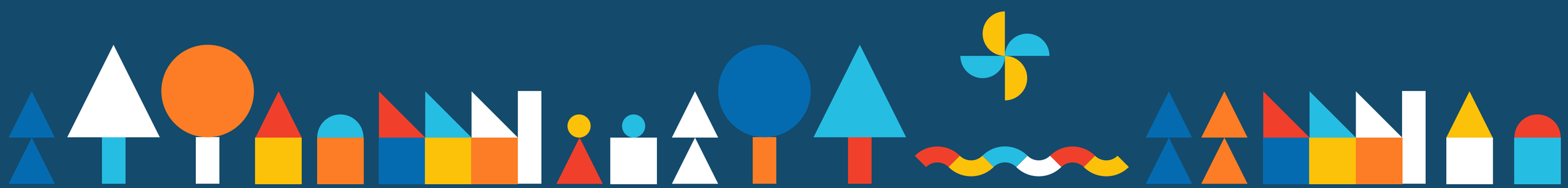
Exploring Futures

Signals of change

FEBRUARY 2022

Co_
Lab

UNDP Argentina
accelerator lab



Direct CO_2 capture from the air

Can we reverse climate change by removing CO_2 from the atmosphere?

New technologies have proven that carbon dioxide (CO_2) can be captured directly from the air and thus provide new opportunities to care for the planet. Once captured from the air, carbon dioxide can be recycled and used as a raw material or completely removed from the atmosphere by storing it safely. This possibility introduces a new paradigm: it shows that we can enhance actions to reduce emissions, but we can also remove concentrations of gases already in the atmosphere. One of the biggest challenges will be to lower costs and expand access to this new technology.

Reference

Climeworks of Switzerland operates 15 direct air capture machines in Europe, comprising the world's first commercial DAC (direct air capture) system. The operation is powered by renewable geothermal energy or energy produced by burning waste. The machines use a fan to draw air into a "collector" within which a selective filter captures CO_2. Once the filter is full, the collector closes and the CO_2 is sequestered underground.

Source

https://climeworks.com/

Keywords
#Environment #Emissions #CO2Capture

SDGs

Emerging Phenomenon

Review later

Low impact
High uncertainty

Deepfakes as evidence

Artificial intelligence and machine learning used for audio and video tampering

The development and evolution of social media have achieved a high level of accuracy and persuasiveness in terms of behavior modification. Furthermore, there is the emergence of deepfakes thanks to technological advances to create image, video or sound material that appears to be real but results from tampering for strategic purposes. These videos hasten the present crisis of confidence and misinformation by showing material that misleads our senses in the perception of reality, challenging our concept of what constitutes evidence. The combination results in a threat to handling information on sensitive issues, such as public health or the security of democratic institutions.

Reference

A U.S. media outlet published a video that appeared to show former U.S. President Barack Obama insulting Donald Trump. It was then revealed that the clip had been produced using emerging video editing technology. An actor's voice had been used and inserted into an original Obama clip, creating effectively a deepfake, i.e., a video of someone saying, or doing something, that did not happen. This technology, introduced as "the future of fake news," is often applied to cases involving high-profile figures because their public profiles provide lots of source material from which artificial intelligence technology

Source

https://www.businessinsider.com/obama-deepfake-video-insulting-trump-2018-4

Keywords

#Technology #Deepfakes #AI #SocialMedia

SDGs

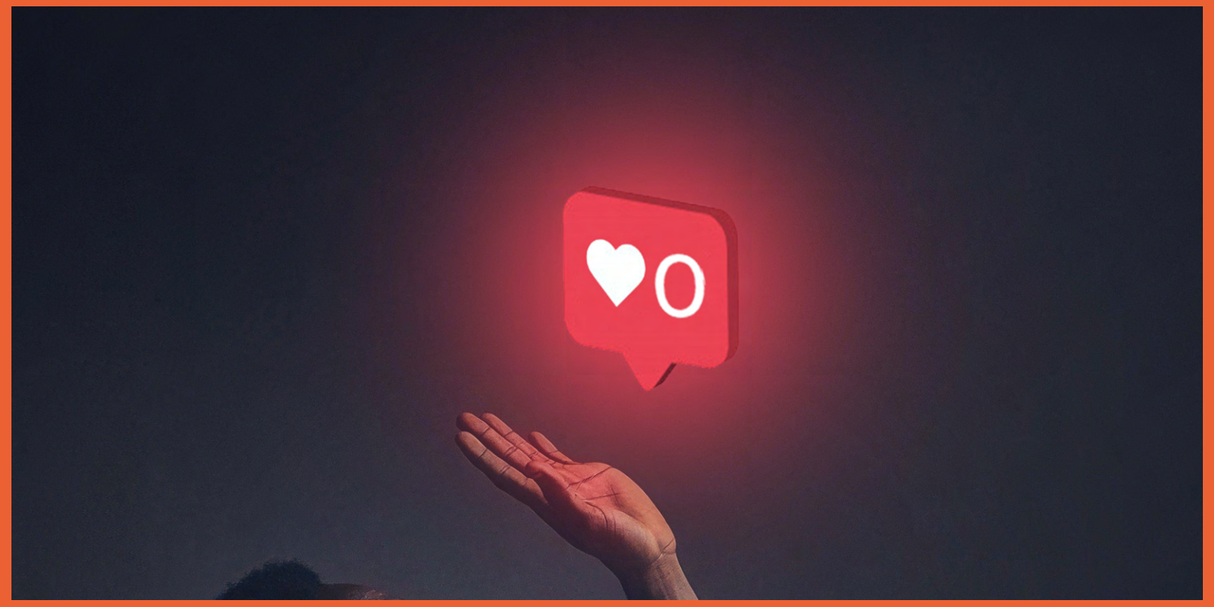
Emerging Phenomenon

Monitor closely

High impact
High uncertainty

Behavioral futures market

The Cambridge Analytica scandal exposed the power that big techs can wield over our behaviors



The "behavioral futures market" is a term used by Harvard professor Shoshana Zuboff to describe ethical concerns about people's data privacy, affected by how large technology companies generate money. She describes that the new businesses based on data exploitation imposed, from Silicon Valley to the rest of the world, a new way of doing business through spying and constant monitoring of our digital behaviors. Hence, a thorough analysis of users' digital interactions makes it possible to predict future behaviors. Professor Shoshana Zuboff warns about the age of "spy capitalism", in which users lose the privacy of their data and are at the mercy of large tech companies. These big techs not only have the potential to sell information about our future behaviors, but also the ability to intervene and even modify those behaviors.

Reference

Netflix's Social Dilemma broke a record in the platform's registers, since never before had a documentary film achieved the top spot for most watched in the same month of its release. The film has a hybrid format that combines documentary and fiction, dealing with how social media are in a way reshaping civilization. The documentary features testimony from technology experts who previously worked at companies that lead the market today, such as Facebook, Google and Instagram. They explain that the platforms are designed to generate dependency and warn about the danger of "attention extraction" and the addiction to the service they produce. This is part of what is explained and referred to as "surveillance capitalism". The film reflects and warns society on how behavioral manipulation works through predictive artificial intelligence using social media.

Source

https://www.theguardian.com/uk-news/2020/jan/04/cambridge-analytica-data-leak-global-election-manipulation

Keywords

#Economy #Privacy #Data #BigTech

SDGs

Trend

Review later

Low impact
High uncertainty

Users who actively protect their data privacy

Deleted social media accounts, search engines that do not track data and clothing to confuse facial recognition artificial intelligence

The Cambridge Analytica scandal exposed how big techs use our data. Additionally, the advance of artificial intelligence technologies in public spaces forces some people to become proactive in protecting their data privacy: ranging from deleting their social media accounts and starting to use search engines that do not track our actions to t-shirts that mislead artificial intelligence algorithms in facial recognition.

Reference

There is a growth in facial recognition technology, which, for example, allows cell phones to be unlocked just by looking at the camera. On the one hand, it is becoming increasingly accurate and, on the other hand, it is being used in more and more places. Against this background, an English innovator actively seeking to protect the privacy of our data developed a T-shirt that makes it impossible for facial recognition systems to identify him. How does it work? The T-shirt has a print that, when worn, the person cannot be detected by artificial intelligence algorithms. By doing so, it misleads facial recognition systems and can protect identity from cameras that, in the future, may be in public spaces.

Source

https://www.wired.co.uk/article/facial-recognition-t-shirt-block

Keywords

#Social #FacialRecognition #Privacy

SDGs

Niche Phenomenon

Feed the strategy

Low impact
Low uncertainty

Resilience to extreme weather events

Resilience to extreme weather events promotes a different approach to the issue of climate change

Besides promoting sustainable measures to lower emissions globally, this perspective includes actions to respond to the inevitable consequences that we will suffer. A resilience strategy allows us to adapt favorably to adverse events. Increasing heat waves, floods, droughts and fires require contingency plans to reduce the negative consequences they can produce.

Reference

In February 2021, the European Union adopted a new Strategy on Adaptation to Climate Change and communicated that, while the EU is doing everything in its power to mitigate climate change, nationally and internationally, we must also be prepared to deal with its inevitable consequences. It announced that the objective now is to shift the focus from a better understanding of the issue to developing solutions and implementing them.

Source

https://ec.europa.eu/commission/presscorner/detail/en/ip_21_663

Keywords

#ClimateChange #Resilience

SDGs

Emerging Phenomenon

Feed the strategy

Low impact
Low uncertainty

Blockchain-enabled decentralized justice

The same technology that enabled the development of cryptocurrencies, applied to digital dispute resolution

Legal dispute resolution systems have lagged behind in a digitalized and global world. Against this background, an attempt was made to settle disputes online, but without much success. Blockchain technology has several characteristics that make it a potential disruptive source in the judicial arena. With the rise of both e-commerce and freelance, remote, digital and global work, there is a growing need to streamline and lower conflict resolution costs. Ebay, for instance, reports 60 million disputes per year. The same technology that enabled the development of cryptocurrencies (bitcoins, ethereum) has shaken up the financial industry, but this is only the beginning of the impact it may have when it reaches several other industries.

Reference

Kleros is the world's first decentralized court and was founded in Argentina by philosopher and economist Federico Ast who holds a PhD in Management. It introduces the idea of a decentralized justice backed by blockchain technology making it secure and transparent by creating "massive juries" through collective intelligence.

