



insight

August 2019

Vegetable Pun Wins Joke Award at the Edinburgh Festival

A Swedish surrealist comedian and children's author has won the award for this year's funniest joke of the Edinburgh Fringe with a one-liner about vegetables. Olaf Falafel's winning joke, which was shortlisted alongside nine others, was: "I keep randomly shouting out 'broccoli' and 'cauliflower' – I think I might have florets."

The pun was deemed the best of this year's festival by 2,000 voting members of the public, after being shortlisted by a panel of comedy critics attending the Fringe. 41% of the public voters chose Falafel's gag as their favourite.

Now in its 12th year, previous winners of the annual award include Ken Cheng, Masai Graham, Tim Vine, Rob Auton, Stewart Francis, Zoe Lyons and Nick Helm.

Falafel's joke saw off competition from other jokes on a variety of subjects including nepotism, semaphore, anti-depressants, Brexit and cowboys.

The 10 funniest jokes shortlist:

1. Olaf Falafel - "I keep randomly shouting out 'Broccoli' and 'Cauliflower' - I think I might have florets."
2. Richard Stott - "Someone stole my antidepressants. Whoever they are, I hope they're happy."
3. Milton Jones - "What's driving Brexit?"

From here it looks like it's probably the Duke of Edinburgh."

4. Jake Lambert - "A cowboy asked me if I could help him round up 18 cows. I said, 'Yes, of course. That's 20 cows'."
5. Ross Smith - "A thesaurus is great. There's no other word for it."
6. Ross Smith - "Sleep is my favourite thing in the world. It's the reason I get up in the morning."
7. Adele Cliff - "I accidentally booked myself onto an escapology course; I'm really struggling to get out of it."
8. Richard Pulsford - "After learning six hours of basic semaphore, I was flagging."
9. Mark Simmons - "To be or not to be a horse rider, that is equestrian."
10. Ivo Graham - "I've got an Eton-themed Advent calendar, where all the doors are opened for me by my dad's contacts."

Falafel said his rise from comic outsider to winner of the prize mirrored the success of his beloved Luton Town FC, as it was "like going from non-league to the Championship in a few seasons".

The comedian has been doing stand-up since 2014 and also writes and illustrates his own books for children. His fourth, a "semi-educational, semi-stupid account of the 1969 moon landings" called "It's One Giant Leek for Mankind", was published earlier this year.

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IR35 due to impact the contractor market

Updated tax legislation known as IR35 is set to come in to force for the UK private sector market in April 2020.

IR35 was created to combat tax avoidance by workers (and the employers hiring them), who supply services to clients via limited companies, but for all intents and purposes perform their role as if they were an employee. These workers are known as 'deemed employees' by HMRC and if caught by IR35, will have to pay income tax and National Insurance Contributions as if they were directly employed. When organisations engage workers on a self-employed basis (usually through an intermediary, rather than via an employment contract) they can save a significant amount of money as they no longer have to pay employers' NICs of 13.8% or the Apprenticeship Levy of 0.5%. It also means they do not have to offer any employment rights or benefits.

IR35 can reduce the worker's net income by up to 25%, costing the typical limited company contractor thousands of pounds in additional income tax and NICs.

Since coming in to force in April 2000, IR35 has been heavily criticised by tax experts and the business community as being poorly conceived, badly implemented by HMRC and causing unnecessary cost and hardships for genuine small businesses. This was the driving force behind the government's decision to replace the original IR35 legislation with the new Off-Payroll Tax, which was initially introduced into the public sector in April 2017 and will be rolled out to the private sector from April 2020.

Whilst they both contain the common theme of "deemed employment", the newer rules introduce a different set of tax treatment, meaning that organisations will now have to assess the contractors status, but, more importantly, pay employment taxes on top of the fees paid to the contractor. IR35 should have a genuine role to play in defending both workers' rights from unscrupulous employers and the Exchequer from lost tax yield. According to accounting and business advisory firm, BDO, the Treasury forecasts that they will collect £3.12 billion over four years as a result of the change in legislation.

The decision on whether a worker falls inside or outside IR35 will be investigated by an HMRC inspector, who will disregard the written contract between the worker and their client, and use the actual nature of the working relationship to create a 'notional contract'.

An inspector, or a tribunal judge, will use this notional contract to determine whether the contract is one of employment, for which IR35 applies or one for business to business services where IR35 is not applicable.

Not surprisingly, an expert knowledge of employment law is required to fully interpret these tests. Neither those independent professionals being investigated, HMRC's tax inspectors or hiring clients can possibly be expected to become experts in decades of employment status case law. To determine the employment status of an individual there are three main principles known as the 'tests of employment'.

