimulation — this UTA device works at the spinal cord level to block pain signals before they reach the brain.

Why it's important: This pain management technology doesn't have the dangerous side effects of prescription painkillers such as a risk of addiction. UTA's studies have shown that this brain stimulation not only blocks pain, it also triggers dopamine release, making it a viable solution to alleviate chronic pain.

Spotted by Marissa Brassfield

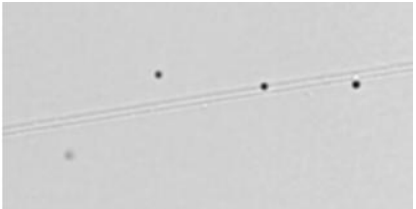
OLO: The First Ever Smartphone 3D Printer

What it is: We've seen how a variety of physical devices have been dematerialised into smartphone apps and OLO's new Kickstarter campaign indicates 3D printers might be next. This $99 device enables users to print 3D objects from their smartphones. According to the OLO campaign page, an iPhone 6 can print 1 inch of material in just under 2 hours.

Why it's important: Think there isn't a market for inexpensive consumer 3D printers? Think again! OLO has raised over US$2 million with 12 days left in their fund raising campaign. By dematerialising and demonetising the traditional 3D printer, making it available to anyone with a touchscreen smartphone, OLO is poised to catalyse democratisation of 3D manufacturing.

Spotted by Marissa Brassfield

Tiny Autonomous Robots Repair Circuitry Without AI

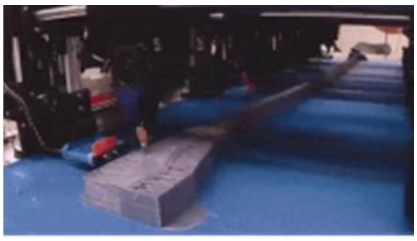


What it is: Joint research from the University of California at San Diego and the University of Pittsburgh has yielded an autonomous nanobot that can do its job of repairing broken circuits without guidance from artificial intelligence. The researchers were inspired by nature — specifically how blood platelets aggregate after you cut yourself — to catalyse the healing process.

Why it's important: Autonomous nanobots could be used to intelligently deliver drugs within the body or for self-healing materials. Imagine cellphones that can repair their own cracked screens!

Spotted by Ian Pitchford

Assembly Line 3D Printers

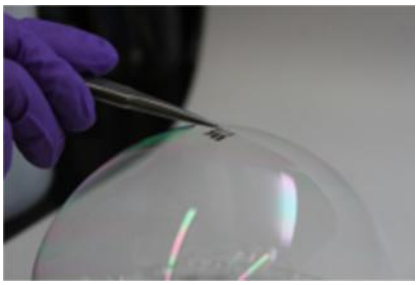


What it is: Autodesk's Project Escher enables creators to print large-scale 3D parts with an unprecedented level of detail and speed. Project Escher is essentially a software and control technology that governs a series of 3D printers and coordinates their collaboration, assembly-line-style.

Why it's important: The distributed labor approach Project Escher takes will dramatically accelerate large, complex 3D print projects. In the future, Autodesk believes Project Escher could also incorporate different technologies such as laser cutting.

Spotted by Marissa Brassfield

Ultrathin Solar Cells: Light Enough to Sit on a Soap Bubble

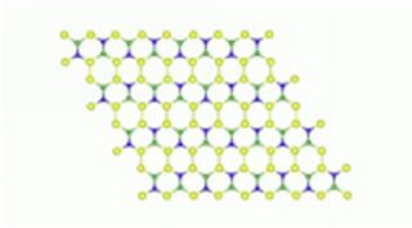


What it is: Imagine solar cells so tiny that they can float on top of a soap bubble without popping it. That's exactly what MIT researchers have created — photovoltaic cells as small as 1.3 microns thick and weighing just 3.6 grams per square metre. By comparison, human hair is about 100 microns thick. That's 20 times less than a single sheet of office paper. Best of all, this itty-bitty solar cell performs with the same efficiency as its conventional, glass-based counterparts.

Why it's important: Tiny, efficient and light solar cells are universally valuable. "You could imagine laminating lightweight or even invisible solar cells onto windows or other solid surfaces for building- and device-integrated electronics," said study lead author Joel Jean. "A more robust consumer product might use these cells laminated onto a conventional flexible plastic sheet which you could carry around with you for portable power."

Spotted by Peter Diamandis

New 2D Material Could Upstage Graphene



What it is: We've covered graphene extensively in *Abundance Insider* but a new 2D material called Si2BN could be the next big breakthrough in this field. Made up of silicon, boron and nitrogen, the material is just an atom thick. Unlike graphene, Si2BN can function either as a conductor or semiconductor.

Why it's important: Si2BN has promising implications for solar energy conversion and electronics applications due to its stable, lightweight, inexpensive and earth-abundant elements.