Source

https://kleros.io/

Keywords

#Blockchain #Decentralization #Justice

SDGs

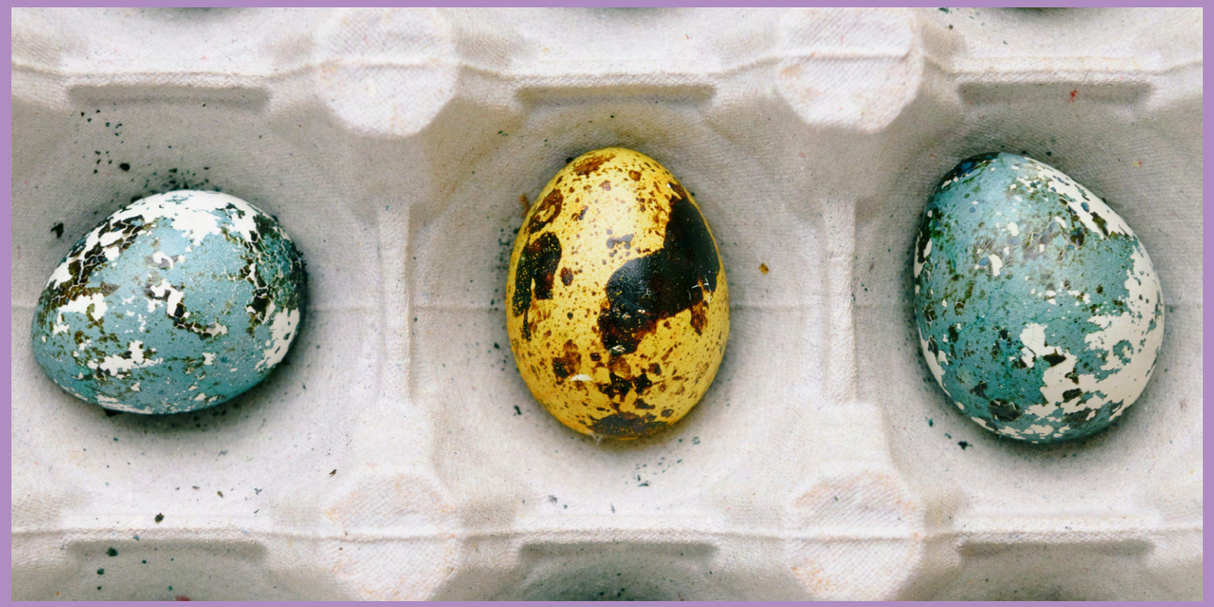
Niche Phenomenon

Review later

Low impact
High uncertainty

Food innovation

Innovations in production processes are emerging to satisfy responsible consumers and care for the planet



Start-ups producing food in laboratories through artificial intelligence technologies are growing, producing meat, fish and dairy products. In addition, there are other initiatives to make beef production more sustainable. Emerging signals point to the introduction of carbon labeling, which means consumers can be aware of the carbon footprint of the food they are consuming. If this labeling became mandatory, what would be the impact? How can the country adapt to this global trend to generate a more sustainable production system?

Reference

The current agro-industrial system is one of the major contributors to global pollution. To maintain a large-scale animal breeding and production system, up to 1/3 of the habitable land is used and more polluting gases are emitted than the transportation industry as a whole. As a result, there is a growing trend of activist vegetarians and vegans changing their diet to protect the planet. Simultaneously, however, start-ups began to emerge offering an alternative solution. NotCo is a Chilean start-up that produces food that mimics the taste and texture of meat, dairy, and fish, through artificial intelligence. It is produced by creating an algorithm that studies different combinations of foods to replicate the taste and texture of meats and dairy products, through artificial intelligence. This technology allows them to learn endless combinations of plants that replicate animal products with ingredients such as pineapple, coconut, cabbage, peas, bamboo, beets, chickpeas, and seeds. This results in a product that appears to be animal but is plant-based.

Source

https://notco.com/ar/

Keywords

#Social #Environment #Emissions #Food

SDGs

2 ZERO HUNGER
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION

Trend

Feed the strategy

Low impact
Low uncertainty

UBI token: universal basic income on blockchain

UBI stands for Universal Basic Income (UBI)

It was introduced a few years ago as a public government program consisting of a regular payment to all citizens of a given population without proof of income or work requirement. It was tested in Nordic countries, and it is currently being tested with a small group in Germany. The UBI token, introduced by two Argentine entrepreneurs, offers a disruptive view to the universal basic income, since rather than provided by a government, the aim is to be implemented in a decentralized manner through blockchain. Moreover, it offers the possibility of having a personal identity proof, which, in the future could work as a digital ID.

Reference

Proof of Humanity (POH) is a project launched in March 2021, lead by two Argentine entrepreneurs (Federico Ast, founder of Kleros, and Santiago Siri, founder of Democracy Earth) proposing a UBI token. The idea is to create a universal basic income system through a decentralized autonomous organization (DAO). The main purpose of the project is to develop a sustainable digital and sovereign identity model. The platform records human being profiles who are "tokenized" in ethereum.

Source

https://www.proofofhumanity.id/

Keywords

#Income #Basic #Universal #Blockchain

SDGs

Trend

Monitor closely

High impact
High uncertainty

Algae-based edible containers

Alternative material replacing single-use plastics to reduce waste

Mobility restrictions and the lockdown imposed by the COVID-19 crisis reduced CO_2 emissions by an estimated 2.4 billion tons. However, this only slightly slowed down the overall increase in concentrations. During 2020, emissions from transportation and industrial production were reduced, but our environmental footprint increased in other areas, such as the use of single-use plastics (e.g., disposable masks and reduction of refill systems for fear of contagion). Initiatives to replace plastics with edible algae-based materials are re-emerging to curb the avoidable increase in plastic generation. Algae have several characteristics that make them particularly interesting for sustainable production: they grow 10 times faster than terrestrial plants, and it takes less than a tenth of the land to produce an equivalent amount of biomass. They grow on non-productive and non-arable land, so they do not compete with other crops for land. Since they require no fresh water, they can be fertilized more efficiently than terrestrial crops.

Reference

Young Argentine scientist creates biodegradable cups made of algae. It is a biodegradable cup, with the same format as disposable cups, whose raw material is algae extracts produced in natural marine environments or canals. They can contain a variety of liquids, be composted after use or left on the ground, where they will degrade naturally in less than two weeks.

Source

https://www.ngenespanol.com/ciencia/joven-cientifico-argentino-crea-vasos-biodegradables-hechos-de-algas/

Keywords

#Waste # Plastics #BioDegradable

SDGs

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
15 LIFE ON LAND

Niche Phenomenon

Review later

Low impact
High uncertainty

Bulk purchase in low-income neighborhoods

Lower prices and less packaging waste when purchasing loose foods

The purchase of food and household products in low-income neighborhoods is sometimes up to 40% higher than in other neighborhoods. This is explained by the large number of intermediaries and the habit of buying in small quantities, which makes the price more expensive due to the packaging. Bulk purchasing introduced in Chilean low-income neighborhoods by the start-up Algramo is growing as it offers a solution to pay less for products without interfering with the purchase format (in small quantities due to differences in income). In turn, the proposal helps reduce plastic pollution from packaging.

Reference

Algramo is a B company founded in Chile. Its objective is to enable neighbors to spend less on their basic needs. For this purpose, a group of engineering students implemented a bulk purchasing system using dispensing machines. Neighbors thus avoid paying for packaging each time they purchase basic products. By using reusable packaging, they were able to lower the cost of the products, while reducing the use of single-use plastic containers.

Source

https://algramo.cl/

Keywords

#Social #Consumption #Packaging

SDGs

2 ZERO HUNGER
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION

Niche Phenomenon

Feed the strategy

Low impact
Low uncertainty

Antibiotic resistance

Antibiotic resistance is considered to be one of the greatest threats to global health and food safety by the World Health Organization (WHO)

The improper and excessive use of antibiotics in humans and animals is contributing to the development of highly resistant bacteria. The WHO estimates that, by 2050, antimicrobial resistance could kill 10 million people a year. Half of the people who consumed medicines last year in Argentina are self-medicating, according to a study conducted by Universidad Argentina de la Empresa (Argentine University of Enterprise) in 2019.

Reference

Alytix is a biotechnology start-up from Santa Fe, Argentina, that works on the development of solutions for microbial resistance to antibiotics. Alytix develops solutions based on bacteriophage technology to control and treat bacterial infections. Bacteriophages are naturally occurring viruses specific to bacteria. In addition to being safe, bacteriophages are self-replicating and can be dosed in small amounts and then grow in the presence of infection.

Source

http://alytixbiotech.com/

Keywords

#Health #Antibiotics

SDGs

Trend

Act now

High impact
Low uncertainty

Space exploration as a new economic industry

Private companies venture into space exploration

Private companies have ventured into space exploration, although they still account for a small percentage compared to national investment. This signals the beginning of space exploration as a new economic industry.

Reference

Satellogic was born as a start-up of the entrepreneur Emiliano Kargieman from Bahía Blanca, Argentina. The company now has more than 200 employees and global presence, with offices in Argentina, Uruguay, China, Spain, Israel and the United States. It is a vertically integrated geospatial company that introduces a disruptive approach by creating small satellites. These are more affordable and accessible to be launched into space to obtain images for industries such as agriculture, insurance and, energy, among others.

Source

https://satellogic.com/

Keywords

#Economy #ExteriorSpace

SDGs

8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
11 SUSTAINABLE CITIES AND COMMUNITIES
13 CLIMATE ACTION

Niche Phenomenon

Act now

High impact
Low uncertainty

Cash for data

The concept of cash for data suggests that people are paid for the data they provide

Today, large companies, such as Facebook, Google and Twitter, profit from the use of our data. The concept of cash for data proposes that these, and other companies that make money from the use of people's data, pay users for the data they collect. The proposals under the "cash for data" motto point to the idea that we should "own our data" and get paid for the data when we choose to provide it. And, if someone does not want to provide them, this data should be protected. There are several platforms worldwide that are starting to work on this system. Wibson is an Argentine start-up created in 2017 to help users protect and take ownership of their data.

Reference

Nielsen is one of the leading companies in the United States devoted to the analysis of viewer behavior and ratings measurements, which were generally done through telephone surveys. Today, they extended the scope of their research to mobile devices and computers. They offer people to participate in sweepstakes and receive up to $50 for installing an application that tracks their movements. Apps can be installed on computers, phones, tablets, or other mobile devices, and once installed, will track user activity. Benefits include participation in sweepstakes of up to $10,000 and points that can be redeemed for products/services worth up to $50 per month.

Source

https://www.thewaystowealth.com/reviews/nielsen-computer-and-mobile-panel-review/

Keywords

#Economy #Data

SDGs

Emerging Phenomenon

Monitor closely

High impact
High uncertainty

Civic online reasoning

Information literacy to help discern between true and fake information on the Internet

The pandemic revealed how viral disinformation through social media via fake news has the impact and potential to generate social and health catastrophes. Currently, companies such as Facebook and Twitter are introducing measures to reduce the spread of this type of news. The concept of civic online reasoning, however, offers a more profound and long-term solution. Namely, it suggests that, through education, the issue can be addressed by teaching what is known as information literacy, thus developing basic competencies in information management to acquire the ability to discern between true and fake information through critical thinking.

Reference

Stanford University developed a curricular proposal on civic online reasoning aimed at school-aged children/youth. The content is openly and freely available for teachers to download and implement with their students. It includes, for example, activities to develop a critical eye to detect reliable sources with lateral reading exercises.

Source

https://cor.stanford.edu/

Keywords

#InformationLiteracy #FakeNews

SDGs

4 QUALITY EDUCATION
16 PEACE, JUSTICE AND STRONG INSTITUTIONS

Emerging Phenomenon

Monitor closely

High impact
High uncertainty

Insects as a source of protein

Insects can be a great source of protein for both humans and animals

One of the greatest challenges for agriculture is to produce enough nutritious food to meet the demands of a growing population and to do so in an environmentally responsible manner. Astronauts use insects as food because they are, in some cases, an efficient source of protein (with higher levels than meat and chicken). Mass consumer edible insects-based snacks are also becoming available.

Reference

Essento is a company that develops, produces, and markets insect snacks in Europe.

Source

https://essento.ch/en/

Keywords

#Social #Feeding #Protein #Insects

SDGs

Emerging Phenomenon

Review later

Low impact
High uncertainty

Smart pollination to boost agriculture

Technology to improve the immune system of bees, whose population is in global decline

Worldwide bee populations are in rapid decline. This poses a threat to our food security and the conservation of the world' s biodiversity, as bee-driven pollination is of great importance for the reproduction of various crops. To address this major challenge, "superfoods" are being developed that make bees more resilient and train them to pollinate specific crops. This helps bees improve their immune system and can increase crop yields. Thus, through technology, farmers can adapt to a rapidly declining bee population.

