

## 10 Trends to Watch for 2015



**December 2014:** It's been a turbulent year, with geopolitical crises dominating world headlines. Rising nationalism and separatism has created power vacuums in the developed world; power plays in Ukraine, the Middle East and the South China Sea have threatened broader conflicts while the possibility of a new era of religious crusades is daunting. The issue for the year ahead is whether global leaders will step up to collaborate on real, lasting solutions.

Other major factors that will shape the world in 2015 are the sluggish global economy – hardly news at this stage, but still relevant – crashing oil prices, and climate change's return to the agenda. Technology has its part to play, of course, and there are plenty of exciting developments on the horizon, although in the past twelve months it has been security breaches and cyber-criminals' apparent ability to hack every aspect of the connected world.

Against this backdrop we see 10 key trends to watch in the next year.

### 1. A picture paints a thousand words: Visual (and social) everything

Techno-fatigue is setting in as global connectivity makes it ever-harder to escape the data bombardment. Images are an oasis in the desert of text; the brain processes them much faster than words. Ubiquitous digital cameras are already driving exponential growth in visual communications. Now look beyond pictures to virtual reality. Love or hate Google Glass, VR is coming: Immerse yourself in entertainment via your smartphone, or travel without travelling. There are still areas where real reality holds sway, but expect VR to be applied to many social and business activities soon.

#### *In Action!*

**Getting internet to every corner of the Earth:** Over 7 billion people inhabit the planet, with 3 billion using the internet today. If companies like [Google](#), [Facebook](#) and [Quarkson](#) have their way every person will have access to the internet in the next decade: The race is on! Facebook's goal is to launch a fleet of solar-powered drones to connect the billions of people currently off the grid to the internet, while in 2013 Google announced [Project Loon](#) that uses balloons to deliver internet connections. Portuguese Quarkson is planning to use a fleet of high-range unmanned aerial vehicles (UAVs). Elon Musk, founder of [Tesla](#) and [SpaceX](#) could soon join the pack by launching 700 internet satellites. (Sources: [IM International Mining](#), [Wired](#), [4-traders](#), [Yahoo](#))

**Reachable always, everywhere – techno-fatigue:** Being constantly bombarded with emails 24/7 outside working hours is stressful for many people. Is enough, enough? Some countries and companies seem to think so. [The Guardian](#) reports that [Daimler](#) and [Volkswagen](#) have already adopted rules to limit work-related stress. Daimler has allowed about 100,000 workers to delete the emails they receive while on vacation. Already in 2011 Volkswagen agreed to stop its

BlackBerry servers from sending emails after working hours. In France, a federation of employers – in engineering and consulting companies – and two unions have signed an agreement to avoid workers feel pressured to work after hours. In Germany, in 2016 the government is expected to pass similar legislation to curb off-hour emails and calls. (Sources: [BBC](#), [Huffington Post](#))

### **Look Out For...**

**Virtual reality in a consumer world:** Virtual and augmented reality is taking off, and companies like [Google](#) and [Facebook](#) are betting on it. Facebook has acquired virtual reality handset maker Oculus, while Google is funding the secretive start-up [Magic Leap](#) which is reportedly working on augmented reality glasses that can create digital objects which appear to exist in the world around you. From gaming to travel to shopping the definition of “reality” could be reinvented. But what’s in it for brands and the consumer? While the technology is still very expensive it has the potential to transform industries. Think: Instead of being interrupted with ads, brands could sponsor virtual experiences that people actually want. Imagine [Budweiser](#) taking you behind the scenes at the [FIFA World Cup](#) or [Coca-Cola](#) giving you a virtual front-row seat at a [Metallica](#) concert. (Sources: [The Verge](#), [idea4industry](#), [AdAge](#))

**Merging the physical and virtual world:** Exploring a computer-generated environment via virtual reality technology is already cool; immersive holographic environments take the experience a step further. It may sound very sci-fi but the technology is already in early stage development. If the many challenges to commercializing it can be overcome, it has endless possibilities. Imagine a fully interactive, holographic, walk-in room where you simply call up your relatives on the other side of the world to join you “in person,” or become an integral player in a joystick-free video game, or score goals in a virtual soccer game. [Leia Display System](#), for example, is planning on releasing a hologram phone in 2015. (Sources: [Howstuffworks](#), [Tumotech](#))

## **2. Exposed in a connected world: The fight back**

Anyone can be a cyber-criminal’s target. Breaches of information security are becoming more numerous and creative – with wearable technology and the internet of things adding new challenges for hackers – but the fight back has started. Individuals are increasing security, sharing less, and switching to less-intrusive social platforms. Companies are setting up private networks, eschewing the benefits of the open cloud. Rising protectionism could balkanize today’s open internet, replacing it with a patchwork of national networks. Governments and tech companies are fighting over control of privacy. But unilateral action avoids the tough questions: What’s the right balance between privacy and transparency? And who owns our personal data?