Spotted by Peter Diamandis

Self-Cleaning Fabric

What it is: Researchers at RMIT have created a technology that grows metallic nanostructures directly on fabrics. When exposed to light, these copper- and silver-based constructs create 'hot electrons' that — as Gizmag explains, — "… release energy bursts that dissolve organic matter." It takes about 30 minutes for these nanostructures to form after fabric is dipped into solutions. From there, they observed cleaning action in as little as 6 minutes after a stain has been made.

Why it's important: Imagine clothing and other fine textiles made of fabrics resistant to substances like red wine or tomato sauce. "There's more work to do before we can start throwing out our washing machines," explains RMIT researcher Rajesh Ramanathan "but this advance lays a strong foundation for the future development of fully self-cleaning textiles."

Spotted by Aryadeep S. Acharya

Perspectives on Market Volatility

I have also attached a video by Dimensional thought leaders discussing principles that may help investors during periods of increased market volatility – http://www.dimensional.com/v/?v=1_1376s4xp

Looking at the best and worst returns for the Australian and global markets over the past 20 years below the one year return's difference between best and worst is huge; as much as 128%.By staying invested for 10 years, the difference between best and worst returns is at most 21%.You also get a much more believable and historically accurate return over the long term.

We all want 78.92% pa returns but no one wants – 49.8% pa returns. Having some exposure to 'risky' assets over the long-term means that as well as the highs and lows in a year, you end up over 20 years with a return somewhere between 7.55% pa and 7.95% pa.

Best/ Worst Return

Monthly: 03/1996 - 03/2016; Default Currency: AUD

Annualized Average Rolling Return	1 Year		3 Years		5 Years		10 Years		20 Years	
Dimensional Australian Large Company Strategy (gross of fees)	**10.43%**		**9.69%**		**9.00%**		**9.61%**		**8.90%**	
Best Return (%)	44.13%	(3/2009)	26.74%	(6/2004)	21.90%	(10/2002)	15.23%	(11/1997)	9.09%	(4/1996)
Worst Return (%)	-38.12%	(12/2007)	-7.31%	(3/2006)	-3.47%	(6/2007)	4.93%	(3/2006)	8.70%	(3/1996)
Dimensional Australian Value Strategy (gross of fees)	**12.18%**		**11.37%**		**11.15%**		**11.77%**		**10.24%**	
Best Return (%)	67.66%	(3/2009)	30.16%	(4/2003)	24.41%	(11/2002)	18.69%	(11/1997)	10.49%	(4/1996)
Worst Return (%)	-38.08%	(3/2008)	-10.32%	(3/2006)	-3.99%	(7/2007)	3.18%	(3/2006)	9.98%	(3/1996)
Dimensional Australian Small Company Strategy (gross of fees)	**9.52%**		**8.36%**		**8.59%**		**10.09%**		**7.72%**	
Best Return (%)	78.92%	(3/2009)	32.91%	(4/2003)	28.96%	(11/2002)	15.04%	(11/1997)	7.90%	(4/1996)
Worst Return (%)	-49.80%	(12/2007)	-10.74%	(3/2006)	-3.50%	(7/2007)	4.16%	(4/2006)	7.55%	(3/1996)

Best/ Worst Return

Monthly: 03/1996 - 03/2016; Default Currency: AUD

Annualized Average Rolling Return	1 Year		3 Years		5 Years		10 Years		20 Years	
Dimensional Global Large Company Strategy (gross of fees)	**8.51%**		**5.78%**		**2.90%**		**2.29%**		**6.44%**	
Best Return (%)	58.25%	(4/1997)	33.59%	(4/1997)	20.77%	(6/1996)	9.26%	(4/1996)	6.45%	(3/1996)
Worst Return (%)	-32.02%	(4/2002)	-16.69%	(4/2000)	-7.48%	(2/2007)	-4.46%	(11/2000)	6.43%	(4/1996)
Dimensional Global Value Strategy (gross of fees)	**9.69%**		**7.29%**		**5.20%**		**4.67%**		**7.29%**	
Best Return (%)	56.45%	(3/1997)	29.66%	(8/2012)	20.44%	(6/1996)	12.44%	(10/1996)	7.30%	(3/1996)
Worst Return (%)	-34.05%	(4/2008)	-16.88%	(4/2006)	-9.64%	(6/2007)	-1.41%	(9/2001)	7.28%	(4/1996)
Dimensional Global Small Company Strategy (gross of fees)	**10.09%**		**8.58%**		**6.88%**		**6.25%**		**8.13%**	
Best Return (%)	57.82%	(1/2013)	32.53%	(8/2012)	18.88%	(9/2010)	12.02%	(3/1997)	8.14%	(4/1996)
Worst Return (%)	-26.36%	(7/2007)	-16.07%	(4/2006)	-6.01%	(2/2007)	1.63%	(9/2001)	8.13%	(3/1996)

You can only look on with awe at the work of the Cathedral Builders. We're visiting Padua on 12 May and the Scrovegni Chapel Frescoes at 11.15 am.