Reference

Argentine start-up Beeflow offers professional pollination services to farmers. Besides smart management of the pollination process, the company developed a special formula packed with nutrients for bees to boost their immune system and make them stronger to perform better in lower temperatures. According to CEO Matias Viel, it allows bees to make seven times more flights in low temperatures than they would normally make without the formula.

Source

https://www.beeflow.com/

Keywords

#Technology #Agriculture #Pollinators

SDGs

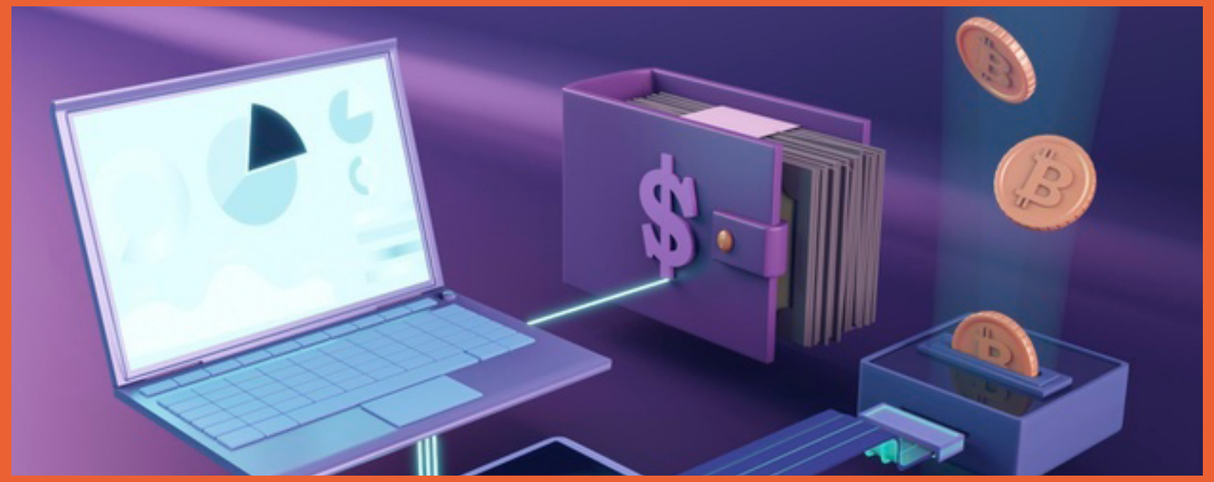
Emerging Phenomenon

Feed the strategy

Low impact
Low uncertainty

Centralized digital currencies: towards the end of cash

The advance of digital payment means that cash is far less frequently used



The increase in the use of credit cards, smartphones with QR codes, or even fingerprint or facial recognition in other countries, means that cash is far less frequently used. If this trend spreads, we could eventually move towards what is known as a cashless society. This concept describes an economic state in which financial transactions are not carried out with money in the form of physical banknotes or coins, but through the transfer of digital information (usually an electronic representation of money) between the parties involved in the transaction. In a post-cash era, it is estimated that we will obtain block-chain technology-based digital currencies. This would happen in a similar way to popular cryptocurrencies such as bitcoin or ethereum, but with some big differences: rather than being a tradable asset with highly fluctuating prices and limited use, the Central Bank's digital currency would act more as a regular and widely accepted currency. It would also be fully regulated and under a central authority. As of April 2021, a digital currency already exists in the Bahamas, China is currently testing a digital yuan in several cities, and the Governor of the European Central Bank, Christine Lagarde, said in February that a digital euro could be a reality in about four years.

Reference

Arguably, China is currently leading the development of a centralized national digital currency, a project it has been working on since 2014. The People's Bank of China (PBoC) is spearheading work on the digital yuan, the Central Bank's digital currency (CBDC), which aims to replace some of the cash in circulation. Real-world testing is already underway in the world's second largest economy.

What is the digital yuan?

It is a way for the Central Bank to digitalize banknotes and coins in circulation. The Chinese market is already well advanced in cashless payments. The digital yuan would be one way to expedite this process.

Source

https://www.wsj.com/articles/china-creates-its-own-digital-currency-a-first-for-major-economy-11617634118

Keywords

#Economy #Currencies #Digitization

SDGs

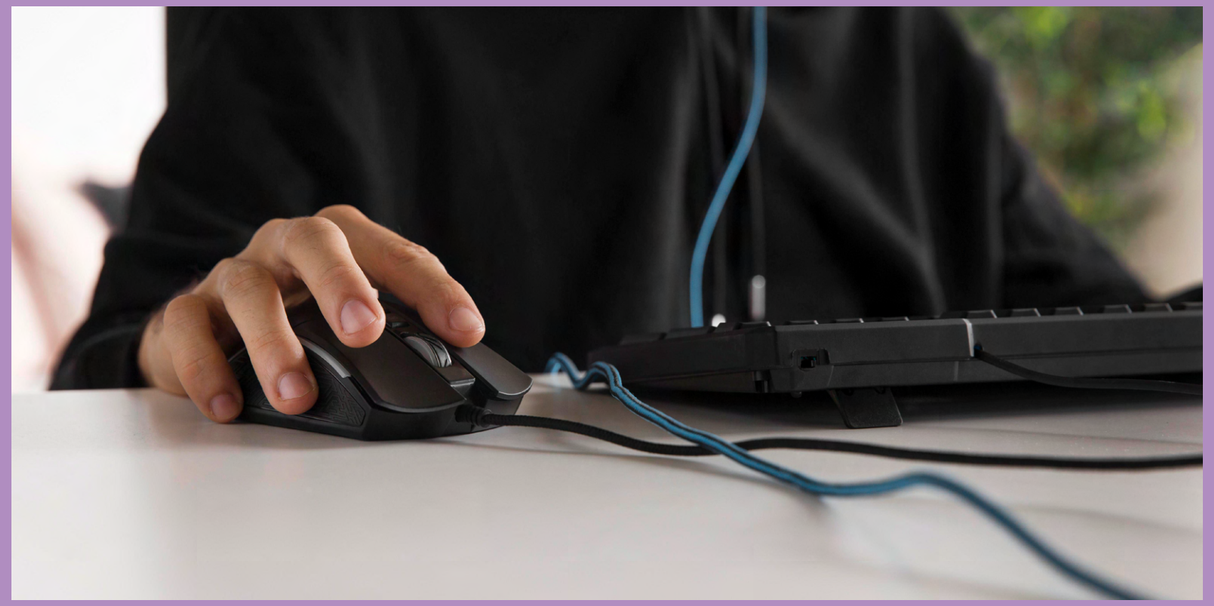
Emerging Phenomenon

Monitor closely

High impact
High uncertainty

Technology employment in low-income neighborhoods

Initiatives to bridge the talent gap and provide opportunities to young people



In Latin America, there are approximately 9.4 million unemployed young people, 23 million who neither study nor work, and more than 30 million who only have access to low-quality and informal jobs. At the same time, there is a large unmet demand for technology talent by companies. To address this dual problem, alliances were created between start-ups and large technology companies to develop initiatives that bridge the talent gap while offering opportunities to young people from low-income neighborhoods. These programs help companies to develop digital transformation, bridging the talent gap that exists for specific tasks such as data testing, machine learning and digital interaction. They also allow young people from low-income neighborhoods to enter the labor market with skills that are in short supply.

Reference

Arbusta is an Argentine company present in the cities of Buenos Aires, Medellin, Montevideo and Rosario, which recently won an international award in the category of digital opportunity and inclusion. Arbusta connects youth from low-income neighborhoods with companies to meet the demand for technology talent. It seeks to break the paradigm of the so-called "talent shortage" by focusing on young people from lower-income neighborhoods who were being overlooked by the labor market. It has an innovative format that, instead of offering courses, offers jobs through which young people learn the necessary skills to join the technology industry. During a period of approximately three years, they work for Arbusta offering services to technology companies, they are trained by working in real contexts and, upon completion of the program, they develop the necessary skills to take other jobs in leading companies with which Arbusta has alliances, such as Mercado Libre or Globant. Arbusta's great social impact does not need to rely on donations but is financially sustainable by providing these services to companies that demand this talent. The services offered by Arbusta to companies consist of software quality assurance, which includes usability testing, bug detection and data quality testing.

Source

https://arbusta.net/en/home/

Keywords

#Social #Work #Education

SDGs

Niche Phenomenon

Act now

High impact
Low uncertainty

Synthetic influencers

Synthetic influencers are non-human celebrities with millions of social media followers

They are not flesh and blood people, they are computer-created characters that appear on social media with the same characteristics as human beings. They show their supposed daily life, they are singers or fashion influencers and have millions of followers and fans. Their image and sound quality appears to be that of a human being, but they present themselves as synthetic influencers and are part of a new marketing market known as “artificial intelligence influencers”. Behind these characters, there are technology and communication companies that generate content and profit from the brand hires. The promoters of these characters are described as “the new headache-free celebrity agents”.

Reference

Miquela Sousa, or Lil Miquela, is a character created by Trevor McFedries and Sara DeCou in Los Angeles. The project started in 2016 as an Instagram profile. The account features a fictional narrative that depicts Miquela as a computer-generated celebrity representing a variety of mostly fashion brands. As a marketing tool, Lil Miquela has been featured in product promotions for urban and luxury fashion brands such as Calvin Klein and Prada. By March 2021, it had more than three million followers.

Source

https://www.instagram.com/lilmiquela/

Keywords

#Technology #ArtificialInteligence

SDGs

4 QUALITY EDUCATION · 5 GENDER EQUALITY · 10 REDUCED INEQUALITIES · 12 RESPONSIBLE CONSUMPTION AND PRODUCTION · 16 PEACE, JUSTICE AND STRONG INSTITUTIONS · 17 PARTNERSHIPS FOR THE GOALS

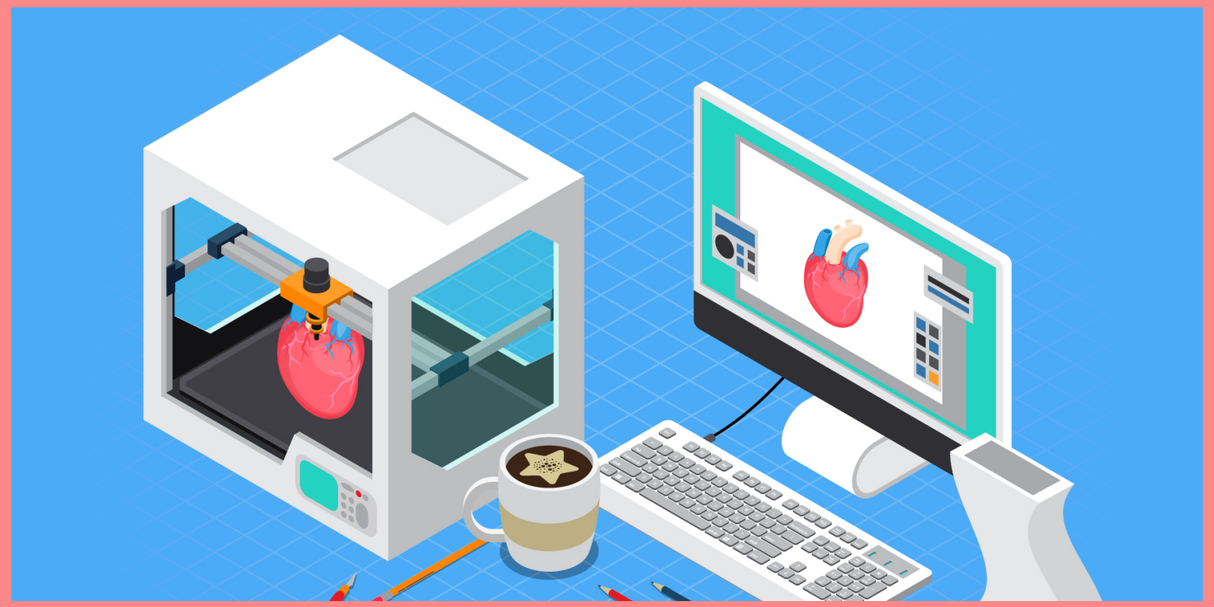
Emerging Phenomenon

Monitor closely

High impact
High uncertainty

Bioprinting for organ transplant

3D printing of organs and laboratory development of synthetic organs



Organ transplant has become a life-saving treatment for patients with end-stage organ failure. However, patients still face limitations with transplant access and efficacy. A major concern is the worldwide shortage of organs for transplants. The World Health Organization (WHO) estimates that only 10% of the global need for organ transplants is met. Future challenges include enhanced preservation for transport and logistics efficiency, among others. Given this challenging scenario, some disruptive initiatives are emerging, such as 3D organ printing or the development of synthetic organs in laboratories.