### **In Action!**

**The underground economy of the dark web:** Beneath the standard search engines, a deep and, in many cases, a much darker internet is hidden. It is a world thousands of times larger than the indexed surface internet that most of us know and is generally inaccessible to uninvited guests. This web of hidden data includes information such as financial information, shopping catalogues, flight schedules and medical research in organizations’ own systems, stored in databases that remain largely invisible to search engines. Some of this information – if publically accessible – could offer insights and opportunities for companies. However, the deep web has a much darker side, which poses significant risks. Lurking in its depths are thriving market places where criminals and terrorists are trading everything from arms to drugs to stolen financial and medical information. As technologies advance, expect more of the deep web to become more widely accessible – but explore with caution. To learn more visit [Trend Micro](#), [The Economist](#) and [KPMG](#).

**A high priority investment:** Statistics on security breaches are becoming increasingly worrying. 254 data breaches were recorded in the first three months of 2014, with 200 million data records recorded as lost or stolen, a 233% increase over 2013. High-profile data breaches at companies such as [Home Depot](#), [Neiman Marcus Group](#), [Target](#) and [P.F. Chang’s China Bistro](#) have driven

increased investments in cyber security. Not only are corporations boosting their own security, they are also investing heavily in cyber security companies. Corporate investors have invested US\$1.37bn in 140 such deals since 2010. Cyber security funding to date in 2014 is already 129% higher than in 2012. The three most active investors since 2009 are [Intel Capital](#), [Google Ventures](#) and [Qualcomm Ventures](#). Cyber security is no longer a choice but an unavoidable part of doing business. (Sources: [Money Morning](#), [CB Insight](#))

### **Look Out For...**

**Wearables – the end of data privacy:** When mobile technology took off the risks to data security and the assault on privacy of constant data-sharing were overlooked, leading to many concerns and legal battles. In a survey from [PwC](#), 82% of Americans say that they are worried that wearable technology will invade their privacy. Similarly, 86% express concern that wearables make them more vulnerable to security breaches. According to [Symantec](#), only 52% of the devices they have researched have a privacy policy, with 20% using simple “clear” (visible) text when users are asked for login credentials; in some cases these devices send data to up to 14 IP addresses. For wearables to catch on, it is critical that the risks of data-sharing are addressed and regulated so that sensitive, private information is not sold to third parties without the users’ knowledge or consent. (Sources: [Global Regulatory Enforcement Law Blog](#), [Wired](#))

**Rethinking the internet:** The internet is neither neutral nor private. It is possible to gather information on nearly everything users do, which is reportedly what the US National Security Agency does – along with many other such agencies and private companies. To address the problem, some people are working on more secure and private ways to communicate in the digital realm. One example is [Project Meshnet](#) which aims to build a sustainable, decentralized, alternative and censorship-free internet. Another is [MaidSafe](#). The plan: Use the existing internet but do not store data on servers in data centres as internet companies do today. Instead, people joining the network turn their computer into part of the network, allowing pieces of encrypted data to be stored on them. The removal of servers and data centres gives total anonymity and security. Both projects are already well under way. (Sources: [NewScientist](#), [Business Insider](#))

### **3. ThinkZero: Towards a circular economy**

A new global climate change agreement is due in 2015 – and this one is backed by “people power” demands for action on resource, waste, and environmental issues. Companies are listening, and not just because it plays well with stakeholders. The business case for moving towards a circular economy is compelling: Potentially huge increases in economic output and jobs, lower costs, security of critical raw material supplies, and innovation. True zero-waste and cradle-to-cradle systems in which materials are recycled and reused indefinitely are not yet a reality, but could be soon. Ultimately the only option is reducing consumption; for now, look for the circular economy principles to generate significant interest from business and society.

#### **In Action!**

**Sacrificing for a better world:** Sacrifices are not easy, for companies or consumers. Nonetheless, many companies are adapting their operations, product designs and marketing initiatives to reduce environmental impact and encourage healthier consumer lifestyles despite the potential costs. American drugstore [CVS](#) (now CVSHealth) has stopped selling tobacco products because they are in conflict with its role as a healthcare company. British retailer [Tesco](#) is moving candy from the checkout to other parts of the store to promote healthier living. U.S electric car manufacturer [Tesla](#) is making its patented technology available, even to potential competitors, to help the world deal with climate change. At the recent UN climate summit around 40 companies, e.g. [Asia Pulp and Paper](#), [Kellogg's](#), [Nestle](#), [Johnson & Johnson](#), [Walmart](#), and [Procter & Gamble](#), committed to do their part to slow and eventually stop the loss of forests. Why are brands doing this? To protect the environment or to keep consumers guilt-free when shopping? Likely both.

(Sources: [Trendwatching](#), [National Geographic](#)) While positive these moves are not enough; ultimately, the goal needs to be changing consumer behaviors.

