A MONTH OF OPTIMISM
To build a better world, first we have to imagine one.

Negative news too often overshadows the incredibly exciting inventions, movements, and big ideas that are making the world a better place. There’s no guarantee that positivity will prevail but sharing these stories of exciting ideas can help.

Please send us any other optimistic examples or hopeful themes. Futerrrans love inspiration.
URBAN AGRICULTURE

Urban Agriculture is the practice of growing food in or close to a town or city. It is a growing movement and industry that is happening around the world. It can range from rooftop gardens to indoor vertical farms, to hydroponic growing systems underground. It makes growing your own food more accessible, means our food has to travel less, creates more jobs within our cities while creating the next generation of farmers.

1. VERTICAL FOREST
   Scheduled for completion later this year, China will gain its first vertical forest, a 200m tall skyscraper covered in over 1000 trees and 2500 plants and shrubs located in the Eastern Chinese city of Nanjing.

2. GROWING UNDERGROUND
   Rather than traditional rooftop solar panels, companies such as Polysolar are creating building integrated photovoltaics, panels of solar glass that will eventually replace building windows of today.

3. URBAN FARMING
   The Swiss aquaponics enterprise Urban Farmers have converted the roof of an old factory into a rooftop garden producing over 40 tonnes of micro-green annually.
The global shift towards renewable energy and away from non-renewable, fossil fuel based energy makes us optimistic. Energy from the sun, wind, waves, geothermal heat are renewable resources, meaning they naturally replenish on a human timescale. Did you know that by 2050, the world could be powered by 100% renewable energy? A Stanford research team found that it could be possible, even just using the current technology.

1. RENEWABLE ENERGY
   Stanford research has estimated that the footprint required to power half of the world’s energy needs through wind turbines is less than the area of Manhattan.

2. SOLAR GLASS
   Rather than traditional rooftop solar panels, companies such as Polysolar are creating building integrated photovoltaics, panels of solar glass that will eventually replace building windows of today.

3. SOLAR-PANELLED ROADS
   The world’s first solar road has opened in Normandy, France, with a 1km stretch being used as a pilot study to determine suitability for mass roll-out across the country.
3D PRINTING

3D printing has major implications for the future of housing. Not only will 3D printing allow us to push design boundaries, but could also address affordable housing needs since 3D printed houses could be made for a fraction of the cost and time of a traditionally built home.

1. 3D PRINTED MICRO HOME
Dutch studio DUS Architects has 3D printed an eight metre square cabin from sustainable bio-plastic in an attempt to prove that these types of structures can be used to house people in emergency or disaster relief situations.

2. 3D PRINTED HOME
The United Arab Emirates Government has said it wants 25% of all buildings to be 3D printed by 2030, drastically slashing construction costs and duration.

3. 3D PRINTED SKYSCRAPER
Cazza Construction are even looking at ways to add a 3D printed skyscraper to the Dubai skyline through a new and innovative construction process.
URBAN MINING

Urban mining is the process of reclaiming compounds and elements from products, buildings and waste. Precious metals, such as gold, can be mined from street sweepings, out-of-date drugs, mobile phones, and other things found in urban environments. Not only is this much more cost effective than mining raw materials and highly profitable, it helps reduce the social and environmental issues associated with traditional mining and lower the demand for conflict materials.

1. RECYCLED MEDAL
All Olympic and Paralympic medals for the 2020 Tokyo games will be made from recycled washing machines and mobile phones.

2. CIRCULAR ECONOMY
The company Veolia makes over £150m annually through selling materials extracted from what is deemed waste, with their circular economy and resource efficiency now represents over 20% of total company revenue.
ENERGY STORAGE

Currently, most of our energy balances supply and demand moment by moment, but mass scale energy storage could help us better manage fluctuations, varying demand, and recover from outages. It would make a big difference with solar or wind power which can currently only be harnessed at the moment of capture.

1. POWER GRID
The British government has spent £20m on a research project to identify the capability of using electric vehicles to store surplus energy in a ‘vehicle-to-grid’ energy system and return them to the grid during peak demand.

2. POWER WALL
Tesla have launched the Powerwall, a simple and localised energy storage system that allows residents to store surplus solar energy during the day for you to use it when you need.
NEGATIVE EMISSIONS TECHNOLOGY

Negative Emissions Technologies (NET) make it possible for us to remove carbon dioxide from the atmosphere and use it as a raw material to make anything from plastic, to fuel, to shoes. Negative Emissions Technologies will be crucial in keeping our global temperatures below 2°C, the global aim set in the Paris Agreement.