Reference

LifeSi is a bioprinting start-up from Córdoba, Argentina. Like 3D printing of plastic objects, bioprinting is a form of additive manufacturing in which the product, in this case a human organ, is produced one layer at a time.

Source

https://lifesi.technology/es/acerca-de/

Keywords

#Health #Technology #3D Printing

SDGs

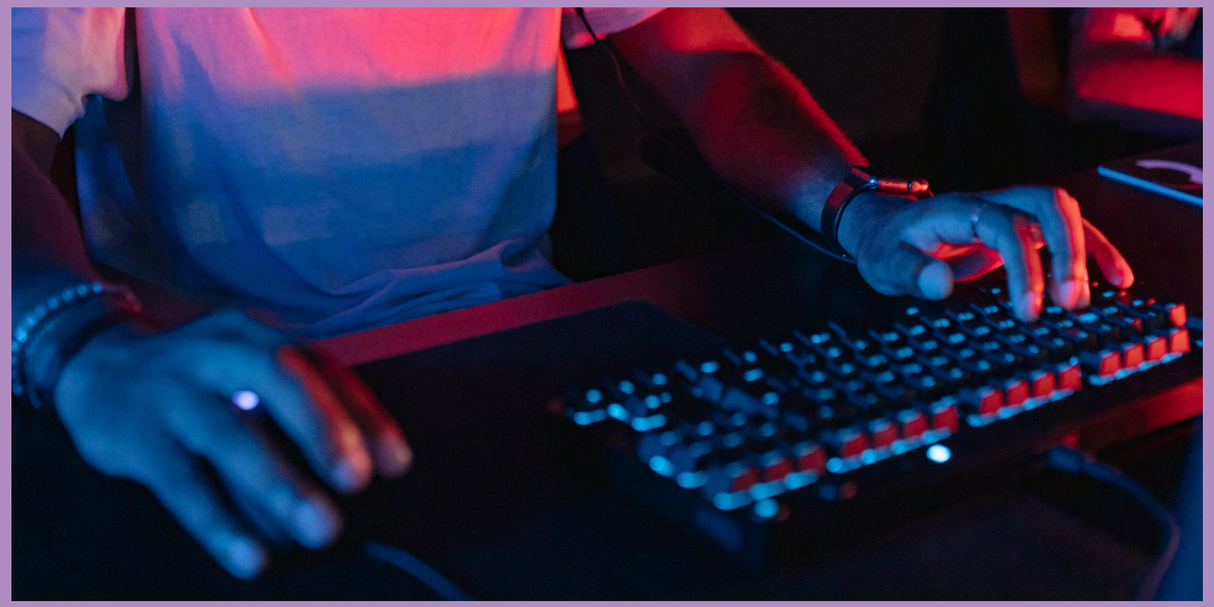
Niche Phenomenon

Review later

Low impact
High uncertainty

Digital social interaction using video games

Digital meeting points define how Generation Z audiences connect and experience culture



The video game industry is estimated to reach a value of $198 billion by 2024, excluding hardware and device sales, augmented reality, virtual reality, and advertising. Even before COVID-19, Generation Z avoided traditional social media and chose meeting points that could be called "digital campfires," more intimate online spaces where they send private messages or connect in micro-communities or broader shared experiences. In 2020, activity on these platforms skyrocketed and these more intimate digital meeting points became a force defining not only how Generation Z audiences connect, but also how they experience and shape culture at large. Games are no longer just for playing. According to Michael Wolf, co-founder and CEO of Activate, gaming will become the next dominant technology platform, in much the same way that search engines, mobile phones and social media redefined industries in previous decades.

Reference

Animal Crossing is a social simulation video game intended to start a life on a desert island. It is the most talked about saga in Argentina, beating Mario Kart, Super Mario, The Legend of Zelda and Tetris. In this game, a virtual "other self" is generated, and given a few tools to create objects and a home. The character has to explore the new place of residence, catch insects, survive and complete tasks to improve its standard of living. During the pandemic, the number of video game users increased significantly and different cultural meetings were generated within the games, such as, for example, a digital protest of Black Lives Matter within the Animal Crossing game. People with a complex health situation or who shared spaces with high-risk people chose to do their protests inside the game. The growth is probably due, in part, to the fact that digital games increasingly serve as a backdrop for a variety of activities, from going to a concert to celebrating a graduation and organizing a protest. Traditional gaming spaces are increasingly becoming cultural centers where people can gather virtually for community activities, entertainment and business. The game payment company Xsolla believes that the future of conferences and corporate events is in games.

Source

https://www.theguardian.com/black-lives-matter meets-animal-crossing -how-protesters-take-their-activism-into-video-games#

Keywords

#Social #Gaming #GenerationZ

SDGs

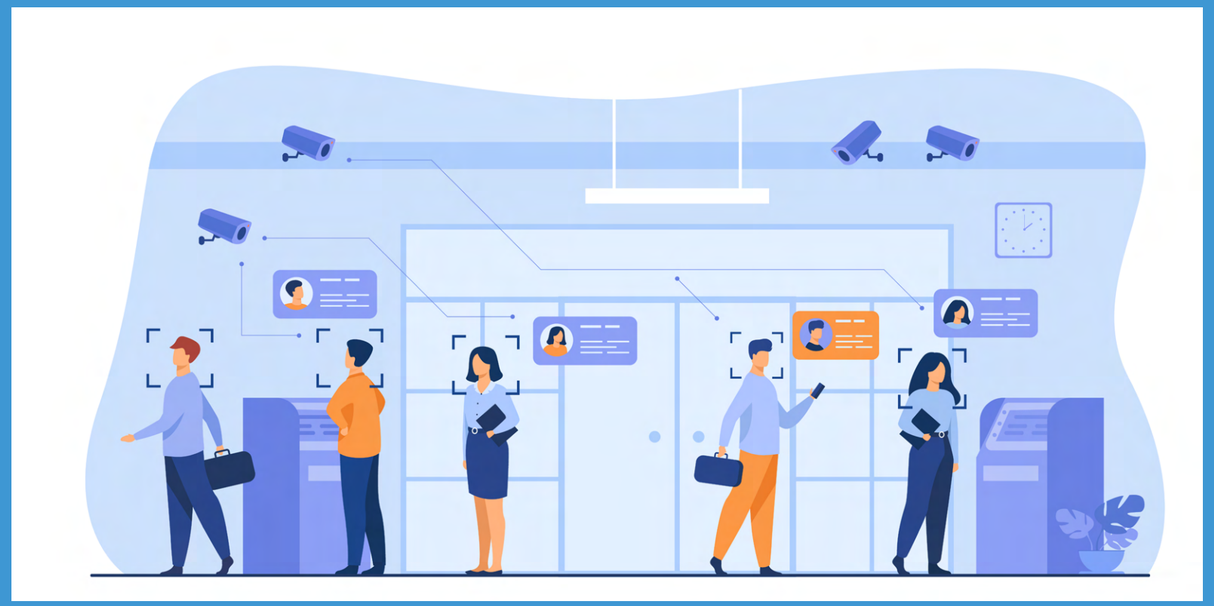
Trend

Monitor closely

High impact
High uncertainty

Use of artificial intelligence in governments

The use of artificial intelligence during the pandemic helped governments to work on the prevention and spread of the virus



The use of artificial intelligence during the pandemic helped governments to work on the prevention and spread of the virus. But what happens next with the information gathered? Cameras with facial recognition were used in China to detect people's body temperature. In Singapore, the technology used to track contacts caused a scandal, as the police had access to this information and used it in criminal cases. In Argentina, artificial intelligence technology was used to detect whether an individual's cough is compatible with the SARS-CoV-2 virus.

Reference

During the pandemic, the Government of Singapore developed an application to prevent and control the virus based on contact tracking using artificial intelligence. It was later revealed that the information gathered from this application was used by the police to solve criminal cases. This raised great concern in terms of citizens' data privacy, as they had agreed to provide their data to help in public health matters, ignoring that they could be used as evidence against them in police cases. At the same time, it raised concerns about the way in which the use of these technologies, in cases of emergency, such as pandemics, may then infringe on people's privacy.

Source

https://www.bloomberg.com/news/articles/2021-01-05/singapore-to-use-contact-tracing-data-to-probe-serious-crime

Keywords

#Technology #ArtificialInteligence #Governments

SDGs

Emerging Phenomenon

Feed the strategy

Low impact
Low uncertainty

Urban design with antivirus and antibacterial public spaces

The COVID-19 crisis is changing urban design and the way we interact in public spaces

At governmental level, efforts were focused on several types of interventions, mainly on quickly adapting public space to social distancing measures, developing strategies to help businesses stay afloat by moving their activities outdoors, and restructuring transportation systems. At the same time, various private initiatives have been launched to prevent contagion outdoors. Among the examples of the new contactless spaces, we find antibacterial and antivirus fabrics, the use of LED light to kill viruses and some software developments in screens in which keys move so that people do not touch the same place twice on public screens. There are also some very simple solutions such as the addition of pedals on the doors to avoid contact. If sustained, many of these COVID-19 prevention initiatives could also help prevent future disease transmission. How could future outbreaks of contagious diseases be prevented by redesigning public spaces?

Reference

URBAN SUN is a project inspired by sunlight and the development of scientific research that confirms a new specific light that can safely clean up to 99.9% of the coronavirus. Created by Studio Roosegaarde, the aim of the project is to inspire safer social gatherings by cleaning up the coronavirus. Research shows that specific ultraviolet light (far-UVC) with a 222 nm wavelength can reduce the presence of viruses, including several corona viruses and influenza strains, by up to 99.9%. The design firm has been researching the power of light for many years, and while the URBAN SUN project began in 2019, the pandemic increased its urgency.