These are:

Control: Does the client have control over what, how, when and where the worker completes the work?

Substitution: Does the worker have the right to provide a substitute in their place?

Mutuality of obligation: Is the employer obliged to offer work, and the worker obligated to accept it?

Additional factors that are taken into account to determine whether a worker is in or outside of IR35 include the contract type, whether the contractor is taking financial risk or if they are effectively part of the engager's organisation, being in business on their own account and supplying their own equipment.

If IR35 applies then the fees paid to the contractor, called the "direct deemed payment" will be treated as employment income (similar to a salary). PAYE and employees NI will be deducted from the deemed salary. The fee-payer, which could be the agency or hirer, has to pay employment taxes on top which cannot lawfully be deducted from the contractors fees.

There is no way that IR35 can be circumvented by firms, other than to make the choice to hire all contractors on fixed term employment contracts - which basically means hiring them as if IR35 applies and paying the extra employment taxes. This would however be an expensive way of eliminating the problem and it's extremely unlikely a firm could renegotiate with all their existing contractors the kind of rate cut necessary to offset all the new taxes.

For firms that hiring self-employed/sole trader contractors, IR35 will not apply. That does not prevent HMRC from launching an investigation at a later date, which can be time consuming, costly and highly stressful.

The good news is that there is a proposed exemption for small businesses. Companies are defined as small under the Companies Act 2006 if they generate no more than £10.2 million in turnover, have a balance sheet total of no more than £5.1 million and employ less than 50 employees.



No deal Brexit - the implications

The possibility of a No Deal Brexit remains very much alive, with the newly installed UK Prime Minister, Boris Johnson, committed to leaving the EU on 31st October. But what does the term "No Deal" really mean?

In a No Deal scenario, the UK would immediately leave the European Union (EU) with no agreement about the "divorce" process. The UK would leave the single market and customs union - arrangements designed to help trade between EU members by eliminating checks and tariffs (taxes on imports).

No Deal would also mean immediately leaving EU institutions such as the European Court of Justice and Europol, its law enforcement body. Membership of dozens of EU bodies that govern rules on everything from medicines to trade marks would end. The UK would no longer contribute to the EU budget - currently about £9bn a year.

Under former PM Theresa May's deal - which was voted down three times by Parliament - the UK would have entered a 21-month transition period. This would have provided some breathing space, maintaining much of the status quo, while the two sides tried to negotiate a trade deal. However after Theresa May's deal was defeated, the Brexit deadline was extended to 31st October. To avoid a No Deal Brexit on this date, the UK government must pass a Brexit divorce plan into law, obtain another extension from the EU, or cancel Brexit.

Many politicians are against the No Deal scenario. They say it would damage the economy and lead to border posts between Northern Ireland and the Republic. But others support No Deal and say that any disruption could be quickly overcome and is exaggerated.

Under a No Deal Brexit, there would be no time to bring in a UK-EU trade deal. Trade would initially have to be on terms set by the World Trade Organization (WTO), an agency with 162 member countries. If this happens, tariffs - taxes on imports - will apply to most goods UK businesses send to the EU. Some companies are worried this could make their goods less competitive.

The UK government has already said most tariffs will be abolished for EU goods coming to the UK, if there is No Deal. But the EU doesn't have to do the same.

Trading on WTO terms would also mean border checks for goods, which could cause bottlenecks at ports, such as Dover.

No Deal would mean the UK service industry would lose its guaranteed access to the EU single market. That would affect everything from banking and insurance to lawyers, musicians and chefs.

No-one really knows what will happen at the Irish border under No Deal. The "backstop" - the "insurance policy" in the deal to stop border posts on the Irish border - would no longer exist. No Deal supporters say technological solutions could maintain an invisible border. But EU law says physical

border checks would still be needed on some goods, such as food and chemicals. However, neither the UK or Irish governments have so far said they would be willing to re-install border posts.

No Deal supporters say the UK could avoid paying the divorce settlement - widely thought to be around £39bn - agreed by Theresa May's government. But opinion is split on what happens if the UK refuses to pay and there's a possibility the UK could end up in an international tribunal. Even if there were no legal consequences, refusing to pay could result in political fallout - lessening the UK's chances of securing an EU trade deal in the future.

Individuals could be affected in all sorts of ways. For example, if No Deal disrupted cross-Channel trade, some food prices could rise - a possibility highlighted by a government risk assessment.