1. NRG CO₂ FOOTWEAR
NRG Energy made headlines by launching the Shoe without a footprint, the first athletic shoe to use CO₂ emissions as a building material which proved to the world that making products out of carbon is a reality.

2. CO₂ PLASTIC
Futerra client Covestro are using ground breaking technology to turn climate damaging Carbon Dioxide into plastic products, with their mattresses being made out of CO₂ foam.

3. CO₂ NCRETE
The Nova Scotia-based CarbonCure Technologies has developed a way to capture CO₂ from industrial sources – such as power plants or a refinery – and inject it into concrete, a process that actually make the concrete stronger and cuts down producers costs.
PROTEIN SHIFT

Our society’s protein shift towards less animal-based protein and more plant-based protein means less methane, a greenhouse gas, being released into the atmosphere. Plant-based protein is also becoming big business – Silicon Valley has already invested over $250 million in alternative protein start-ups. This shift is good for the planet, our bodies, and for business.

1. MEMPHIS MEATS
Memphis Meats, a San Francisco-based start-up, has created the world’s first lab-grown chicken strips, and are working to tackle the associated scalability and cost challenges before beginning mass-scale production by 2021.

2. DEEP FRIED INSECTS
The worldwide insect consumption market was worth roughly $33m in 2015, but this is expected to nearly double by 2023 as start-ups flock to develop the latest cricket protein powder or mealworm brownie.

3. IMPOSSIBLE BURGER
World famous plant based burger chain Impossible Burger have managed to find a recipe for success with more than vegetarians and vegans, with 70% of their burgers being eaten by meat lovers.
MASS TRANSPORT SHIFT

Innovations in mass transportation, like the Hyperloop and bullet trains will make getting from A to B faster and more environmentally friendly than everyone getting around in their own cars. Not only do these innovations make mass transport more attractive, but they will also be necessary as our planet’s population grows.

1. HYPERLOOP
   The Hyperloop wars have well and truly begun, with Chinese Scientists unveiling plans for a 600mph train, a UAE group planning on building a system to get you from Dubai to Abu Dhabi in 12 minutes, and Richard Branson entering the race with his project, Hyperloop one.

2. SOLAR GLASS
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BIOMIMICRY

Nature has done billions of years of R&D so biomimicry, design directly inspired by nature, makes us really optimistic. It is a growing approach to innovation that seeks solutions to human challenges by emulating nature’s patterns and strategies. Nature’s processes are well-adapted to life on earth and the products, services, and systems we create can build on that wisdom.

1. ARTIFICIAL LEAFS
A team of scientists have finally managed to successfully re-create the natural photosynthesis reaction by creating a perfect artificial setting for an artificial leaf, combining solar energy, water and CO₂ to create an energy-dense fuel.

2. INDESTRUCTIBLE BRIDGE
A professor of engineering, inspired by the way the natural world protects itself from stress patterns and can withstand forces applied directly to them, has potentially identified a new design technique that allows bridges to be created with no point of stress, even after years of constant use.

3. TYER WIND
A revolutionary engineering company, Tyler Wind, are working to convert conventional wind energy into kinetic energy through their wind-conversion system that mimics the ultra-efficient movement of a hummingbird’s wing.
LIVEABLE CITIES

The way cities are designed is majorly impactful on the environment and on the people who live in them. Redesigning cities to consider human and environment wellbeing is the future of urban environments. Many organizations are now dedicated to researching the best ways to design and engineer cities to consider societal and individual wellbeing.

1. LIVEABLE CITIES
Liveable Cities, a collection of research bodies and universities, are working to transform the engineering of cities to deliver global, and societal wellbeing within the context of low carbon living and resource scarcity.

2. HPH CENTRAL
Green spaces are crucial to both environmental and human health, and it’s no surprise that some of the world’s most famous cities are known for their open spaces as they are for their culture.
OPEN SOURCE EDUCATION

Open source education makes high-quality educational experiences and resources accessible to everyone in the world and has huge implications for ensuring higher percentages of the global population receives a quality education. There has been a huge increase in Massive Open Online Courses (MOOCs) over the past few years and are free for anyone to enrol. Did you know in 2016, 56 million students learned from open source platforms?