**Wishful thinking or reality?** “Climate change is the defining issue of our times,” UN Secretary-General Ban Ki-moon has said again and again, urging that “now is the time for action.” The heads of UN states along with leaders from finance, business and civil society again met to discuss the urgent need to address the issues at the UN Climate Summit 2014. This time, participants seemed to have finally understood the challenge, pledging billions to the global climate fund to help developing nations, setting specific targets to cut emissions and promising greater use of clean energy. In an historic deal, in November 2014, the world’s two largest economies and energy consumers, the U.S. and China, agreed to respectively cut its 2005 level of carbon emissions by 26-28% before 2025, and to get 20% of its energy from renewable resources by 2030. (Source: [CBC News, CNN](#)) Yet, the question remains: will all these pledges remain wishful thinking or will they finally become reality, in the form of an agreement at Climate Conference in Paris in 2015?

### **Look Out For...**

**Business models already driving the circular economy:** Building a business model that doesn’t create waste is easier said than done. In the linear economy the resources in a product are inputs and the customer is the buyer. To make the economy more circular the product should be seen as an asset and the customer as a user. [FastCompany](#) has identified five business models that are contributing to making circular businesses a reality: 1) Product as services – leasing access to and not selling ownership of a service, e.g. [Vodafone’s Red-Hot plan](#); 2) Next Life Sales – efficiently recovering and re-conditioning products after use and then putting the same products into the market, e.g. [Tata Motor Assured](#); 3) Product transformation – not all products can be reconditioned in their entirety but most products have components that can be reused, e.g. [BMW](#); 4) Recycling 2.0, e.g. [Starbucks](#) turning thousands of tons of its waste coffee grounds and food into everyday products by using bacteria to generate succinic acid which can then be used in a range of products from detergents to bio-plastics and medicines; 5) Collaborative Consumption – using social media platforms, e.g. [ThreadUP](#), to browse like-new clothing at significant reductions from families whose children have outgrown their clothes.

**The end of the digital dump:** E-waste isn’t just any kind of waste. It contains large amounts of highly toxic substances, e.g. mercury, lead, cadmium, arsenic, beryllium and brominated flame retardants. Many of these chemicals do not break down over time, contributing to destroying ecosystems and causing health problems around the world. Only a very small percentage of e-waste is recycled today. The video [Re-thinking Progress](#) from [the Ellen MacArthur Foundation](#) explains how the products of today can become the resources of tomorrow by suppressing our “throw away and replace” mindset, instead adopting a “return and renew” culture. Part of this change requires rethinking operational systems. One solution is to rethink ownership – instead of transferring ownership of products to the consumer, e.g. phones, computers, and appliances, companies could license them. Then, when the consumer does not need the product anymore, it can go back into the operational system for reuse or recycling, reducing e-waste.

## **4. Putting your money where your mouth is: The rise of impact capitalism**

It is not only companies looking for responsible capitalism – finance providers are getting in on the act. Their version: impact capitalism, investing in projects and assets that target global and social challenges while delivering positive financial returns. Communities are collaborating to fund each other, establish multi-stakeholder partnerships to revitalize cities and co-create new business models. Smart investors recognize the potential of innovations like peer-to-peer lending but this brings the risk that financial returns may trump social benefits. Impact investing, as with responsible capitalism, needs to embed its dual objectives broadly across the financial system.

### *In Action!*

**Investing for impact:** Charitable donations no longer provide sufficient capital to solve pressing social and environmental challenges at global scale. Worldwide, many thousands of people and institutions believe our era needs a new type of investing. Using impact investment to generate social and environmental good, as well as profits, is now moving from the periphery of activist investors to the core of mainstream financial institutions. In a recent [survey](#) of 125 major fund managers, foundations, and development finance institutions, [J.P. Morgan](#) and [Global Impact Investing Network](#) (GIIN) found US\$46 billion in impact investments under management in 2014, an increase of nearly 20% from 2013. Nonetheless, impact investments still represent only 0.02% of the US\$210 trillion invested in global financial markets. (Source: [Private Capital Public Good](#))

**Cooperating for responsible investment:** In a world facing environmental, social and governance (ESG) issues, investors and companies need to take a wider view of investments, recognizing that value is driven not just by profits in the short-term but also by ESG performance in the medium and longer terms. The UN-driven [Principles for Responsible Investment initiative](#) brings together UN institutions with an international network of 1260 investors, managing US\$45 trillion of assets, to voluntarily implement six principles of responsible investment with the aim of contributing to the development of a more sustainable global financial system. However, while awareness of the need to integrate ESG issues into investment processes is showing [positive increases](#), impact measurement remains low. Many investors focus on mitigating risk as a key motivator for responsible investment, but there are hopeful signs that other drivers, including a broader interpretation of fiduciary duty, reputational and competitive advantages, are emerging.