EU citizens in the UK can apply for settled status, allowing them to remain even if there is a No Deal. UK expats in the EU are advised to register as residents of the country they live in, although No Deal could make moving across borders more difficult.

Mobile phone roaming charges could return - although some operators have already ruled this out. Travelling with pets will become more complicated and expensive. European Health Insurance Cards (EHIC) would be invalid after a No Deal Brexit.

Most economists and business groups believe No Deal would lead to economic harm. For example, the Office for Budget Responsibility - which provides independent analysis of the UK's public finances - believes a No Deal Brexit would cause a UK recession.

To cushion some of the impact, the government is looking at what might happen in a worst-case No Deal scenario. This might include border delays, increased immigration checks, less food being available and possible price increases for utilities, food, fuel and medicines.

A week after taking office, PM Boris Johnson pledged an extra £2.1bn specifically to prepare for leaving the EU without a deal. Prior to this, the government led by Theresa May had promised £4.2bn to prepare for a range of Brexit scenarios.

Businesses have been encouraged to prepare by stockpiling in case supplies are disrupted.

Supporters of No Deal say some of the risks have been exaggerated and that previous warnings have proven unfounded.

In the meantime while contingency preparations are stepped up negotiations will no doubt continue to see if some form of deal might be possible before the Halloween deadline.

The Amazon Rainforest Fires

There have been a record number of wildfires in the Amazon this year, with most of them occurring with the past two weeks. The vast stretch of flames has been captured on both NASA and NOAA satellites from space. According to the National Institute for Space Research (INPE) satellite data showed an 84 percent increase compared to the same period in 2018. The space agency reports its satellite data has detected more than 80,000 fires since January 2019.

Earlier this month, Brazil declared a state of emergency over the rising number of fires in the region.

When it came to demanding attention to the situation, social media users led the charge by getting several hashtags trending last week. People around the world took to the streets and protested, demanding action to stop the fires. Eventually, foreign leaders began to speak out on social media as well and develop a plan to help put out the fires.

Here's everything we know about the ongoing fires in the Amazon and multiple ways you can help.

How did the Amazon rainforest fires start?

Wildfires in the Amazon are not uncommon, but the way they are now spreading is a concern.

While the Amazon rainforest is typically wet and humid, July and August are the region's driest months, with "activity" peaking by early September and stopping by mid-November, according to NASA.

Fire is often used to clear out the land for farming or ranching. For that reason, the vast majority of the fires can be attributed to humans, Christian Poirier, program director of the non-profit Amazon Watch, told CNN.

Brazil's president, Jair Bolsonaro, has said publicly that he thinks the fires were set by non-governmental organizations (NGOs) in retaliation to funding cuts. Bolsonaro didn't provide any evidence for his claims and then later said he never accused any groups, according to the BBC.

What's the connection to climate change?

In a release on 22nd August, Greenpeace said forest fires and climate change operate in a vicious circle. As the number of fires increase, greenhouse gas emissions do too. This makes the planet's overall temperature rise, the organization said. As the temperature increases, extreme weather events like major droughts happen more often.

"In addition to increasing emissions, deforestation contributes directly to a change in rainfall patterns in the affected region, extending the length of the dry season, further affecting forests, biodiversity, agriculture and human health," Greenpeace said in the release.

What areas are affected?

Satellite images show fires in the Brazilian states of Amazonas, Rondonia, Para and Mato Grosso. The state of Amazonas is

most affected, according to Euronews.

Effects of damage to the Amazon go far beyond Brazil and its neighbours. The area's rainforest generates more than 20% of the world's oxygen and is home to 10% of the world's known biodiversity. The Amazon is referred to as the "lungs of the planet" and plays a major role in regulating the climate. The world would drastically change if the rainforest were to disappear, with impacts on everything from farms to drinking water.

How many fires are burning?

In a 48-hour period, leading up to Thursday, there were more than 2,500 active fires in the Brazilian rainforest, the BBC reported Friday 23rd August.

On Tuesday, Eric Holthaus, a meteorologist, tweeted data showing smoke from the fires covering about half of Brazil. Later in the week, the BBC tweeted a map showing similar data.

The skies blackened over San Paulo, Brazil, for an hour 19th August after a cold front caused winds to shift and carry smoke from about 1,700 miles away. On Friday, Telesur TV reported that smoke from the fires could be seen in Argentina.

Have the fires been put out?

The fires are still active. There were reports of scattered rain and thunderstorms on Thursday. It's unclear whether the rains would help extinguish the fires.

Bolivia's president, Evo Morales, contracted a Boeing 747 "Super tanker" on Wednesday to help extinguish the fires, Telesur reported. The super tanker is capable of flying with 115,000 liters (over 30,000 gallons) and was expected to be operational on Friday.

