

*Issue 4 / August 2019*

# GLOBAL SCANNING REVIEW

## **INCLUDED INSIDE**

Telepathic communication one step closer, DNA dating in Japan, tourist trips to the International Space Station, pizzeria chain run by robots and much more...

## **GLOBAL SCANNING REVIEW**

The Global Scanning Review is the exclusive bimonthly members' review by the Copenhagen Institute for Futures Studies (CIFS). The ideas presented here are inspired by the horizon scanning observations made by the Global Scanning Network (GSN) at CIFS.

With our GSN, we collect, compare and evaluate a wide range of signals – including new and emerging trends, technologies, values, products, concepts, companies, services and ideas – in order to identify what's happening now and what could be emerging tomorrow. It is a process that seeks to identify the earliest indications of potentially disruptive issues, but also tracks transformations of already established phenomena or trends.

Global scanning is an evidence-based method for understanding indicators of change and possible futures. It is the art of systematically scanning the external environment for evidence of emerging issues and a practice that seeks to inform decision-making, by creating a patterned awareness of both potential opportunities and challenges.

Using a competitive and comparative frame, global scanning provides members and clients a detailed review and analysis of some critical raw ingredients for inspiring innovative and future-oriented business opportunities. CIFS' global scanning also offers tailored solutions in order to generate relevant industry- and business-specific insights according to specific member or client interests.

**HEAD OF GSN:  
ANNE DENCKER BÆDKEL**

**EDITOR:  
SOHINI KUMAR**

Page 5

## FUTURE OF **SOCKET & GOVERNANCE**

"Graduating" from marriage in Korea and Japan  
South Korea upgrades crosswalks for smartphone users  
Discrimination against LGBTQ+ criminalised in Brazil  
Singapore's plan for an automated immigration clearance  
Ecotax on air travel  
Mexico's new state internet service provider  
New regulation on nutrition labels  
Africa could hold the future of AI

Page 7

## FUTURE OF **BUSINESS & ECONOMY**

Tourist trips to the International Space Station  
Will neobanks take over the banking industry?  
Up-cycling farm waste  
Airbnb is expanding into the luxury segment  
Concrete from industrial waste  
Australian blockchain startup to fight slavery in the food industry  
Fighting global warming from space  
Unprinting can help reuse paper

Page 9

## FUTURE OF **CONSUMERS & RETAIL**

Ugly carrots for sale!  
Kiki the robot pet  
Pizzeria chain run by robots  
Fungi headphones  
Limiting electric scooters and bicycles in Copenhagen  
Pets shopping online  
Uber's drone food deliveries  
Banana leaf wrapping

Page 11

## FUTURE OF **PEOPLE & WELL-BEING**

Telepathic communication one step closer  
Less addictive, CRISPR-edited tobacco  
A new perspective on Parkinson's treatment  
DNA dating in Japan  
Get more sleep with Pokemon Sleep  
The smartphone that wants less of your time  
More children suffering from high blood pressure in Bulgaria  
Algorithm to optimize caffeine consumption

## **GLOBAL SCANNING NETWORK**

The GSN is a network comprised of CIFS consultants and associates, and a team of global ambassadors. The ambassadors are Masters/PhD graduates and working professionals on a six month rotation, providing expert perspectives in the realms of science and technology, politics, culture, design, innovation, business management, finance, marketing and branding. The GSN represents a diverse, global group of individuals who contribute with unique observations, profitable ideas, and sharp insights into specific industry challenges.

### **GLOBAL AMBASSADORS**

ANNA GRIGORYEVA-TRIER, ARACELI DE ANDA GONZÁLEZ, GABRIEL DE CASTILLO, TRAVIS KUPP, JAQUELINE GIL, JUE YING CHOO, DENIZ YAZICIGLU, MANALI BHUTWALA, MARK WESTERHUIZ, ELIZEBETH CROESER, BES BALDWIN, DANIEL RIVEONG, DIANA STAFIE, EVELINE VAN GAAL, GIOVANNI LUMICISI, GRACE DERIN CAMERON, JULIA SYGNAREK, KEVIN JAE, KIIA MARIA JÄRVINEN, MARIA MAJ, MIHAELA MINCHEVA, NG BUCK SENG, SARA BOLLER



# FUTURE OF SOCIETY & GOVERNANCE

## "GRADUATING" FROM MARRIAGE IN KOREA AND JAPAN

A marital trend in Japan and Korea is allowing couples to “live apart together”

The term ‘jolhon’ or ‘sotzcon’ (Korean and Japanese respectively) is used to describe a “graduation from marriage”, which is a concept particularly popular for ageing couples who wish to fulfil their individual dreams outside the constraints of marriage. Graduation from marriage is not the same as separation or divorce, as couples who have graduated are still in love, and meet and spend time together. While there is no data indicating the number of people pursuing this route, a 2014 survey in Japan found that more than half of the married women asked wanted to eventually graduate from marriage. This trend emerges at a time when the structure of the Japanese family is changing, with members becoming more independent.