### *Look Out For...*

**From P2P to marketplace lending:** Peer-to-peer lending is becoming increasingly popular, growing rapidly in many countries. These popular lending institutions are now funding loans in such large numbers that institutional investors and hedge funds are entering the peer-to-peer lending market with the risk of changing the industry from being “peer-to-peer lending” to “marketplace lending.” A report from Research and Markets reveals that by 2016 the global P2P market will top £40 billion. Of this amount, the UK will account for £5 billion and the US £20 billion, with the remainder coming from the rest of the world. The interest in connecting via these types of platforms allow for money lending to bypass traditional banks. The newest trend: P2P marketplaces offering mortgage loans, a trend that has been picking up in China for a while. (Sources: [WSJ](#), [Crowdfund Insider](#), [FT](#))

**Crowdfunding medical care:** Non-profit [Watsi](#), modelled after for-profit companies, is utilizing crowdfunding to provide medical care in the developing world. It enables donations as small as US\$5 to directly fund medical care and resources and, unlike other non-profits, it donates 100% of the proceeds. While there are countless examples of for-profit businesses getting crowdfunded, Watsi, is currently the only crowdfunded non-profit as well as the first non-profit ever to be included in [Y Combinator's](#) startup class. Y Combinator investors are typically looking for equity and profit, but in the case of Watsi the criteria for investment is Watsi's ability to help those in need of medical care rather than cash. Armed with the support and acceptance of Y Combinator, it has had success with getting donations from [Khosla Ventures](#), [Tencent](#), [Ron Conway](#), and the [Draper Richards Kaplan Foundation](#).

## 5. Upstarts: Driving the entrepreneurial economy

Young people want to make an impact and are not letting high unemployment stop them finding work: They are turning entrepreneur and creating their own jobs. The redistribution of production, consumption, and knowledge around the world means that the barriers to entry in many industries have never been lower. Today, “entrepreneur” is an aspirational career path, encouraged by governments, media, and academic institutions. But there is a caveat. Start-ups can create jobs and

fill gaps created by the economic squeeze on public and private sectors, but the real test is whether they drive economic growth over time – will today's entrepreneurs spawn the next generation of global companies?

### *In Action!*

**Entrepreneur is a mindset, not an occupation:** In the past, many people started their own businesses because there were no other opportunities for them. However, in today's world the notion of being an entrepreneur is changing, especially amongst younger generations, where becoming an entrepreneur is as aspirational as it is a necessity. A survey from [Millennial Branding](#) and [oDesk](#), "[Millennials and the Future of Work](#)" suggests that 90% of the professionals' surveyed define being "an entrepreneur" today as someone who has a certain mindset. Aspects of this mindset include being a "self-starter," "risk-taker," "visionary," and someone who "spots opportunity." According to Dan Schawbel, founder of Millennial Branding, "This signals a major shift in our economy and how we manage our careers. Entrepreneurship is now accessible to everyone regardless of age or occupation. You don't need to own a business to be an entrepreneur, but you do need the entrepreneurial mindset to be successful in business".

**Social entrepreneurship:** Social entrepreneurship has typically been viewed as being solely about altruism while in reality it is also about capitalism. For the new breed of social entrepreneurs the distinctions between non-profit and for-profit business models are breaking down. Many believe that the two sectors can learn and benefit from each other through partnerships as well as investor relationships. Moreover, the idea of being able to do social good and simultaneously run a profitable business is increasingly socially acceptable. One example of social entrepreneurship is [ThinkImpact](#), an educational travel company. Another great example is [Pencils of Promise](#) which builds schools. Both companies have proven that it is possible to combine a profitable business and at the same catalyse positive changes for a world that suffers from an increasing number of challenges. Let's hope to see more socially engaged entrepreneurs in the future.

### *Look Out For...*

**The future employee – talent on demand:** The nature of work is changing; so is the labor pool. New generations equal new expectations, and don't forget to add to that the influence of globalization, social change and growing employee diversity. Against this backdrop, companies are increasingly replacing the traditional employee with a more flexible type – the self-employed worker. In "[Workforce 2020 – The Looming Talent Crisis](#)," [Oxford Economics](#) reveals that 41% of the companies surveyed are using a growing number of contingent employees (independent contractors, part-timers, temporary, leased employees), 35% are increasing their use of intermittent or seasonal employees, and 34% are increasing use consultant employees. Expect continued growth in flexible alternatives to the traditional employer/employee relationship.

**Entrepreneur in a big man's world:** In an era of collaboration and entrepreneurship, leading multinational [Coca-Cola](#) launched a new model for Creating Start-ups in 2013. It partners with experienced entrepreneurs globally, giving them access to Coca-Cola's resources, relationships, and reach before they develop their next start-up. It's a win-win for both parties as Coca-Cola gets early access to new markets with proven growth opportunities while the entrepreneurs gain access to knowledge and relationships that few can dream about. On a smaller scale, other large firms are also helping aspiring entrepreneurs, e.g. 13-year old entrepreneur Shubham Banerjee has received funding from [Intel](#) to develop a low-cost Braille printer. In the lobby of the [Chicago Marriott O'Hare](#), a healthy vending machine has been installed in cooperation with the local start-up [Farmer Fridge](#). (Source: [Coca-Cola Founders](#), [Yahoo](#), [PSFK](#))

## 6. Who needs healthcare providers anyway?

Healthcare systems are switching from old-style models centered on hospitals and physicians to a consumer-centric approach, where the focus is improving wellbeing rather than simply treating

disease. Consumers can access health information anywhere, anytime, and generate their own via wearables or, soon, internal devices. Smart machines help doctors in their diagnoses, while robots are taking on multiple roles, from moving supplies to precision surgery. Expect their use to extend to high-risk situations, such as Ebola. Advances in DNA mapping, targeted drug delivery and bioprinting could further transform health management. Healthcare providers may morph into life consultants, orchestrating application of the latest technologies, more hands off than on. The challenges, data security, ethics and a growing health divide between rich and poor.