What are politicians doing to help?

President Donald Trump tweeted on Friday that he spoke with Bolsonaro.

"I told him if the United States can help with the Amazon Rainforest fires, we stand ready to assist," Trump said in his post.

Venezuela President Nicolás Maduro expressed concern about the fires devastating Brazil and Bolivia and offered aid to help extinguish them. The Venezuelan Chancellery also expressed solidarity with the indigenous communities in Brazil, Bolivia, Paraguay, Ecuador and Peru.

"Venezuela expresses its deep concern about the gigantic and terrible fires that devastate the Amazon region in the territory of several South American countries, with very serious impacts on the population, ecosystems and biological diversity of the area," Venezuela's Ministry of Popular Power for Foreign Affairs said in a statement to Brasil247 on Friday.

The Amazon rainforest fires continued

The Bolivarian Government of Venezuela also proposed a meeting of Foreign Ministers of the Amazon Cooperation Treaty Organization (ACTO) on Friday, posting a letter Venezuelan Foreign Minister Jorge Arreaza.

Finland's Prime Minister, Antti Rinne, also released a statement saying that the fires in Brazil were "extremely serious" and that he had contacted the European Commission.

"Brazilian rainforests are vital for the world's climate. I am truly worried about the attitude Brazil seems to have adopted right now regarding its own forests. Brazil should do all it takes to end the fires that are a danger to our whole civilization," Rinne said in the statement.

Bolsonaro has faced criticism. People are accusing him of lack of action and of encouraging logging and farming in the Amazon. In early July, an anonymous senior Brazilian official told the BBC that Bolsonaro encouraged deforestation. Ricardo Galvão, the director of the INPE, was fired Aug. 2 after defending data that showed deforestation was 88% higher in June than it was a year ago, CNN reported. In a Facebook video, Galvão announced that he'd been let go by the agency after a meeting with Brazil's minister of science, technology, innovation and communications, Marcos Pontes.

How did the public respond?

Apple CEO Tim Cook appears to be the first tech CEO to respond to the fires. On Monday, Cook tweeted that Apple would be donating to help.

#ActForTheAmazon began trending on Twitter and protests began last week. In Zurich, activists from the Klimastreik Ecological Movement and Brazilians assembled outside of the Brazilian Consulate on Friday morning. In Dublin, the Extinction Rebellion Collective occupied the Brazilian Embassy. Twitter users captured images of a protest in Barcelona as well. Demonstrations have also begun in Paris, London, Madrid and Copenhagen, Denmark.

The hashtags #PrayforAmazonas and #AmazonRainforest were trending and Twitter users criticized the media for giving more attention to the fire at Notre Dame and other news than to the rainforest fires. Social media users also called out billionaires for lack of donations.

"The Sierra Club has a comprehensive strategy to protect old-growth forests in the US and elsewhere. Specifically in the Amazon, the Club calls on international lenders and institutions to reconsider their investments in Brazil after President Jair Bolsonaro's reckless exploitation and destruction of a critical resource for the future of humanity," Javier Sierra, the Sierra Club's associate director of communications for Latino media, said in an email.

Sierra pointed out that both Norway and Germany have already said they would cease to provide funds for the Amazon's preservation until Bolsonaro reverses course.

"Those who destroy the Amazon and let deforestation continue unabated are encouraged in doing so by the Bolsonaro government's actions and policies. Since taking office, the current government has been systematically dismantling Brazil's environmental policy," Danicley Aguiar of Greenpeace Brazil said in a release Thursday.

The World Wildlife Fund's European policy office released a statement the same day.

"Faced with this ecological devastation, WWF calls on the countries of the region -- Brazil, Bolivia, Colombia, Peru, Ecuador, Venezuela, Guyana and Suriname -- to protect the Amazon, fight deforestation and reduce the causes behind these fires. It also calls on the EU and its Member States to step up its efforts to curb the impact of EU consumption on deforestation and the destruction of other ecosystems around the world, linked to commodities such as soy, palm oil, cocoa or meat."

In addition, actor and environmentalist Leonardo DiCaprio added a donation link to Amazon Watch on his Instagram profile and posted about the fires. Celebrities like Jameela Jamil, Jaden Smith and John Cusack have also taken to social media to speak out about the fiery devastation.

How can you help?

Donate to [Rainforest Action Network](#) to protect an acre of the Amazonian rainforest.

Donate to the [Rainforest Trust](#) to help buy land in the rainforest. Since 1988, the organization has saved over 23 million acres.