1. UDACITY
UDACITY, a MOOC programme offering a number of both free introductory or more intensive skills modules, and are partnered and affiliated with a number of leading Tech brands including Amazon, IBM, Google and Facebook.

2. FUTURE LEARN
FutureLearn is on a mission to transform access to education. As a MOOC (massive open online course) they offer a diverse selection of courses from leading universities and cultural institutions from around the world. Through their platform you can take one-off courses, take an online class, or even earn a postgraduate degrees.

3. XUETANGX
XuetangX is the world’s first Chinese MOOC platform offering authorised courses across China, has reached 10 million users, and has signed a Memorandum of Understanding with Stanford University to more closely cooperate in the future.
MEGA WATER SOLUTIONS

Water is one of the most valuable resources on our planet and many people, organizations, and governments are working to find ways to ensure our access to fresh water. Many new and innovation solutions to capture fresh water are emerging, from fog catching nets to desalinization technologies.

1. FOG CATCHING
   In the hills surrounding Peru, the local communities have come up with an innovative solution for their water shortage, installing 32 nets that catch the moisture out of the regular fogs, and provide drinking water for 75 families.

2. DESALINATION
   A new futuristic-looking greenhouse produces 15,000 tonnes of tomatoes per year in the middle of the Australian desert through innovative water transportation and desalination processes.

3. DESERT FARMING
   Australia is facing widespread water shortages with 400 cities effected, so in response Beijing is aiming to quadruple its seawater desalination capacity to 3.6bn litres per day by 2020.
MEDICAL TECHNOLOGY

Medical technology or medtech is technology used to solve health problems, improve the quality of life, and save lives. It can range from virtual reality, augmented reality, computer learning, robotics and more to help improve precision, efficiency, effectiveness of diagnosing, prescribing, and operating.

1. IBM WATSON
   IBM Watson is now being used to screen patients for cancer, reaching agreement levels of up to 96% with physicians in just a quarter of the time.

2. AZONANO
   Nanotechnology is now being used in medicine, allowing doctors to analyse the specific genetic make-up of a patient, and target the treatment patterns through highly personalised and sophisticated medical care.
THE PURPOSE DRIVEN GENERATIONS

Imagine a whole generation of people working towards creating positive change for people and the planet. Seeing how Millennials are driven by purposeful work and Gen Zs are taking a stand on political issues, these generations make us optimistic. A study from 2016 found that ¾ of Millennials would take a pay cut to work for a socially responsible company.

1. VOLUNTEERING
   Just as Millennials see their jobs as an extension of their personal brands, they expect the volunteerism opportunities provided to them to be just as diverse as they are.

2. PROTESTING
   An entire generation of young people is making headlines through their activism, use of social media, diversity and demand to be heard.

3. MENTORING
   The Creative Mentor Network is a London-based charity that works directly with schools across London to connect talented young people from diverse backgrounds with those working in the creative industries.
We’re optimistic about Intelligent Assistance and the role technology will play in helping us solve complex issues. Unlike AI machines that mimic humans, Intelligent Assistance machines are designed to assist humans. Not only can IA augment our capabilities, it can also create value – A PwC report found that AI will contribute $15.7 trillion to the global economy by 2030.

1. NEST
Saving energy in your home has never been easier with the AI smart Nest Learning Thermostat. After a week of use it develops an understanding of your behaviour and needs, adjusting to keep your home regulated at the perfect temperature so no energy is wasted.

2. BOXEVER
Boxever is a company that leans heavily on machine learning to improve the customer’s experience in the travel industry and deliver delightful experiences that engage customers on their travel journeys.

3. AMAZON ALEXA
The usefulness of Amazon’s Alexa, has made it a revolutionary product that can help us scour the web for information, shop, schedule appointments, set alarms and a million other things.
SHARING ECONOMY

The shift from ownership to access means we are getting more use of products and reducing the amount of stuff we need. Creating systems that allow for multiple users of the same good without actually owning it is beneficial to individuals as it reduces costs and saves space in our homes while also benefitting the environment by reducing our demand for resources to make new products and creating less waste.

1. NISSAN
   Moving towards a future where car usage is more flexible, social and most importantly shared. Retiring the need to buy and own your own car with sharing economy principles, users will be invoiced monthly based on their levels of car usage instead.