Source

https://www.studioroosegaarde.net/project/urban-sun

Keywords

#Environment #Pandemic #UrbanDesign

SDGs

Emerging Phenomenon

Feed the strategy

Low impact
Low uncertainty

“Parkchipelagoes” or floating public parks

Floating public parks

New urban design proposals involve redefining unused spaces, such as, for example, water. In Copenhagen, a group of islands was built to be used as public parks. The purpose is to extend to the water the spaces for playing and interacting with nature. The lower part of the islands will provide an ideal environment for algae and mollusks to attach, in turn providing the perfect habitat for fish and other marine species to congregate. In Santa Fe, Argentina, two architects made a similar proposal to create a floating park. Only floating parks have appeared so far, but there are several projects to build entire floating cities, which some believe, such as Chad Elwartowski, could become independent spaces.

Reference

Copenhagen Islands floating islands is a project launched in 2018 as the first of many floating parks in the city’s harbor. The first of the islands, called CPH-Ø1, looks a bit like a 215-square-foot floating dock with a real growing linden tree in the middle. The creators of the “parkchipelago” introduced the idea of a network of floating parks that will be free for anyone to use, from “sailors to fishermen, kayakers, stargazers and swimmers”. Thus, seeking to improve the quality of life of its inhabitants while taking advantage of the use of new spaces that could in turn help regenerate marine ecosystems.

Source

https://inhabitat.com/floating-islands-bring-a-new-type-of-public-park-to-copenhagen/

Keywords

#Environment #PublicSpace

SDGs

Weak Signal

Review later

Low impact
High uncertainty

Geoengineering to cool down the planet

Geoengineering is described as the deliberate large-scale manipulation of the environment by humans to counteract climate change

This topic has been studied for decades and aroused great interest in 2007, when Nobel Prize-winning atmospheric scientist Paul Crutzen published an influential article on the matter. It is one of the most controversial proposals in terms of climate action initiatives, due to its high degree of intervention. Some examples of the proposals put forward include emptying tons of non-toxic calcium carbonate dust into the atmosphere to dim sunlight and thus cool the planet, genetically modifying plants to turn them into supercharged plants that photosynthesize on a large scale to capture more carbon dioxide or making clouds brighter so that they reflect more sunlight back into space and thus cool the planet.

Reference

In 2020, a team of researchers from the Sydney Institute of Marine Science conducted a geoengineering experiment next to the Broadhurst Reef in Townsville, Queensland. The experiment used a modified turbine to spray billions of nanometer-sized salt crystals into the air from a barge. This marine cloud brightening project is a solar radiation management climate geoengineering technique. Thanks to this approach, the clouds become brighter and reflect a small fraction of the incoming sunlight back into space to offset anthropogenic global warming.

Source

https://www.theguardian.com/environment/2020/apr/17/scientists-trial-cloud-brightening-equipment-to-shade-and-cool-great-barrier-reef

Keywords

#Environment #Geoengineering

SDGs

11 SUSTAINABLE CITIES AND COMMUNITIES
13 CLIMATE ACTION

Emerging Phenomenon

Review later

Low impact
High uncertainty

Long-distance transport decarbonization

Airplanes, trains, ships, and trucks

The transport sector accounts for 21% of global CO_2 emissions. 50% of these emissions come from long-distance transport. This is a large and diverse sector encompassing road transport (29% of emissions), aviation (11% of emissions), rail (1% of emissions) and maritime (10% of emissions) and includes both passenger and freight transport. Demand for transport is expected to grow worldwide in the coming decades as the world's population and incomes increase, and more people are able to buy cars, trains and flights. The development of new technologies, such as electrification or hydrogen, could decarbonize the sector in the coming decades.

Reference

Airbus presented in 2020 a concept they are working on to develop zero-emission aircraft. They are exploring various technological approaches and aerodynamic configurations to drive the path toward decarbonization of the entire aviation industry.

Source

https://www.airbus.com/en/innovation/zero-emission/electric-flight

Keywords

#Technology #Emissions #Transport

SDGs

Emerging Phenomenon

Review later

Low impact
High uncertainty

Digital divide in senior citizens

The digital divide in senior citizens became more evident during the pandemic

The digital divide in senior citizens became more evident during the pandemic. The potential negative impact of this gap on the physical, emotional, and social health of the elderly was also made visible, as many of them were isolated with difficulties to connect virtually with their loved ones, or to access services. Several global initiatives have been developing solutions to respond to this need, with instructions designed for this audience that respond to their needs and ways of learning.

Reference

Out of the Box is an instruction manual to learn how to set up and use smartphones in a book format. This is the result of the research conducted by Samsung together with Special Projects (British strategic design consultancy), which found that what hindered seniors' regular interaction with smartphones was not their age or their alleged lack of technological skills, but rather how unclear and nonintuitive the instruction manuals on smartphones were. They were discouraged by the design and terminology. On the other hand, they found that books were the preferred format, as they were familiar to them when they had to learn something new. Thus, upon purchasing the smartphone, elderly adults were able to set it up and learn how to use it on their own. Thus, they gained independence and increased their interaction with the different features offered by the telephone.

Source

https://specialprojects.studio/project/out-of-the-box/

Keywords

#Social #DigitalDivision #SeniorCitizens

SDGs

Emerging Phenomenon

Feed the strategy

Low impact
Low uncertainty

The environmental footprint of the Internet

There is a growing awareness of our environmental impact from the use of data

Every email sent and every Google search performed, whether on a computer or a mobile phone, have an environmental cost; this is called a "digital footprint." Conversations about climate change tend to focus on physical waste, but digital waste and virtual activities also have a significant effect. The volume of digital information stored in data centers is increasing and accounts for 2% of global electricity consumption, a figure that could fourfold to 8% by 2030, according to Bloomberg estimates. In an increasingly digital world, that burden continues to accumulate and increase. According to a March 2019 report from the Shift Project's team of experts, digital technologies are responsible for 3.7% of global greenhouse gas emissions, an amount similar to those generated by the airline industry.

Reference

The BBC created a manual called Smart Guide to Climate Change to help readers take initiatives to reduce their carbon footprint. The content chosen for this guide includes information on the carbon footprint generated by the use of the Internet. It explains where pollution comes from using the Internet and different ways to reduce it.

Source

https://www.bbc.com/future/article/20200305-why-your-internet-habits-are-not-as-clean-as-you-think

Keywords

#Technology #Internet #Data

SDGs

Emerging Phenomenon

Review later

Low impact
High uncertainty

Ghost kitchens for virtual restaurants

A “ghost kitchen” is a business proposition designed by virtual food brands without a physical location

These are facilities that are made solely to produce virtual brands. The trend of buying food for delivery, which was already growing, gained momentum with the pandemic and brought with it the development of new phenomena such as ghost kitchens. They redefine the restaurant business by optimizing processes. These ghost kitchens do not need to be located in busy areas, such as restaurants, but are located in lower-priced areas with the potential for more space.

Reference

From Latin America, the start-up Foodology, for example, creates virtual restaurant brands and operates them from hidden kitchens. Foodology creates new restaurants that users can find on home delivery platforms and, when an order is placed, the food comes from the hidden kitchens. Other places are beginning to take advantage of temporary spaces in use, such as parking lots, to strategically locate these kitchens.

Source

https://www.larepublica.co/empresas/foodology-la-start-tup-colombiana-ganadora-del-premio-al-emprendimien-to-de-harvard-2994346

Keywords

#Social #Gastronomy

SDGs

Emerging Phenomenon

Act now

High impact
Low uncertainty

Urban exodus with remote working

The urban exodus had been growing in recent years and increased with the pandemic

The urban exodus was initially associated with people being afraid of contracting the new coronavirus in elevators and subways. The stories then indicated that remote work had freed office workers from long commutes and allowed them to relocate. The closure of urban services, such as restaurants and theaters, and the ability to have more space at a lower cost encouraged more people to choose this option. Once relocated and working from home, there was also an increased need to adapt spaces for remote work with modular offices and various accessories designed to transform the home into a suitable space for work.

Reference

Reva Spaces is an Argentine startup that emerged during the pandemic and creates micro-spaces that are set up in a single day. They are mainly 3 x 3 m offices with ultra-insulating material to help create spaces that promote concentration.

Source

https://revaspaces.com/

Keywords

#Social #Deurbanization #Work

SDGs

11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
17 PARTNERSHIPS FOR THE GOALS

Emerging Phenomenon

Act now

High impact
Low uncertainty

Fintech to help bridge the gender gap

A more inclusive service for those who are often overlooked by large traditional banks

New fintechs that operate entirely digitally, without even a branch office, are beginning to provide a more inclusive service for those who are often overlooked by large traditional banks. In Argentina, only 20.5% of companies led by women finance their investment through bank loans, compared to 42.9% in the case of men; this gap is even greater in the case of small and medium-sized enterprises. Similarly, it is estimated that in Argentina, 17% of companies led by men are financially constrained, compared to 60% in the case of those led by women. The results of qualitative and quantitative analyses suggest that the observed differences are mainly due to gender differences in behavior and the way the credit market works.

Reference

Agovest is a Mexican start-up led by two women entrepreneurs with the mission to reduce the gender gap in Latin America, empowering women to take the control and the power of the financial future they want. The company name Agovest comes from à'go gàkhi, which means "strong or brave woman" in indigenous language, as they wanted a name that represented women from the origins of our cultures. Its various financial services include courses and advice for women in managing their personal finances.

Source

https://agovest.com/equipo/

Keywords

#Economy #Fintech #GenderGap

SDGs

5 GENDER EQUALITY
8 DECENT WORK AND ECONOMIC GROWTH
10 REDUCED INEQUALITIES

Emerging Phenomenon

Act now

High impact
Low uncertainty

Inclusive and universal design

Inclusive design develops products and services for people with different abilities

Image: Courtesy of Nike

Universal inclusive design contemplates the idea that, actually, by designing for people with different abilities, there is also innovation in products and services for everyone. These are necessary for people with different abilities, but, at the same time, they have features that enhance their use for anyone who obtains them.

Reference

FlyEase are Nike's hands-free shoes. This product, launched in February 2021, was especially welcomed by the millions of people for whom tying their shoelaces is a hassle. This includes people living with a variety of conditions, from autism and dyspraxia to cerebral palsy and hemiplegia, among many more, for whom tying their shoelaces can often mean getting help from someone. FlyEase is an example of universal inclusive design, as the design was inspired and created to meet the needs of people with different abilities, but the result is a product that also adds value for the general public because of its convenience and ease of use.

Source

https://www.stirworld.com/see-news-nikes-hands-free-go-flyease-sneaker-is-easy-on-easy-off

Keywords

#Social # Inclusion #Design

SDGs

Niche Phenomenon

Act now

High impact
Low uncertainty

Life-centered design

Development of products and services that are environmentally, socially and economically sustainable

Life-centered design is an approach to develop products or services intended to make them environmentally, socially and economically sustainable. They focus on the needs, limitations and preferences not only of human beings but also of all forms of life, such as the animals and plants surrounding us. It is developed using the convergence of knowledge and techniques from people-centered design, ecology and the science of sustainability.

Reference

The glass we usually use has reflective and transparent characteristics, preventing birds from perceiving it and, as they do not recognize it as a barrier, it causes the collisions that lead to their death. To avoid these collisions, glass must somehow be made visible to birds. Ornilux offers a bird-friendly glass solution that preserves its aesthetic transparency while creating visual markers alerting birds of its presence. Hundreds of millions of birds die each year due to collisions with glass in human-built structures, making bird collisions one of the leading causes of avian mortality worldwide. This product, developed by Arnold Glass, has an embossed UV reflective coating that makes it visible to birds while remaining virtually transparent to the human eye.