Reduce your paper and wood consumption. Double-check with [Rainforest Alliance](#) that what you're buying is considered rainforest-safe. You can also purchase rainforest-safe products from the alliance's site.

Reduce your beef intake. Beef found in processed products and fast-food burgers is often linked to deforestation.

The [World Wide Fund for Nature](#) (known as the World Wildlife Fund in the US and Canada) works to protect the species in the Amazon and around the world.

[Ecosia.org](#) is a search engine that plants a tree for every 45 searches you run.

Donate to [Amazon Watch](#), an organization that protects the rainforest, defends Indigenous rights and works to address climate change.

Donate to the [Amazon Conservation Team](#), which works to fight climate change, protect the Amazon and empower Indigenous peoples.

[Amazon Conservation](#) accepts donations and lists exactly what your money goes toward. You can help plant trees, sponsor education, protect habitats, buy a solar panel, preserve Indigenous lands and more.

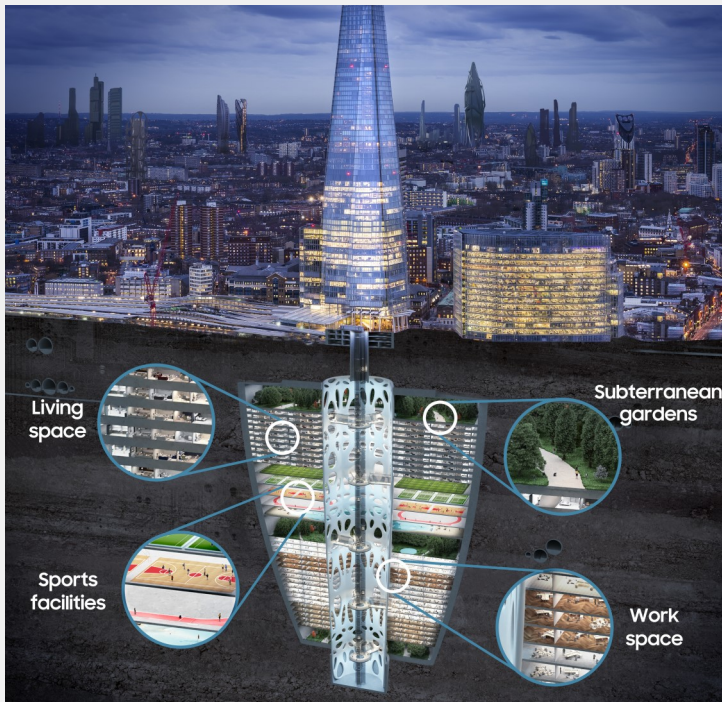
Donate to [One Tree Planted](#), which works to stop deforestation around the world and in the Amazon Rainforest. One Tree Planted will keep you updated on the Peru Project and the impact your trees are having on the community.

[Sign Greenpeace's petition](#) telling the Brazilian government to save the Amazon rainforest and protect the lands of indigenous and traditional communities.

The world in 50 years

Underwater aquatic highways and real life "Quidditch" are just two of the predicted sci-fi inventions we could experience in 50 years' time.

A new report by Samsung on the future of technology - Samsung KX50: The Future in Focus - was compiled by a group of academics and futurists, including TechUK president and co-chair of the Institute of Coding Jacqueline de Rojas, director of engineering and education at the Royal Academy of Engineering, Dr Rhys Morgan and food futurologist Dr Morgaine Gaye.



The report forecasts that within the next five decades reusable space rockets will get us from London to New York in 40 minutes at 20,000 miles per hour. The experts prophesise that we will live and work underground in inverted skyscrapers dubbed 'earthscrapers' while aquatic tube superhighways travelled in via pods will let commuters zip between the UK and Scandinavia in under an hour. Flying taxis and buses will also be used in urban areas to cut congestion.

In 50 years, it predicts self-cleaning homes will be key parts of everyday life and the mass-scale production of 3D-printed organs and implants to monitor our health. Virtual carers will nudge us to make the healthiest choices, whilst tracking a person's health status throughout their life. They could even exceed the quality of those we are born with, including eyes with improved vision at night and hearts or lungs that enhance an athlete's performance.

Insects will be our main protein source with bug burger takeaways and greasy worm kebab shops filling the high street and every kitchen equipped with counter-top insect growing pods.

When it comes to watching films at home in 2069, affordable haptic suits which create sensations of touch will fool all five

of our senses, allowing us to physically feel the film or video game we're enjoying.