### *In Action!*

**Cognitive computing:** [Watson](#), IBM's artificial intelligence computer, has been tested by U.S. clinics since 2013. It has proven to be valid and valuable in the medical decision-making process: [IBM](#) has already trained Watson to help doctors arrive at better individualized cancer diagnostic and treatment recommendations in partnership with [Memorial Sloan-Kettering Cancer Center](#). It has also been trained to help speed up the claims review process with the health insurance company [WellPoint](#). (Sources: [PSFK](#), [Kurzweilaj](#), [The Burrill Report](#))

**Robotic healthcare:** While robots in healthcare are not a totally new invention, medical robots are still an emerging technology. Today, robotic technology is starting to permeate all areas of healthcare from surgery, to robotic replacement for diminished or lost functions, to rehabilitation and socially assistive robots, to mobile communication robots. The latest addition to healthcare robotics is GiGi the "Ebola zapping robot". It looks harmless but is a cold-blooded killer, at least when it comes to germs – and could become an effective weapon in the fight against Ebola and other deadly diseases. How does it work? GiGi blasts out ultraviolet light that is 25 times more powerful than sunlight, killing contagious germs on all surfaces and even between folds in curtain. And it's effective. GiGi cleans at a 99.9% level compared to traditional cleaning and disinfection of a room by hand, which only cleans at an 85% level. (Source: [CNN](#))

### *Look Out For...*

**The technology inside you:** Before you know it, you will have teeny-tiny bio-bots or pills inside you that can specifically target diseases. One example is the micro bio-bots that are a hybrid combination of live heart cells and a synthetic polymer body. Just two millimeters long, they consist of a head and a wire tail with some live heart cells to make them functional. Still in its infant stage, the research team predicts that future applications could possibly include focusing on specific targets for medical (or environmental) purposes. Other types of micro bots are Steerable Surge, Robot Pills and Plaque Busters. Tech giant [Google](#) also wants part of the lucrative healthcare market and is reportedly working on a cancer and heart-detecting pill. The nanoparticle pill contains magnetic particles approximately 10,000 times smaller than the width of a human hair. These tiny particles will have antibodies or proteins attached to them that detect the presence of "biomarker" molecules inside the body to indicate diseases such as cancer or an imminent heart attack. (Sources: [Robuhub](#), [The Guardian](#))

**Printing the human body:** Each year the pharmaceutical industry spends over US\$50 billion on R&D to develop new effective drugs, while the number of people waiting for organ transplants exceeds the number of donors and available organs. Bioprinting is still in an experimental stage but could ultimately transform both the effectiveness of drug development and the availability of organ transplants. Bioprinting is not just 3D-printing. It takes current 3D printing technology well inside the body to print veins, bones and, hopefully soon, working organs. Researchers have successfully printed nerve guides, blood vessels, lung tissues and working parts of a human heart, using fat cells and collagen. However, due to the cost and the complexity of printing as well as the complex regulations surrounding bioprinted human organs, it will likely take several decades and hundreds of millions (if not billions) of dollars to bring the first bioprinted organ to the market. (Sources: [Explainingthefuture.com](#), [World Future Society](#))

## 7. Let the energy games begin...

The energy market is facing a double whammy. Precipitous falls in oil prices should benefit oil importers, including China, Japan and Europe, along with populous countries dependent on energy subsidies and agriculture such as Brazil and India. It's a mixed bag for the U.S. with frackers and exports suffering, while import prices fall. Among the losers, the Saudis may weather a short-term dip but risk longer-term social unrest. Economic pressures in Iran and Russia could backfire into irrational acts of aggression if the West is seen as manipulating the energy market. On top of these challenges, the latest IPCC report calls for massive increases in renewable energy and the phasing out of fossil fuels to limit global warming. Incumbent politicians face the unpopular need to drive a wholesale energy transformation – with price rises for voters and intense lobbying from the energy goliaths that control a significant swathe of global GDP. Expect energy – and political – games to ramp up.