Source

http://www.ornilux.com/

Keywords

#Environmental #Design

SDGs

12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION

Trend

Monitor closely

High impact
High uncertainty

Regenerative agriculture for sustainable fashion

The fashion industry produces 10% of all carbon emissions and is the second largest consumer of water supply in the world

The so-called fast fashion made the purchase of clothing more accessible to millions of people around the world, though at a great environmental cost. A few years ago, several clothing brands started to develop the concept of sustainable fashion with anti-consumption campaigns as Patagonia did. In addition, other brands began to explore sustainable production practices through regenerative agriculture. Regenerative agriculture is a holistic approach that increases natural resources, rather than depleting them. This method relies on natural processes to replenish nutrients, water and soil. Regenerative agriculture is dynamic and holistic, incorporating permaculture and organic farming practices, such as cover crops, crop rotation, composting, mobile animal shelters and rotational grazing, to increase food production, farmer income and especially topsoil quality.

Reference

Eileen Fisher is a New York clothing brand, a pioneer in promoting the concept of sustainable fashion, which recently launched a new line of products called “regenerative wool”. They are wool garments made using only raw materials from farmers who work using sustainable practices through regenerative agriculture methods in Patagonia (Chile and Argentina). These techniques allow restoring grasslands and improving land conditions. In addition, they have a program called Waste No More through which customers can return used clothing in poor condition to be transformed into new garments that combine different materials or even into works of art.

Source

https://www.eileenfisher.com/regenerative-wool?country=US&currency=USD

Keywords

#Economy #Fashion

SDGs

Emerging Phenomenon

Feed the strategy

Low impact
Low uncertainty

Internet of Things cybersecurity

Internet of Things (IoT) technology involves the collection, communication, analysis and data processing from connected elements

Today, the IoT is experiencing a strong momentum thanks to the arrival of 5G technology, which represents a quantum leap in terms of the scope of data collection. Thus, the use of the IoT is expanding in homes through a wide variety of household appliances, such as microwaves, vacuum cleaners, refrigerators and even toilets. This involves major challenges, such as cybersecurity risks, since household appliances can be hacked and, consequently, so can the security of the home and its inhabitants' data. Therefore, the growth of 5G, together with the IoT, promotes the need to simultaneously develop cybersecurity prevention measures to avoid negative outcomes related to new forms of crime.

Reference

A network of high-definition cameras, connected and sharing data with each other, is the basis of Gabriel's proposal, a Brazilian start-up focused on surveillance. This company aims to change the paradigm of surveillance services, moving from closed systems to networked systems. Gabriel users not only buy surveillance cameras for their properties, but also gain access to an integrated monitoring network that includes all other company users and devices. For this, Gabriel not only uses IoT technology, but also artificial intelligence for data analysis and encryption to store this data securely.

Source

https://www.gabriel.com.br/

Keywords

#Tecnology #IoT

SDGs

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
16 PEACE, JUSTICE AND STRONG INSTITUTIONS

Emerging Phenomenon

Act now

High impact
Low uncertainty

Sustainable beef production

Globally, there is growing awareness of the environmental impact of beef production and consumption processes

Many consumers are becoming vegetarians, while some companies are developing synthetic meat in laboratories. However, there are other initiatives that offer potential solutions to the production process, making it possible to reduce emissions and thus be able to continue consuming meat. One such example is feeding algae to livestock, which can reduce their greenhouse gas emissions by 82%. Another alternative is the use of masks that neutralize methane exhalations from cattle. This may open up a new way of approaching the problem, since, despite the trend of conscious consumers going vegetarian/vegan, global meat production is expected to double by 2050. Most of this production is expected to occur in developing countries. This growing meat market offers a significant opportunity for farmers and meat processors in countries like Argentina. In turn, such growth is an opportunity to focus on sustainable methods of production.W

Reference

Different initiatives introduce solutions to reduce methane emissions from cattle, thus making meat and dairy production more sustainable. Contrary, perhaps, to most people's assumption, cows release only a small portion of that methane through flatulence. The rest, about 95%, comes out in the form of burps, mostly released through the nose. Zelp has therefore developed a mask that neutralizes emissions, reducing them by 60%. On the other hand, researchers at the University of California discovered that by changing cattle feed by incorporating algae, methane emissions are reduced by up to 82%. This could help make the beef production process more sustainable.

Source

https://caes.ucdavis.edu/news/feeding-cattle-seaweed-reduces-their-greenhouse-gas-emissions-82-percent

Keywords

#Environmental #Meat

SDGs

12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION

Niche Phenomenon

Monitor closely

High impact
High uncertainty

Use of the Internet of Things for health prevention

Data collection through home appliances

The use of the Internet of Things (IoT) for health involves data collection through connected home appliances to monitor and have greater prevention and accuracy early on about potential future diseases. This would allow having very accurate data about our health, though it also entails a great challenge in terms of data privacy. Who would have access to such personal information? What role would cybersecurity play in these types of ventures?

Reference

Israeli start-up OutSense is developing studies and tests of a "smart toilet" to help prevent diseases by analyzing urine and feces. The Internet of Things (IoT) technology developed by the company is a box that can be added to a standard toilet to make it "smart". The box is automatically activated and scans excretions using multispectral optical sensors. It comes with a lighting device and an autonomous controller with a Wi-Fi receiver for real-time monitoring to provide more information for early detection of diseases.

Source

https://www.timesofisrael.com/startups-smart-toilet-bowl-scans-poop-and-urine-for-medical-insights/

Keywords

#Health #IoT

SDGs

3 GOOD HEALTH AND WELL-BEING
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Emerging Phenomenon

Review later

Low impact
High uncertainty

Rewilding

Rewilding is a holistic approach for environmental conservation

It is a large-scale restoration proposal for the ecosystem to regain its balance. Key species that had disappeared are reinserted into the chain and safe migration conditions are created. This practice is a few decades old, but it is becoming meaningful again today with the inclusion of new innovative techniques, such as the use of biomimicry devices to non-invasively influence animal behavior, and the replacement of radio receivers with GPS trackers for an accurate tracking system.

Reference

As part of a rewilding project, in January 2021, an adult jaguar and her two cubs were placed in the Iberá marshes. This species has been considered absent in northwestern Argentina for 70 years due to hunting and habitat loss. As the main predator in Iberá, the presence of the jaguar is vital for a healthy and complete ecosystem, helping to control the populations of other species and maintaining the balance in the food chain. The species is fundamental for the structure and functioning of ecosystems and biodiversity in Argentina. Wildlife technicians closely monitor the cubs' development through remote video cameras, as direct human contact would compromise their ability to survive in the wild.

Source

https://rewildingargentina.org/proyecto-ibera/

Keywords

#Environmental #Conservation

SDGs

Trend

Act now

High impact
Low uncertainty

Carbon emissions labeling

Carbon labeling is the labeling on mass consumer products indicating the environmental footprint generated by that product

The labeling format is inspired by the way calories are labeled on food. This allows consumers to have more information about the environmental footprint of the products they consume and make informed decisions about their choices. Gradually, some fashion brands (sneakers) are beginning to emerge with this type of labels, as well as some restaurants and supermarkets, and even furniture brands. The pioneers of the concept believe that this type of labeling could be a clear message of awareness for many consumers, because it would improve the level of awareness in the purchase of everyday goods. Drivers of carbon labeling believe that if every shoe, coat and bicycle is labeled with its carbon footprint, consumer behavior could be greatly influenced.

Reference

Allbirds is the first fashion brand to label every item produced with its carbon footprint. Together with external partners and experts, the sneaker company developed a tool to measure the emissions intensity of every decision it makes, including materials, development, manufacturing, packaging and shipping. The brand hopes that the launch of its carbon footprint labeling will not only catalyze the sustainable fashion industry's commitment to reduce carbon emissions, but also inspire new global transparency schemes on the emissions produced. In this way, the real commitment that companies and organizations have with the planet can be evidenced with data.

Source

https://bit.ly/3Fb4BXW

Keywords

#Environment #Emissions #Labeling

SDGs

12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION

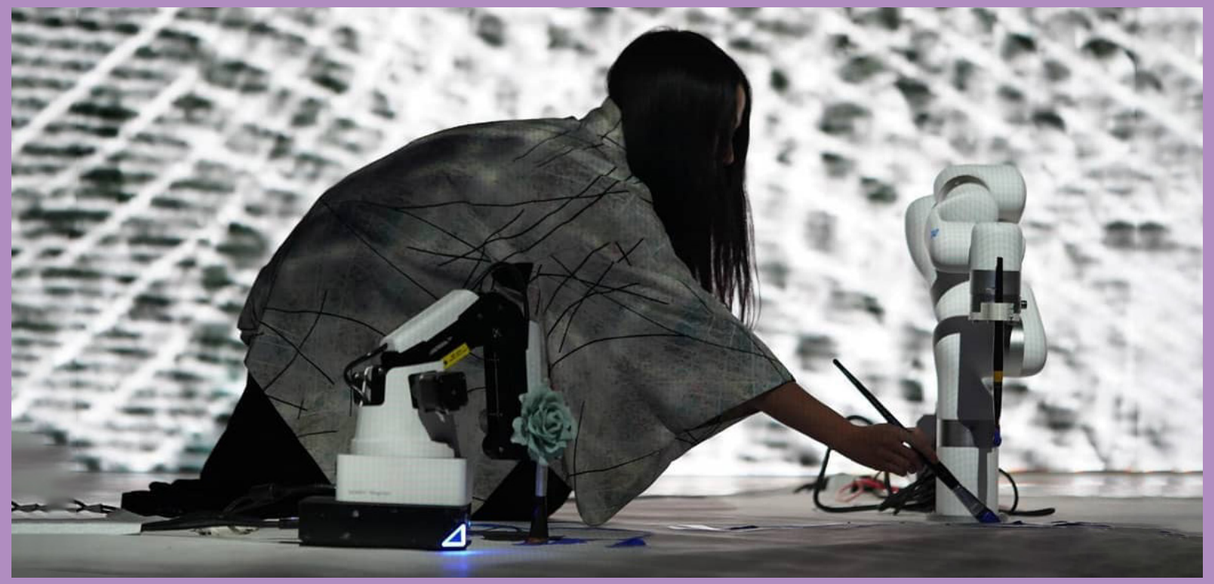
Emerging Phenomenon

Feed the strategy

Low impact
Low uncertainty

Artificial intelligence art

Artificial intelligence (AI) is pushing the boundaries of intelligent systems towards creative applications



Emerging artists explore new forms of expression using this technology. A few years ago, in Buenos Aires, the company Globant kicked off its technology conference with the introduction of music composed by AI. It thus showed how the development of AI has the potential to penetrate all spheres of life, even the least thought of, such as art and cultural. Today, we can find platforms like AiArtists.org, showcasing pioneering artists who are using AI to push the boundaries of creativity. The website showcases the most talented artists who, by merging art with machine learning, disrupt the status quo of the traditional art world and explore our complicated relationship with machines. Some examples are constantly evolving music, infinite design stamp patterns or real-time portraits, among others. Art and creative expressions find new meaning and change our interaction by merging with AI. This also raises many questions, such as those related to the authorship of the works or the redefinition of originality in the artistic creation process.

Reference

Sougwen Chung was named Monaco's Woman of the Year for her achievements in Art and Science. The artist and researcher creates art together with machines. Combining her knowledge in robotics and her artistic talent, Chung designed a robot and entered a large amount of data from her analog drawings into it. Through repeated patterns, the robot "learned" the artist's technique and style, and now they paint and draw together. Chung's works are created by her and the robots she created that mimic her style. Thus achieving unique works composed through the collaboration of humans and machines.