The report asked Britons which of the predictions they would most like to see become a reality, and 63 per cent of those surveyed said self-cleaning homes, powered by robot technology would be their top choice, followed by implants to monitor health stats and flying taxis and buses.

Tanya Weller, director of Samsung Showcase, KX, said: 'Fifty years ago we could have never predicted such changes to the way we live, work, travel and eat.'

Co-author Jacqueline de Rojas, President of techUK and Co-Chair of the Institute of Coding, said: "The next 50 years will bring the largest technological changes and innovations we have ever seen in our work and leisure.

"The Digital Revolution, just as the Industrial Revolution did 250 years ago, is challenging all our assumptions about how we shall lead our future lives.

"Looking ahead, we can expect to be connected to everything, and everything we do will be assisted by digital technology."

The report's top ten predictions for the future are:

1. Underwater highways - A subsonic tube transport system will be created as a sealed tube system that is travelled using pods, enabling connections between the UK and mainland Europe as far as Scandinavia in under an hour
2. Underground skyscrapers - So-called earthscrapers, inverted skyscrapers, which burrow downwards for many storeys into the ground, enabling the withstanding of earthquakes.
3. Self-Cleaning homes - At the press of the button, homes will 'self clean' when you leave the house or while you are sleeping
4. Space hotels - Holidays to space, in which space hotels orbit the Moon or other planets, generating their own gravity
5. 3D printing of organs - Providing replacements for people in need or organ transplants or to improve performance, giving night-vision or super-speed
6. High street insect-burger takeaways - Insects at set to become one of our main food protein sources.
7. Flying buses and taxis - We'll be stepping into the nearest available 'air taxi' as a high power drone-copter will fly us above the traffic to speed us to our destination
8. Body implants that monitor our health and translate any language - A digital companion that gets to know us and our health over our lifetime, which keeps track of our health needs
9. Quidditch-style aerial sport matches on hoverboards - We'll be cheering on our favourite sporting teams as they fly around the stadium on hoverboards, in Quidditch-style four-dimensional sport matches
10. Interactive movies, physically taking part in what we watch via VR - When it comes to watching films at home, affordable, refined haptic suits that create sensations of touch, which will fool all five of our senses, allowing us to physically feel the film or video game

Some of the Coolest New Gadgets to Come Out This Year



Waverly Ambassador Translator - £109

Many of us have the misfortune of being cursed with monolingualism. Blame the public school system in America. But for those who want to travel regardless of language

boundaries—or easily converse with people who speak different languages in their own neighbourhood—Waverly Labs invented an audio device that translates on the spot. There are *many* situations in which to use it, but perhaps the most useful setup is to attach one to your ear, hand the other to someone who doesn't speak the same language to strap onto their own head, and talk away. The correct translation will play in both of your ears. The technology is still in the Indiegogo stage, but it might be worth it to you to get your hands on an early version.



Mophie Juice Pack Access - £99.95

This is one of the most practical gadgets to come out this year: a portable charging case for Apple iPhones that doesn't use or cover up the Lightning port. Meaning, you can charge your phone while listening to wired headphones. Mophie's Juice Pack Access gets its power from any Qi wireless charging pad or its included charging cable, giving you up to 31 hours of battery life. And despite its rather sleek design, it's strong enough to protect your phone. It fits Xs Max, Xs/X, and XR iPhones.



Withings Move Activity and Sleep Watch - £69.95

The new smartwatch from Withings for 2019, monitors your activity and your sleep. It has a GPS tracker and syncs with the Health Mate app. Most impressively, it works for 18 months without requiring a battery charge. That and its understated design with an analogue clock face, makes it more timeless than a lot of trackers on the market. The customization options are plentiful too, so you can easily get it to fit your look.



Ember 14 oz. Temperature Control Mug - £129.95

This mug is a godsend to people who can't function without morning coffee (as in, a large segment of the population). All it does is use internal heating technology to keep your caffeinated beverage hot—for an hour. You can nurse coffee without repeated trips to the microwave, or steep tea

to the ideal temperature (all controlled via a Bluetooth-connected app). And that's all it needs to do. While Ember debuted these mugs awhile back, the 14-ounce version is new to 2019, and extremely helpful to your morning routine.



Harley-Davidson LiveWire Motorcycle - £29,799

Harley-Davidson made waves last year when it previewed its all-electric motorcycle, called the LiveWire. Harley gave us a delivery date: August 2019. The LiveWire targets a new demographic of motorcycle riders, one that appreciates a quiet machine for urban street riding that runs clean. It isn't manual either, meaning no clutch or gear-shifting to accelerate. This is the first in a new generation of bikes meant to get young folks excited about motorcycles again.