2. LIBRARY OF THINGS
   The Library of Things caters for those who need temporary access to items that rarely, if ever, come out of the cupboard. Things like carpet cleaners, drills, sewing machines and large speakers.

3. PATCHWORK
   Patchwork is an online platform allowing friends and family to contribute cash, time and skills to co-organise a group gift or event, with a particular focus on hen parties, honeymoons or baby shower.
VIRTUAL REALITY

Virtual Reality has some really exciting applications that result in a positive environmental impact. It allows us to travel to new places and new worlds without the carbon emissions from transportation, while also giving us access to incredible landscapes we may otherwise not be able to visit. It can also connect us with the places most affected by climate change, making the problem feel more real and present.

1. FOXTONS
   It’s sometimes difficult for property buyers and renters to schedule in property viewings around work, kids and busy social lives. The use of virtual reality is helping buyers to view many more than the average 5.8 properties a day, helping the process of finding the perfect new home.

2. LAS VEGAS
   Vegas VR lets you fly over the Strip or experience a show. Allowing you to beta-test your getaways before you book.

3. CPI
   The Centre for Progress and Innovation are looking to make aeroplanes lighter and more fuel efficient by imagining how large, hi-definition, ultra-thin and lightweight displays could form the inside of the fuselage. Displaying images of the exterior from cameras mounted on the plane’s exterior for an augmented reality experience.
FOOD WITH PURPOSE

Systems change is about addressing the root causes. Food waste is becoming a hot commodity. Every time we throw away excess food or food byproducts, we’re throwing away a valuable resource and people are starting to notice the opportunity. More and more startups are popping up, realizing both the business opportunity and the environmental benefits of using a waste from one food process as the raw material for another.

1. SNACT
Snact makes fruit jerky and banana bars that are packed with nutrients and tackle food waste. The use surplus food that otherwise would have gone to waste, produce locally, and have home compostable packaging.

2. TOAST
Toast Ale brews award-winning craft beer made from surplus fresh bread that would otherwise by wasted. In the USA, 1/3 of all bread is wasted, and Toast turns that waste into their business opportunity. In addition to that, all their profits go to the charity Feedback who work to end food waste.

3. PINTEX
Pinatex checks so many sustainability boxes: it’s a cradle to cradle material made from pineapple leaf, it substitutes leather which often has a heavy environmental and welfare impact, and brings new income streams to subsistence farmers.
SYSTEMS CHANGE

Systems change is about addressing the root causes of social problems, rather than creating bandaid solutions to symptom problems. By looking at the world, organizations, and social structures as interrelated and interdependent parts, we can make more informed and more sustainable choices as we’re able to better consider the impact of our decisions.

1. FORUM FOR THE FUTURE
   Forum for the Future is training the next generation of systems changers. Their School of System Change provides the knowledge, tools, and way of thinking so we can face complex challenges and shift systems, as a way to accelerate a transition to a sustainable future.

2. THE SYSTEMS CHANGERS
   The Systems Changers is a project that helps people navigate systems change by gathering insights from pioneers from different sectors who are working on systemic innovations.

3. DONELLA MEADOWS
   Donella Meadows is a leading voice in systems thinking and applying tools of system dynamics to global problems. The Donella Meadows Academy for Systems Change is on a mission of fostering transitions to sustainable systems at all levels of society, from local to global.

Submit a signal of change. When you see something for the first time, tell us!

Click here to contribute
WOMEN’S MOVEMENT

We are incredibly optimistic about how the Women’s Movement is shaping our future. From the Women’s March to #MeToo to the 3% Conference, women are changing the world. Many individuals, communities, and organizations are creating transformative social change that is dismantling systems of oppression happening in our society to various groups.

1. #METOO

#MeToo is an international movement against sexual harassment and assault. Tarana Burke, a social activist and community organizer founded the phrase ‘Me Too’ in 2006 as part of a grassroots campaign, but the movement spread virally in 2017 as a social media hashtag showing how widespread the issue really is.

2. PERCENT MOVEMENT

Until recently, only 3% of Creative Directors were women. With the understanding that the more varied the people who come up with ideas are, the better the ideas will be, the 3% Movement is an organization to help women and people of colour advance in the creative industries.