Source

https://sougwen.com/

Keywords

#Social #Art #ArtificialIntelligence

SDGs

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

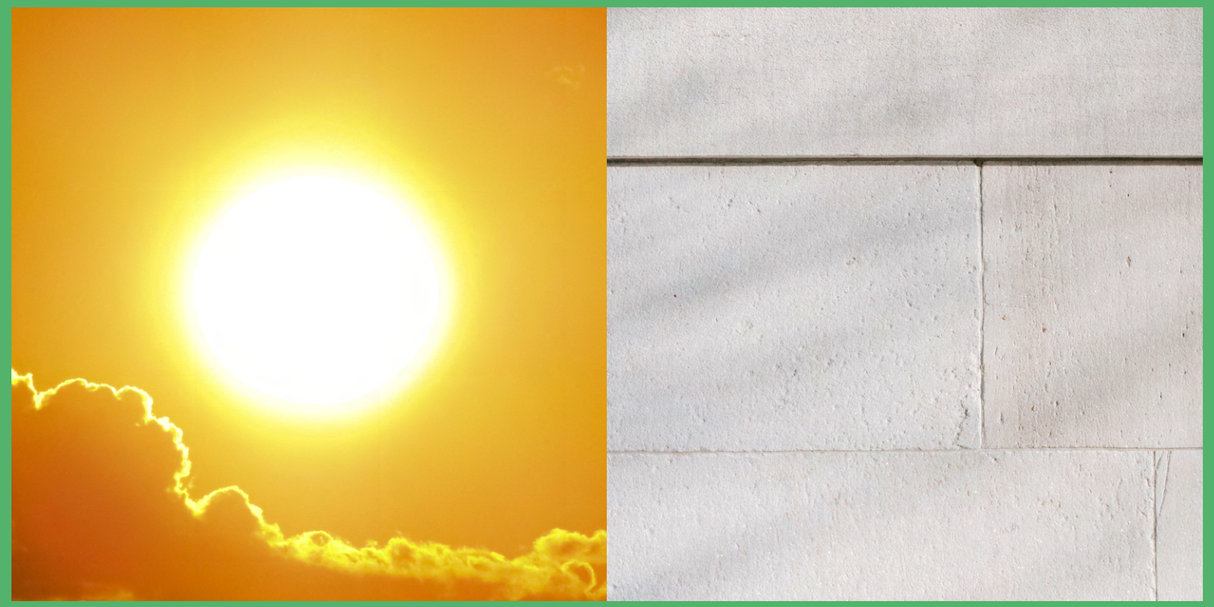
Niche Phenomenon

Review later

Low impact
High uncertainty

Resilient constructions

Constructions designed for extreme weather events or health crises



Resilient constructions under extreme weather events or health crises are initiatives that enable constructions where the current situation cannot be reversed. Besides generating initiatives to reduce emissions and the like, what are we doing to adapt if we could not reverse the current situation? Floating constructions for locations at risk of flooding or sea level rise, hurricane-proof houses, cities with white asphalt or roofs for areas at risk of exposure to high summer temperatures.

Reference

Extreme hot weather and the resulting heat waves that can last several days have a significant impact on society, including an increase in heat-related deaths. Heat waves are among the most dangerous natural hazards, but they rarely receive adequate attention because their deaths and destruction are not always immediately obvious. Globally, the frequency, duration and magnitude of extreme temperature events are increasing, and in the case of Argentina, it is one of the main threats due to climate change. Against this background, researchers at Yale University developed a solution based on a simple concept: replace dark surfaces with light ones to avoid heat concentration . They found that systematically replacing dark surfaces with white could reduce peak heat wave temperatures by 2°C. Several initiatives were carried out, such as "cool roofs", in which the roofs of different buildings were painted white, to save energy. In addition, there were other large-scale tests, such as in the city of San Francisco, where black asphalt was painted white for the same purpose.

Source

https://e360.yale.edu/features/urban-heat-can-white-roofs-help-cool-the-worlds-warming-cities

Keywords

#Environment #Cities #Climate Change

SDGs

Emerging Phenomenon

Act now

High impact
Low uncertainty

Urban neighborhood

Neighborhood upgrading in 15-minute cities

The excessive growth of the world's major cities has been one of the main urban planning challenges of the last seventy years. Moving from one place to another in capital cities like Buenos Aires is often tedious and time-consuming for its citizens. Traffic jams, lack of access to basic services in close proximity to homes or the poor adaptation to use alternative means of transport to the car have turned life in the city into a difficult task. Therefore, the concept of "15-minute cities", an initiative that promotes hyper-proximity, is gaining momentum in different parts of the world. What is a "15-minute city"? It is a city where it is possible to satisfy all basic needs within 15 minutes by foot or bicycle. This also brings a revitalization of the nostalgic "neighborhood life" that offers a more sustainable life for the planet and generates a sense of community and belonging. In addition, it includes the recovery of local consumption to support small neighboring businesses, greater use of micromobility (bicycles, scooters), since it is not necessary to travel long distances if everything you need is within a few blocks, and it is a way to "gain ground" to cars to transform those spaces into recreational areas.

Reference

The "15-minute city" can be defined as an ideal geography, where most human needs and many desires are within a 15-minute travel distance. This concept of living 15 minutes away from everything —work, education, recreation, health— is for many the goal that many big cities like Buenos Aires should consider, where the quality of life is seriously affected by long distances and the time wasted in never-ending commuting. In Paris, 'hyperproximity' and the 15-minute city were key pillars of Mayor Anne Hidalgo's successful 2020 re-election campaign. The approach is designed to reduce air pollution and wasted commuting hours, improve the quality of life for Parisians and help the city achieve its plan to become carbon neutral by 2050.

Source

https://www.bbc.com/worklife/article/20201214-how-15-minute-cities-will-change-the-way-we-socialise

Keywords

#Social #Neighbourhood #Cities

SDGs

Trend

Review later

Low impact
High uncertainty

Personal air quality monitoring

Participatory science methodologies to enable people individually assess the level of air pollution they experience during their daily lives

According to the World Health Organization (WHO), 91% of the world's population lives in places with air pollution levels above those considered healthy. This trend is usually aggravated in urban conglomerates where there are air pollution hotspots, periods in which pollution increases considerably and/or sectors of the city where there are high concentrations due to the lack of urban designs that take this issue into account. This has led to a progressive increase in public awareness of the issue and, therefore, has fostered demand for air monitoring worldwide. With a compound annual growth rate of 5-10% projected for the next five years, the rise in individual air monitoring has led to the development of participatory science companies and methodologies for people to individually assess the level of air pollution they experience during their daily lives. The trend is both in outdoor environments and in individual household air monitoring.

Reference

The Kaiterra Laser Egg+ Chemical is a smart device for measuring temperature, humidity, air pollution and carbon dioxide. In addition to measurements, it warns people when they are in unhealthy environments. In turn, the data is connected to the cloud and shared with scientific institutions worldwide.

Source

https://www.gearbrain.com/laser-egg-co2-air-monitor-2645176365.html

Keywords

#Environment #AirQuality

SDGs

Trend

Feed the strategy

Low impact
Low uncertainty

Reskilling as a response to automation

It is estimated that 85 million jobs will be displaced by 2025

Reskilling is the process of learning new skills to do a different job. On the other hand, upskilling is the advanced skills training of what one already knows/works on. The World Economic Forum's Future of Jobs report released in October 2020 noted that, due to automation and the pandemic, an estimated 85 million jobs will be displaced by 2025. In addition, among those who will be preserved, 50% will need to be retrained by 2025. In order to meet the challenge, four critical areas (universal digital learning, micro-credentials, skills-based credentials and hands-on learning) will require the coordinated efforts of governments, the private sector and civil society. Globally, different studies have shown that people are aware of how the labor market is changing. An average of 61% believe their current job will be greatly affected by megatrends, specifically technological changes such as data analytics, automation, artificial intelligence and robotics, as well as globalization, including trade and outsourcing. All this was reflected in virtual education platforms, such as Coursera or Edraak, which experienced a growth of more than 400% during the pandemic. The rapid adoption of online learning offers enormous possibilities, but this acceleration has also highlighted the challenges exacerbated by the digital divide.

Reference

Digital House is an Argentine educational organization that teaches website and mobile application programming in four months. It also offers digital marketing, data science, user experience design and digital product management programs, and has proposals for companies to implement reskilling processes to train their employees in digital skills. In Argentina, it is expected that by 2021 there will be an 8.9% growth in employment within the national software industry alone, which implies the creation of 7,000 new jobs, positions that represent an opportunity for those who are willing to go through the process of acquiring these new skills.

Source

https://www.digitalhouse.com/ar

Keywords

#Economy #Skills

SDGs

Trend

Act now

High impact
Low uncertainty

Low-cost home construction using recycled material

The use of recycled materials has reached several fields and now is also part of the construction industry

These initiatives are particularly interesting for vulnerable areas where low-cost homes are built with recycled materials. In addition, progress in artificial intelligence for waste sorting makes it easier to recover those materials that are useful for construction. There are several proposals that help reduce waste while building homes in disadvantaged areas, from bricks made from compressed garbage to lamps made from reusable bottles.

Reference

Liter of Light is a grassroots movement with a global presence committed to providing affordable and sustainable solar light to people with limited or no access to electricity. Through a worldwide network of partnerships, Liter of Light volunteers teach under-served communities how to use recycled plastic bottles and locally sourced materials to light their homes, businesses, and streets. Liter of light has installed more than 350,000 light bottles in more than 15 countries and has taught green skills to empower entrepreneurs in low-income neighborhoods. Liter of Light's open source technology has been recognized by the United Nations (UN) and adopted for use in some the United Nations High Commissioner for Refugees (UNHCR) camps. In addition, it received the 2016 St. Andrews Prize for the Environment, the 2015 Zayed Future Energy Prize and the 2014-2015 World Habitat Award.

Source

https://literoflight.org/

Keywords

#Economy #Housing #RecycledMaterial

SDGs

Trend

Act now

High impact
Low uncertainty

Blockchain technology for transparent and effective donations

Effective and transparent transactions enable donations without intermediaries

The real impact of blockchain may not be solely through the development of high-volatility cryptocurrencies, but rather in its underlying ability to enable reliable transactions between strangers, without the need for intermediaries. Blockchain technology, which enables effective and transparent transactions, is a great opportunity for donations without intermediaries. How? Bridging the gap to connect people willing to help directly with those in need, avoiding potential corruption issues and helping donors feel confident that their donations are going directly to those they are trying to help. At the same time, it allows more people in need to access help without intermediaries.

Reference

The Other Bar is a new chocolate brand that offers consumers an easy way to donate to cocoa producers in Ecuador. Inside each package, there is a blockchain token, which consumers can scan to donate to farmers. Each token is equivalent to one quarter of a cocoa tree. In addition, customers can opt to use the token to get a discount on their next purchase, generating more business for farmers. The Other Bar is the result of a partnership between the United Nations Development Programme (UNDP) and Dutch NGO the FairChain Foundation, who call the product an "experiment in radical equality".