Will Hackers Kill More People Than a Nuclear Weapon?

Unlike a nuclear weapon, which would vaporize people within 100 feet and kill almost everyone within a half-mile, the death toll from most cyberattacks would be slower. People might die from a lack of food, power or gas for heat or from car crashes resulting from a corrupted traffic light system. This could happen over a wide area, resulting in mass injury and even deaths.

This might sound alarmist, but look at what has been happening in recent years, around the world.

In early 2016, hackers took control of a U.S. treatment plant for drinking water, and changed the chemical mixture used to purify the water. If changes had been made — and gone unnoticed — this could have led to poisonings, an unusable water supply and a lack of water.

In 2016 and 2017, hackers shut down major sections of the power grid in Ukraine. This attack was milder than it could have been, as no equipment was destroyed during it, despite the ability to do so. Officials think it was designed to send a message. In 2018, unknown cybercriminals gained access throughout the United Kingdom's electricity system; in 2019 a similar incursion may have penetrated the U.S. grid.

In August 2017, a Saudi Arabian petrochemical plant was hit by hackers who tried to blow up equipment by taking control of the same types of electronics used in industrial facilities of all kinds throughout the world. Just a few months later, hackers shut down monitoring systems for oil and gas pipelines across the U.S. This primarily caused logistical problems — but it showed how an insecure contractor's systems could potentially cause problems for primary ones.

The FBI has even warned that hackers are targeting nuclear facilities. A compromised nuclear facility could result in the discharge of radioactive material, chemicals or even possibly a reactor meltdown. A cyberattack could cause an event similar to the incident in Chernobyl. That explosion, caused by inadvertent error, resulted in 50 deaths and evacuation of 120,000 and has left parts of the region uninhabitable for thousands of years into the future.

Cyber attackers have fewer inhibitions. For one thing, it's much easier to disguise the source of a digital incursion than it is to hide where a missile blasted off from. Further, cyberwarfare

can start small, targeting even a single phone or laptop. Larger attacks might target businesses, such as banks or hotels, or a government agency. But those aren't enough to escalate a conflict to the nuclear scale.

How would it happen?

There are three basic scenarios for how a nuclear grade cyberattack might develop. It could start modestly, with one country's intelligence service stealing, deleting or compromising another nation's military data. Successive rounds of retaliation could expand the scope of the attacks and the severity of the damage to civilian life.

In another situation, a nation or a terrorist organization could unleash a massively destructive cyberattack — targeting several electricity utilities, water treatment facilities or industrial plants at once, or in combination with each other to compound the damage.

Perhaps the most concerning possibility, though, is that it might happen by mistake. On several occasions, human and mechanical errors very nearly destroyed the world during the Cold War; something analogous could happen in the software and hardware of the digital realm.

What can we do?

Just as there is no way to completely protect against a nuclear attack, there are only ways to make devastating cyberattacks less likely.

The first is that governments, businesses and regular people need to secure their systems to prevent outside intruders from finding their way in, and then exploiting their connections and access to dive deeper.

Critical systems, like those at public utilities, transportation companies and firms that use hazardous chemicals, need to be much more secure. One analysis found that only about one-fifth of companies that use computers to control industrial machinery in the U.S. even monitor their equipment to detect potential attacks — and that in 40% of the attacks they did catch, the intruder had been accessing the system for more than a year. Another survey found that nearly three-quarters of energy companies had experienced some sort of network intrusion in the previous year.

Millennium Consulting spread the green agenda message at Hythe Venetian Fete

Millennium Consulting continued to promote the green agenda in August, using the plastic waste collected at their recent beach clean and litter pick to create a float for the Hythe Venetian Fete.

The Hythe Venetian Fete is a tableaux of decorated floats in various themes held on the Royal Military Canal in the town of Hythe, Kent every second year on the third Wednesday of August. The Fete attracts an audience of thousands from far and wide to see the two processions of up to 40 floats, first in daylight and then again after dark when illuminated.

The float displayed a papier-mâché globe with a "this is our planet" message, a clock with a gas can pendulum stating "time is running out" and a collection of arctic animal costumes to highlight the threat of global warming to wildlife.

The float scooped second place in the National Societies, Open and Commercial category. Congratulations to the Head Office Team, who are already planning ahead for 2021.





IFRS 17 Compliance Program Survey

With only two and a half years remaining until go live in January 2022, it is time to see how IFRS 17 compliance **programs** are progressing.

Millennium Consulting is undertaking a benchmarking survey comprising essential questions addressed to international insurance companies in respect of key program areas.