### *In Action!*

**Oil as weapon of mass obedience:** Falling oil prices could prove a costly affair for authoritarian nations such as Russia, Iran, and Saudi Arabia. As long as there is oil money, these countries have the means to keep control of their populations. However, if the downward oil price spiral continues over any length of time, Russia, Iran, and Saudi Arabia could potentially be facing social unrest as economies and incomes falter, and, at the extreme, revolutionary pressures. Were economic pressures to lead to structural economic reforms and better education policies in these countries, this would be good news for the Western world and the nations' own populations. The caveat of course is: Be careful what you wish for. Significant economic pressures could lead to irrational and unexpected actions from control-oriented leaders when faced with desperate circumstances. (Source: [The Globalist](#))

**Increasing competition:** For decades, Saudi Arabia and the members of OPEC have determined the energy prices. While the Saudis still have the world's second largest oil reserves plus the world's largest oil fields, the U.S. has now overtaken the country as the world's second largest oil producer. In 2013, Saudi Prince Alwaleed bin Talal warned that shale oil production in the U.S. is "*an inevitable threat to Saudi Arabia and OPEC.*" But the Saudis are not giving up energy control – or U.S. market share – without a fight. First, Saudi Arabia shocked the rest of the OPEC by cutting forward prices for Asian delivery and by increasing oil output slightly in September, at a time when other exporters wanted it to cut back. Shortly afterwards, the country slashed prices again but this time exclusively for the U.S. market. How effective price wars will be in maintaining current competitive positions will be remains to be seen. (Sources: [U.S. News](#), [Energyindepth](#))

### *Look Out For...*

**The geopolitics of oil:** Geopolitics and oil prices have the habit of interacting to a great extent. The rise and fall of oil prices often sets off a chain reaction of economic and geopolitical consequences, especially in oil exporting countries. Currently, the West could look to gain advantages in ongoing geopolitical negotiations. Already hard hit by Western sanctions, lower oil prices add to the economic pressures on Russia, potentially diluting support at home as well as resources for further military adventures in Ukraine or elsewhere. For Iran, economic pressures could open opportunities for further negotiations over their nuclear program. However, when it comes to Saudi Arabia competition is more likely to be top of mind (see above). In Europe, lower energy bills are welcome but raise the threat of deflation and could potentially inflame the relationship between The European Central Bank and Germany. (Source: [Stratfor](#))

**Restructuring the world's energy system:** Falling oil prices may be causing the greatest turmoil right now but, longer term, the latest [Intergovernmental Panel on Climate Change](#) report outlines the need for a wholesale restructuring of global energy supplies if we are to limit dangerous global warming. Emissions need to peak by 2030, just 15 years away, while massive increases in



renewable energy are needed by 2050 and fossil fuels should be phased out by 2100. Incumbent politicians face the unpopular reality of driving this massive energy transformation – undoubtedly with price rises for voters and intense lobbying from the energy goliaths that control a significant swathe of global GDP. Whether they choose to act, or to delay in the hopes of retaining power, leaving future administrations the unenviable task, is yet to be seen. Addressing climate change is back on the agenda, but the energy transition that the world so desperately needs will only happen if renewable energy is made politically and economically irresistible and is well-planned and coordinated nationally and regionally. (Sources: [The Guardian](#), [Worldwatch Institute](#))

## 8. Power plays and power vacuums: A new age of crusades?

An increasingly polarized geopolitical landscape, along with a weak global economy and rising income inequalities, presents serious risks to global growth and stability. Partisan politics in the U.S. and rising nationalism in Europe are creating leadership and power vacuums, even as power plays by Russia in Ukraine and by China in East Asia ramp up the potential for wider conflict. BRICS leaders are preoccupied by domestic issues while a new wave of people power is evident in separatist movements and uprisings against some African leaders. Most worryingly, religious conflict is rising. Unresolved issues of arbitrarily-drawn borders, divided ethnic communities, and religious tensions from the break-up of the Ottoman Empire are violently resurfacing in the shape of ISIS, conflict between Sunni and Shia factions in Iraq, and the Syrian civil war. Growing extremism and divisions within Islam in the Middle East, Africa and Asia threaten both Muslim states and the West. If global leaders do not come together to address the root causes of the challenges we face the specter of a new age of religion-fuelled crusades.

### *In Action!*

**Power Plays:** China and Japan have agreed to disagree on disputed islands in the South China Sea so that they can gradually resume political, diplomatic and security dialogs. In November Russia suggested that U.S. involvement in the resolving the crisis in Ukraine would be a “step in the right direction,” although subsequent rhetoric belies these words. Despite these positive steps it doesn’t mean that Russia and China are no longer flexing their muscles – in fact, they are talking about greater military cooperation to counter U.S. power in their immediate spheres of influence. On the same day that NATO warned that Russia was moving combat troops into eastern Ukraine, Russia announced that it would restart long-range bomber flights near the U.S. Aviation power plays are not an unknown strategy for China either: After the unilateral declaration of the East China Sea Air Defense Identification Zone at the end of 2013, the potential for confrontation has increased. There was a close call in August 2014, in international air space, when a Chinese fighter jet performed a “barrel roll” at close range, bringing its wingtip within 20 feet of a U.S. Navy patrol plane. And don’t forget that China and Russia are also fearsome combatants on the new battleground: Cyber warfare. (Source: [npr](#), [US TODAY](#), [Washington Post](#))