Source

https://www.fastcompany.com/90413242/this-new-blockchain-chocolate-bar-is-brought-to-you-by-the-un

Keywords

#Technology #Blockchain #Donations

SDGs

Niche Phenomenon

Monitor closely

High impact
High uncertainty

Green, pink and yellow hydrogen

Hydrogen as a clean energy vector

Hydrogen is an extremely important reagent in the petrochemical industry and has for decades been considered a clean energy vector. Despite its multiple uses, its massive implementation has been limited by technical difficulties and high price, due both to its costly clean production and to the technical constraints associated to transport and storage. As a result of the continuing decline in the average cost of solar and wind power generation worldwide and technological improvements in electrochemical cells, green hydrogen production at scale is becoming a reality. Today, using a proton exchange cell, Air Liquide has already reached a daily production of green hydrogen in excess of eight metric tons. This is equivalent to the fuel needed to fill the tanks of more than 200 long-haul trucks daily. In fact, long-distance land, sea, and air transport is another industry that is boosting the hydrogen sector. The generation of cost-effective transport by properly adapted pipelines or by sea transport at scale (still under development) are the transport methods that could be consolidated. As for storage at scale, one of the current trends is to use underground salt caverns. Regulations from countries primarily in Asia, such as Japan, South Korea, China, and Australia, have driven the recent boom in the sector since 2017 (with a clear emphasis in 2019-2020). According to PriceWaterhouseCoopers (PwC,) Argentina is one of the countries with the greatest potential to export green hydrogen worldwide, which represents an opportunity for Argentina to be part of an 11 trillion-dollar market by 2050.

Reference

The https://www.h2v.eu/ platform concentrates the most important hydrogen production projects on a global scale. It is a collaborative platform for project developers to share experiences and mutually support each other's developments. Currently, the platform has 31 "hydrogen valleys" that are located or under construction in 17 countries. In South America, there are two projects. A 121 million-euro project in French Guiana, where the consortium and plan for the construction of a two ton/day hydrogen generation plant have been pre-approved, and another one in Chile, where the government has defined the policy to begin the development of a 650 ton/day hydrogen plant.

Source

https://www.h2v.eu/

Keywords

Economy # Energy #Hydrogen

SDGs

Emerging Phenomenon

Monitor closely

High impact
High uncertainty

Mental health and work-related stress

Labor transformation, the result of both work digitalization and new methodologies of independent work, are causing problems associated with stress and mental health

Occupational burnout had been referred to as a stress syndrome; however, the World Health Organization (WHO) updated its definition in 2019. Now, occupational burnout is considered a work-related phenomenon, and, in the organization's International Classification of Diseases diagnostic manual, it is defined as a "syndrome conceived as a result from chronic workplace stress that has not been successfully managed." The three symptoms this manual attributes to this syndrome are burnout or energy depletion, increased mental detachment from work or negative feelings toward one's career, and impaired professional productivity. Occupational burnout was already a major issue even before the pandemic, but social isolation, excessive hours in front of screens and constant uncertainty have exacerbated its effects. In May 2020, 75% of professionals working in finance and 73% of technology industry counterparts acknowledged feeling exhausted.

Reference

In October 2020, the World Economic Forum released a report on the future of jobs, which included a study conducted together with Coursera (a leading virtual course and training company). The study detected that, among the 10 most popular courses for employed people in 2020, are mindfulness in fourth place, meditation in fifth place, gratitude in sixth place, kindness in seventh place and listening skills in eighth place. Unlike earlier years, there has been an increase in demand for courses related to soft skills for coping with burnout and stress.

Source

https://www.weforum.org/reports/the-future-of-jobs-report-2020

Keywords

#MentalHealth #Work

SDGs

Trend

Act now

High impact
Low uncertainty

Freelance work

Global labor flexibility

Worldwide, labor flexibility is on the rise, promoting self-employment modalities. On the one hand, supply is constantly growing due to factors such as cost reductions by employers. There are also companies that encourage this type of contracts, which may follow Uber-type models in specific industries, or specialize in acting as a digital marketplace for offers. On the other hand, in terms of demand, in the United States, for example, studies have estimated that the average salary of freelance workers is higher than 70% of employees in specialized jobs. In addition, millennials and younger people prefer a more flexible life. With the COVID-19-driven increase in remote work, this trend has accelerated dramatically, and it is expected that, by 2027, there will be more freelancers than employees globally.

Reference

Upwork is a digital marketplace where freelancers have the opportunity to work on worldwide projects proposed by employers. It is the world's largest digital marketplace, with a total of 18 million registered freelancers actively working, in addition to more than five million employers. This number of self-employed workers is equivalent to approximately 30% more people working compared to all the registered workers in Argentina in 2020, if we consider salaried workers, freelancers, and household staff. Each year, the number of subscribers increases considerably, resulting in a radical change in employment the way we know it.

Source

www.upwork.com

Keywords

#Economy #Work

SDGs

Trend

Act now

High impact
Low uncertainty

Sleeping disorders: a public health issue

In Argentina, the Philips annual sleep survey revealed that 64% of Argentines admit to suffering from some type of sleeping disorder

Sleeping disorders include, among others, insomnia, apnea, restless legs syndrome and narcolepsy. In sleep evaluation, not only the number of hours counts, but also the quality of the hours slept. The long-term consequences of sleeping disorders are a public health issue, since their consequences include immune system weakening, weight alterations, cardiovascular problems, and hormonal disorders, among others. This trend is not only observed in Argentina, but also worldwide, since more than 60% of the people surveyed globally reported a poor quality of sleeping.

Reference

Crono Argentina is the most important statistical study carried out in the country to evaluate Argentines' sleeping characteristics. As of 2019, the survey had already more than 20,000 participants, but aims to reach a total of 100,000 participants over 13 years of age to establish statistically relevant knowledge for the entire country.

Source

http://www.cronoargentina.com/

Keywords

#Health #Sleep

SDGs

Emerging Phenomenon

Monitor closely

High impact
High uncertainty

Satellite images as data sources

Satellite images as a source of spatial-temporal big data information for development, disaster management and the private sector

Big data analytics is a multi-billion-dollar industry that has been boosted in recent years by the ease of data collection and computing power. Particularly, a booming field is the so-called "spatial-temporal big data analysis". This is a field where a large number of calculation methodologies are used to process data that, in addition to particular information, have geographic and time coordinate data. This type of information can be used to evaluate various global or microscopic phenomena. Through software engineering, Argentina has positioned itself as a knowledge exporter thanks to some start-ups. The methodology's versatility means that it has an expected compound annual growth rate of more than 14%, resulting in a market of over $150 billion by 2027.

Reference

Founded by Argentines, Pachama is a start-up that uses artificial intelligence to generate data and calculate forest carbon sequestration. This allows individuals and organizations to promote reforestation of ecosystems and to know in real time how they mitigate their carbon footprint.

Source

https://pachama.com/

Keywords

#Technology #Satellites

SDGs

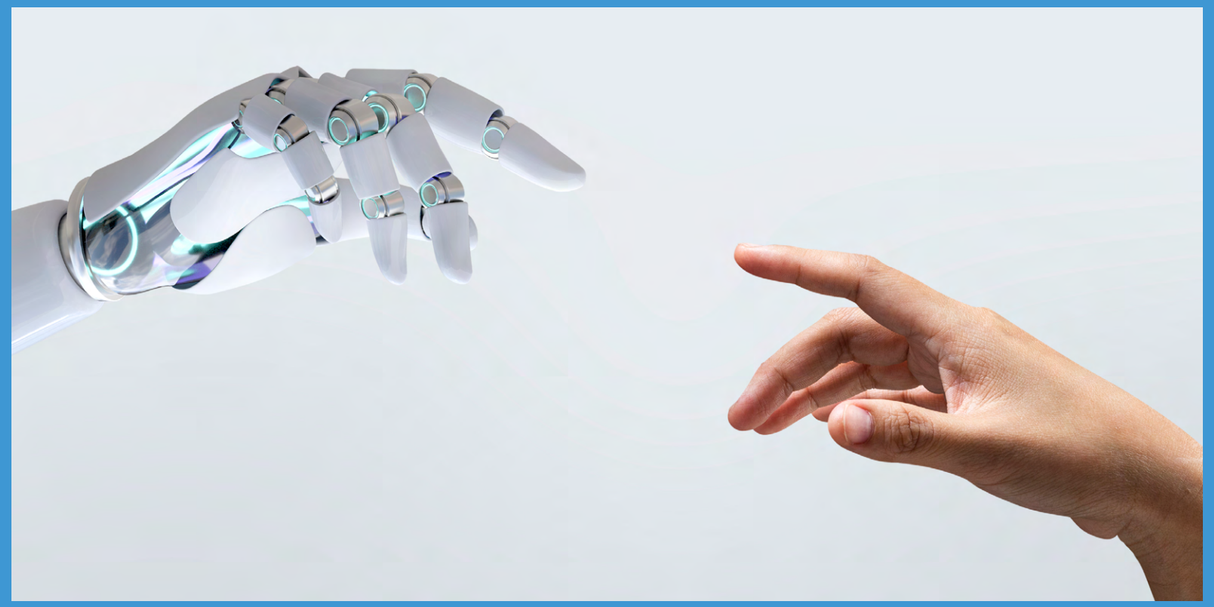
Niche Phenomenon

Monitor closely

High impact
High uncertainty

Industry 5.0

Joint work between people and robots or intelligent machines



Industry 4.0 is based on automation and efficiency through the use of technologies and digitalization. While many industries are in the midst of a transformation process to achieve higher levels of automation, there is already a worldwide recognition that we are in the twilight of industry 4.0, and many sectors are already in the middle of a transformation process within a new paradigm. Industry 5.0 refers to the joint work between people and robots or intelligent machines. This transformation means that humans can operate more efficiently by working collaboratively with technologies. Therefore, this global transformation focuses on empowering people through technology, thus finding a balance between efficiency and productivity, which optimizes synergies between humans and machines.

Reference

The Shin-tomi nursing home in Tokyo, Japan, uses more than 20 different models of robots that work alongside humans to care for the elderly. Using robots in elderly care, a job that normally requires human warmth, is undoubtedly a current achievement of industry 5.0. Robots and humans work in coordination to improve the quality of life of the people they serve. Culturally, the way the nursing home operates is accepted in Japan, because of the society's positive view of robotics. In other countries, however, it may be culturally unacceptable.

Source

https://www.reuters.com/article/us-japan-ageing-robots-widerimage/aging-japan-robots-may-have-role-in-future-of-elder-care-idUSKBN1H33AB

Keywords

#Technology #Robots #Work

SDGs

Emerging Phenomenon

Monitor closely

High impact
High uncertainty

Citizen assemblies

Participatory discussions for decision making

A citizens' assembly is a group of people convened to discuss one or more issues to reach common conclusions and make actionable decisions about what should happen on policy-relevant issues. Often (most of the time), these decisions are not really binding, but they serve to establish criteria and possible consensus that can facilitate policy development. It is a type of deliberative democracy already existing in Athens 500 years BC, however, recently there has been a great boom in its implementation worldwide. This trend is fostered by the cynicism of politicians, the growing number of complex debates with different views that require consensus, and the distrust in the decision-making process. Some countries such as England, Ireland, Scotland, and France are implementing this practice at different levels of government and, above all, with an emphasis on issues that can be polarizing and difficult to reach consensus on.

Reference

The United Kingdom plans to have zero greenhouse gas emissions by 2050. The citizens' assembly for climate change brought together more than 100 people for six weeks in 2020 to discuss and debate what steps should be taken to achieve this goal. Based on the discussion, a final report with recommendations was produced and published in September 2020.

Source

https://www.climateassembly.uk/

Keywords

#Social #Citizenship #Assemblies

SDGs

Emerging Phenomenon

Act now

High impact
Low uncertainty