The survey takes no longer than **90 seconds** to complete and participants will be entered in to a draw to win £100 of Amazon vouchers with the winner to be announced on Friday 30th August 2019.

Participants will be sent the results in September 2019.

Millennium Consulting

IFRS 17 Progress Update Forum

Eight Private Members Club, Bank, London, United Kingdom. 2.00-6.00 p.m. 5th November 2019

Register at www.millenniumconsulting.co.uk/ifrs-17-update-forum

Join us for Millennium Consulting's 2019 "Raising Futures Kenya" annual golf day at Westerham Golf Club, Kent on Friday 13th September 2019.

It will be a Ryder Cup format team competition, with players assigned to either the Europe or US teams. This will be followed by drinks, dinner, prize giving and a Charity auction.

Register at:

millenniumconsulting.co.uk/charity-golf-day-2019

Raising Futures Kenya's vision is a world in which all children and young people in Kenya live with dignity, opportunity and hope.

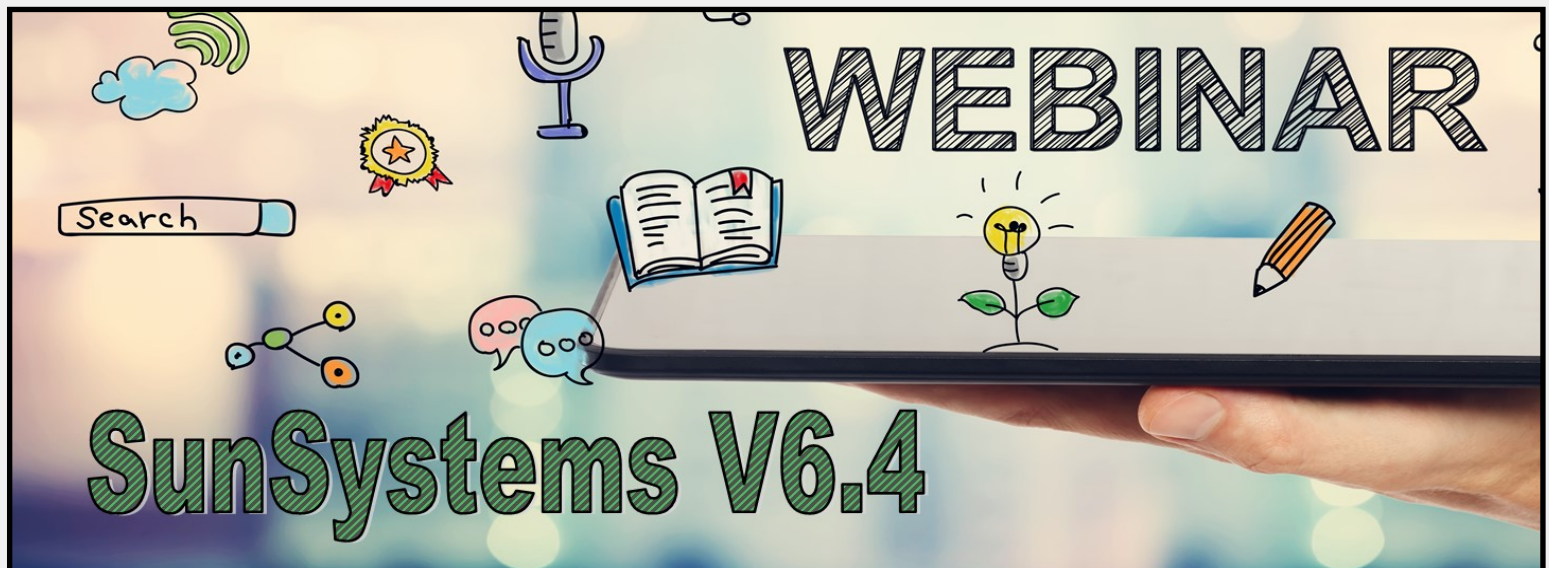
They create opportunities for vulnerable children and young people to break the cycle of poverty and inequality and fulfil their potential.

RAISING FUTURES

KENYA



Charity Golf Day
Westerham Golf Club, Kent
Friday 13th September 2019



SunSystems v.6.4 Upgrade Webinar

12.00-1:00 p.m. (BST) Thursday 19th September 2019

This September, Millennium Consulting is hosting a webinar outlining the process and benefits of upgrading to SunSystems v.6.4. The webinar will be delivered by Albert Bouma, the leading authority on the use and deployment of SunSystems software.

Register at www.millenniumconsulting.co.uk/sunsystems-6-4-webinar