**Growing religious risks:** Terror threats and religious extremism have been top of mind in the West since 9/11. However violence, civil war, and suicide bombings also plague the Middle East, Africa and South Asia. With the rise of organization such as ISIS, Boko Haram, al Qaeda, Hamas, Hezbollah and other violent extremist Islamic movements there is a growing concern in countries with substantial Muslim populations. A survey in Spring 2014 from [Pew Research](#), covering 14 countries with large Muslim populations, found that the level of concern is high and has increased significantly since 2013. In Lebanon 92% of the population is concerned, in Israel 84%, Tunisia 80%, Egypt 75%, Nigeria 72%, Bangladesh 69%, Pakistan 66%, Palestine Territories 65%, Malaysia 63%, Jordan 62%, Turkey 50%, Senegal 46% and Indonesia 39%. More recently, tensions in Jerusalem over religious sites risk fuelling a new battle for one of the holiest cities in the world.

### Look Out For...

**Reshaping the global economic order:** In July 2014, the BRICS announced the founding of the New Development Bank (NDB), headquartered in Shanghai. It aims to foster greater financial and development cooperation among the five economies and is an alternative to the World Bank and the IMF. Why now? The BRICS' voting power in the IMF and the World Bank does not reflect their economic strength, making it impossible to increase their influence within those institutions. In addition, they are unhappy at the failure to elect a non-European director of the IMF which has consistently been run by Europeans since its creation in 1946. Jim O'Neill, the economist who coined the term "BRIC," suggests that the founding of the BRICS Bank is "a permanent sign that global governance is a mess." (Source: [Forbes](#))

**Power vacuums:** Power vacuums are evident all over the Western world – and getting worse. U.S. President Obama lost the Democratic majority in Congress in 2010, and ceded the Senate majority in the recent 2014 midterm elections, leaving him with less power than ever. The U.S. is also stepping back as the world's policeman leaving the world with a significant power gap. Weak economies, high employment, growing income inequality, and discontent over immigration have turned many European voters towards more extreme right-wing political parties – and separatist movements – in the hopes of positive economic change and stricter immigration policies. These nationalist parties, in particular in Denmark, France, Austria, Finland, the Netherlands, Switzerland, and Serbia, now wield power that would have been very unlikely several years ago. The result is inward-looking Western nations, riven by nationalist and protectionist debates, that seem unable – and unwilling – to come together in finding solutions to grave geopolitical threats and global challenges.

## 9. Mayors unite: The rise of the city state

Cities just keep growing. These economic, cultural, and knowledge powerhouses, already home to half the world's population, are playing an increasing role in global development. The politicians running them – typically hands-on, pragmatic mayors – often deliver better results than national governments by mobilizing local communities and businesses in joint action. Their skills are now being applied to global challenges such as emissions reductions through powerful national and international networks. When mayors around the world unite, the rising power of these burgeoning city-states could eventually supplant national governance structures. This is unlikely in the short term, as cities lack the remit on foreign affairs, for example, but the increasing scope of their activities and collaborative approaches make the mayors of the world a force to watch.

### In Action!

**Cities as wealth generators:** In 1950, there were 2 megacities in the world with 10 million or more inhabitants. Today the number is 28 and by 2030 that number is expected to rise to 41 megacities. Across the globe cities are increasingly important generators of growth – and it will be the emerging market cities that will win the race. [McKinsey Quarterly's City 600 index](#) suggests that developed market cities will create 17% of global GDP growth in 2025, down from 36% in 2010 while emerging market cities will create 47%, up from 18% in 2010. Overall, cities could inject up to US\$ 30 trillion into the global economy by 2025. The rise in urbanization will help drive economic growth and open up new consumer markets in developing economies with some megacities becoming markets comparable in size to small (or even not so small) nations. The question is will cities become more important than sovereign states?

**The collaborative city:** In a world of austerity and changing citizen expectations, many local governments have been forced to change the way they do business. To fill gaps in services for their urban populations, left by austerity measures or weak finances, public-private partnerships are now top of the agenda for many cities. One city that has adapted particularly well to this approach is New York City, implementing several successful public-private partnerships since

2002, e.g. MillionTreesNYC, NYC Green Cart, and Safe Haven. More broadly, since 1991, the Living Cities organization has connected city leaders with private sector capital to develop and scale new approaches to improve the economic well-being of low-income people in cities across the U.S. (Sources: [The Collaborative City](#), [CityLab](#))

### Look Out For...

**When mayors unite:** Today, cities around the world are responsible for about 70% of harmful global CO2 emissions. So, like it or not, cities are becoming critical players in reducing the world's greenhouse gases. Their mayors are rising to the challenge. A global Compact of Mayors from cities across the world was launched at the recent UN Climate Summit. Its purpose is to: Enable cities to publicly commit to very high CO2 emissions reductions; make existing targets and plans public; and report on their progress annually, using a newly-standardized measurement system that is compatible with international practices. The cities will meet the same requirements that are proposed for the international climate negotiation in Paris in 2015. (Source: [Environmental News Service](#))