3. WOMEN’S MARCH

The Women’s March is a global movement on a mission to ‘harness the political power of diverse women and their communities to create transformative change.’ It started as a worldwide protest on January 21, 2017, immediately following the inauguration of Donald Trump as President of the United States.

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MATERIALS INNOVATION

The innovation of new materials that are environmentally sustainable, socially responsible, and ethically made makes us optimistic. New materials that are made from used fishing nets, recycled cotton and wood, and mushrooms are providing us ways to make products that can be recycled infinitely or biodegrade. When we shift towards making products from sustainable and regenerative materials, we lessen our dependence on materials made from non-renewable and toxic sources.

1. BOLT THREADS
Bolt Threads gets their inspiration from nature. They’ve developed a bioengineered spider silk as well as a leather alternative grown from mycelium, the tubular filaments of fungi. They fabrics are produced with less waste, fewer natural resources, while offering superior performance attributes.

2. ADIDAS
Through a partnership with Parley, Adidas is working to turn plastics that otherwise would have ended up polluting the ocean into high performance sportswear. Parley upcycles waste from beaches and coastal communities before it reaches the ocean and with Adidas, build running shoes, swimwear and athletic clothing.

3. ECONYL
Econyl gathers discarded fishing nets that have been left in oceans around the world as well as yarn and fabric scraps, cleans the materials, and then uses their unique system to build new materials that have the same quality as a virgin material.
WAR ON SINGLE-USE

Single-use plastics are the current public enemy and scientists, businesses, governments, film makers, and innovators are on the front lines to tackle the issue of the plastic waste. The progress that we’ve made to reduce our dependence on single-use plastic and create solutions to address plastic pollution make us optimistic that we are both changing our behaviours and innovating new systems and materials.

1. CO-OP
Plastic bag bans or added fees are becoming the norm and are having an incredible impact. In England, the number of single-use plastic bags sold by large retailers has dropped by 83% since the 5p per carrier bag charge was introduced.

2. BAMBOO STRAW
Single-use plastic straws have been at the centre of many protest campaigns over the past few years. There has been growing concern among the public about the impact of plastic waste on marine life, and businesses and governments are starting to implement strict bans. Scotland is even set to ban plastic straws across the country.

3. BOBBLE
As a result of the growing concern about plastics, other solutions have grown in popularity, from more reusable options to the scientific discovery of an enzyme that eats plastic, the war on single-use plastics is going strong.
We believe that collaboration is key to progress. That’s why we’re optimistic about open source patents as making technology available to more people allows for further exploration of its applications, fostering innovation while saving time, expense, and paperwork. Patents were created to offer incentive to those building new technology and innovations to protect their work, but it also means that others have to build in parallel rather than being able to build cumulatively.

1. TESLA
In order to help advance the advent of sustainable transport, Tesla made all their patents open source in 2014. They believe their competition is not in non-Tesla electric cars being produced, but rather the continued mass production of gasoline cars.

2. CREATIVE COMMONS
Creative Commons provides free copyright licenses to a range of professionals, from lawyers and academics to musicians and artists, to help them legally share their knowledge and creativity to build a more equitable, accessible, and innovative world.

3. NASA
Nasa made dozens of patents available to the public, starting in 2016. Many of the technologies they developed for NASA missions have non-aerospace applications and they wanted to encourage entrepreneurs to explore those possibilities. This eliminated the time, expense, and paperwork often associated with licensing intellectual property.
We’re optimistic about the various applications of blockchain technology to create positive change. The decentralized, verified digital ledger of transactions can be used in many ways, from mapping supply chains to tracking exactly what charitable donations are used for to ensuring refugees have identification.

1. ALICE
Alice is a social funding and impact management platform built on the Ethereum blockchain. They use blockchain technology to track social projects and incentivize social organizations to achieve their goals while providing impact data to funders.

2. PROVENANCE
Global supply chains in various industry are complex and often opaque, making unethical and unsustainable production possible. Provenance is working to change that by using blockchain to trace the origins and histories of products, which helps to hold various players in product supply chains more accountable.

3. WFP INNOVATION
We often don’t understand the importance of being able to prove our identity, but it’s a big hurdle that refugees around the world face. An innovation programme from the World Food Programme, Building Blocks, is piloting projects in Pakistan and Jordan that use blockchain to provide refugees with identification and providing them a way to make financial transactions.