**If mayors ruled the world:** Cities are important drivers of progress and innovation. Today, about 3.9 billion people live in cities worldwide, a number that is projected to grow to more than 6.4 billion by 2050. Professor Benjamin Barter has observed that public trust in the U.S Congress is only 12% while trust in American mayors is between 60% and 65%. In his book, he hypothesizes that: *“Cities are the way of the future, whether we like it or not.”* Inspired by this idea, Mayor Eberhard van der Laan in the Netherlands has invited city mayors – they have accepted – from across Europe and America to help build the institution *“A Global Parliament of Mayors.”* If successful, this institution could significantly shift the balance of economic power and transform the way we are governed. (Source: [BBC](#))

## 10. Brain waves: Harnessing intelligence

Sci-fi is here. Advances in neuroscience, genomics, biotechnology and more offer the potential for thought-controlled objects as well as the treatment of illnesses such as dementia. New human-machine interfaces could offer superhuman strength or move inside the body to manage health in real time. Ultimately, such advances may enhance human intelligence and the capacity to deal with radical change and complexity. Machine intelligence is also rising. Robots are increasing the number and complexity of the tasks that they can take on – and reducing the need for human workers. The internet of things could soon surpass the physical economy in size. As intelligence breakthroughs continue, expect more questions about how humans manage the race with – and against – the machines. Will we be outnumbered, outdated, and outthought, or can we harness machine power?

### In Action!

**Playing with our minds:** In Western Australia, the insurance company [RAC](#) has created an “attention-powered car” controlled by brainwaves: It slows down when the driver's attention drifts off and speeds up again when attention returns. Leading car manufacturers, e.g. [Ford](#), [BMW](#), [Fiat](#), [Daimler](#), [Volvo](#) and [Volkswagen](#), are testing systems that take control of the steering wheel, as well as activating other alert systems, when risks are detected (Source: [PSFK](#), [BBC](#)). Thought control is being tried on many levels: At the [Harvard Medical School](#) a team has developed a [non-invasive brain-to-brain interface](#) that allows a human to control a rat's tail. Researchers at the [University of Washington](#) have performed what they believe is the first [noninvasive human-to-human brain interface](#), with one researcher able to send a brain signal via the internet to control the hand motions of a fellow researcher. [Samsung](#) is also getting into game, teaming up with wearable computing expert Roozbeh Jafari from [University of Texas](#) to translate thoughts into computing tasks. It might be a while before you see a mind controlled Samsung device but keep watching. (Source: [International Science Times](#), [Singularity Hub](#))

**The rise of machine intelligence:** “Robots everywhere” is no longer a futuristic vision but part of modern living. As the technologies evolve, our private and professional life will change dramatically. Increasingly, robots are able to absorb data, recognize objects, and respond to information and objects in their environment with greater accuracy. This will increase both the number and complexity of the tasks that they can take on – or take over from human workers. It is likely that in the future robots will: Write our news, take our blood pressure, be inserted into our bodies for healthcare purposes, teach our children social skills, mathematics or biology, serve us food and drinks in restaurants, help our elderly carry groceries and keep them company, pick our fruit and vegetables, build our roads, and fight our wars. Robots will work alongside humans in every possible way and as they take on more jobs, humanity will hopefully dream up new jobs just as it has done for decades. (Source: [Global Trends – Industries of the Future: Robotics](#))

### **Look Out For...**

**When things communicate:** More and more things are being embedded with sensors and gaining the ability to communicate. Through the internet of things (IoT), physical objects are creating an information system. However, according to IoT expert, Daniel Burrus, we are not thinking big enough. The IoT is not just about sensors and machine-to-machine intelligence, or only about providing us with information. It is about gathering and tracking data real-time and transforming this into useful information that will drive action in real-time. Take one of his examples: *“If there’s ice on the bridge, the same sensors in the concrete will detect it and communicate the information via the wireless internet to your car. Once your car knows there’s a hazard ahead, it will instruct the driver to slow down, and if the driver doesn’t, then the car will slow down for him. This is just one of the ways that sensor-to-machine and machine-to-machine communication can take place. Sensors on the bridge connect to machines in the car: we turn information into action.”* (Source: [The Internet of Things Far Bigger Than Anyone Realizes — Part 1](#))

**Enhancing and stimulating the human brain:** Put on your wearable [Thync](#) to stimulate your energy, to relax or to focus, instead of using coffee, a nap, chemicals, drugs, or alcohol. This new technology is tinkering with the human brain and, if it works, the market for brain stimulation could potentially be huge. Nanotechnology is another innovation that in the long run could manipulate molecular and atomic structures in the brain and body. As an extension of modern medicine, it could conceivably repair a damaged or diseased brain and an aged body. It could also be used in more controversial ways to enhance human capabilities and talents, boosting extreme intelligence, memory capacity, and a significantly heightened sense of awareness, or delivering astonishing athletic capabilities and strength, or beauty enhancements. These types of human enhancement will likely not be a reality for many decades – giving us the possibility to reflect on and address the significant ethical issues they raise. (Sources: [CNN](#), [Foresight Institute](#))

## **In January: Look out for the best of 2015 trends**