*Source Link*

## SOUTH KOREA UPGRADES CROSSWALKS FOR SMARTPHONE USERS

Increasing numbers of pedestrian accidents have spawned high-tech solutions

‘Smartphone zombies’ is a term for people who can’t look away from their phones, and their safety on the road is a cause for concern. In response to frequent crosswalk accidents, the South Korean city Ilsan has implemented a new system designed by the Korea Institute of Civil Engineering and Building Technology (KICT), to improve crosswalk safety. One crosswalk has been fitted with thermal imaging and radars to detect pedestrians and cars, and uses a combination of lasers and lights to warn both pedestrians and car drivers to watch out for each other. The system also pairs with an app that sends a warning – “Wait. A car is coming” – when the crosswalk lights are triggered. Each crosswalk costs roughly USD 13,000. The research team at KICT plans to install more lights in the future; while the system is being tested in smaller towns first, the developers expect the government to adopt it nationwide.

*Source Link*

## DISCRIMINATION AGAINST LGTBQ+ CRIMINALISED IN BRAZIL

Of 11 Supreme Court judges, 8 voted in favour of the law

The majority of the Supreme Court in Brazil has voted in favour of a law protecting citizens from discrimination based on sexual orientation or gender. Homophobia and transphobia will now be encapsulated within Brazil’s racism laws and considered criminal offences, with prison sentences of up to five years. Discrimination against LGBTQ+ people is rife in the country: rights group Grupo Gay de Bahia finds that 420 members of the community were killed in Brazil in 2018, and reports of crimes against LGBTQ+ people tripled during the current president Jair Bolsonaro’s campaign. The country also had one of the highest numbers of transgender homicides in the world in 2017. The leader has previously made discriminatory comments against the LGBTQ+ community, including discouraging gay tourists from visiting Brazil.

*Source Link*

## SINGAPORE'S PLAN FOR AN AUTOMATED IMMIGRATION CLEARANCE

‘Contactless immigration’ trials are being held and future changes may reduce processing time

With more than 200 million visitors crossing Singapore’s borders in 2018, more anticipated traffic, and a smaller and older workforce, the country is looking to automate some of its immigration processes by 2022. According to the plan, Singapore residents will go through immigration checkpoints without needing their passports; an automated clearance system will identify them based on biometric data (e.g. irises or facial features). The authorities also want to apply this process to visitors, who will have to complete pre-arrival assessments. Data analytics will be used to create risk profiles. Immigration officers will provide assistance on the move, rather than staying behind counters. For visitors needing closer inspection, officers may conduct further assessments, or grant clearance through mobile devices. In order to move forward, large amounts of data will have to be collected and processed. Officers will also take a Digital Confidence course to learn about data analytics.

*Source Link*

## ECOTAX ON AIR TRAVEL

The money will be put towards a more sustainable transport infrastructure

The French government has announced an eco-tax of EUR 1.50 to 18 on air travel from 2020, for all flights departing from French airports. The number of passengers transported by civil aviation worldwide has doubled in the last 15 years, to almost four billion in 2018. Air travel contributes to 2-3% of CO2 emissions and around 5% of all greenhouse gases. Yet, the number of passengers in France choosing air travel has continued to increase between 2017-2018 due to the introduction of low cost airline companies. A forerunner to the government's decision is Sweden's 'We Stay on the Ground' movement, which urges people to stop flying to reduce their carbon footprint. The movement coined the term 'flygskam' – flying shame. Airlines are also making efforts: Easyjet is planning an electric flight in 2030 (although progress in electric could be limited for the near future), while KLM has launched a campaign called 'Fly Responsibly', asking travellers to consider alternatives to flying.

*Source Link*

## NEW REGULATION ON NUTRITION LABELS

Proposed changes aim to make nutrition information more simple and visible

The Health Commission of Mexico's Chamber of Deputies has approved a draft proposal to put nutrition information and warning labels on the front of food packaging. There were 24 votes in favour, and the proposal will now go to a plenary session in September. It suggests that the information displayed should be "easy to understand, truthful, direct, simple and visible". Alongside ingredients and nutrition information, labels should signal when a product exceeds the maximum recommended limits for critical nutrients – like added sugars and sodium – which may cause a risk factor for illnesses like type 2 diabetes and cardiovascular disease. Depending on the Ministry of Health's decision, manufacturers may also have to display logos or pictograms. This initiative is an effort to address issues like obesity: a 2016 study by the National Institute of Public Health found that seven out of ten adults and one in three children and adolescents were overweight or obese in Mexico.

*Source Link*

## MEXICO'S NEW STATE INTERNET SERVICE PROVIDER

The initiative aims to address the digital divide in Mexico

The Mexican government has announced that it will establish a telecommunications company called 'CFE Telecomunicaciones e Internet para Todos' ('CFE Telecommunications and Internet for All'), aiming to bring full internet coverage to the whole country, including underserved areas. The company will be a subsidiary of the state-owned Comisión Federal de Electricidad (Federal Electricity Commission) and will use its fibre optic network. A board of directors will be appointed in October. Earlier this year, the Mexican government made public a plan to increase internet coverage from 87% of the country at the end of 2018 to 95% before the end of the current president's term in 2024. This falls under the National Development Plan 2019-24, which outlines a range of goals to encourage progress within the country.

*Source Link*

## AFRICA COULD HOLD THE FUTURE OF AI

Several AI-focused organisations are taking root in Africa

Africa's machine-learning community has grown in the last few years, giving researchers in the continent an opportunity to share research and stay up to date on new developments. The difficulty of travelling within and out of the region has hindered Africa's researchers and left them out of international discourse. This impacts AI research especially, due to the pace of change in the field. For example, being unable to attend international events due to visa issues makes it difficult for researchers to keep up. Local researchers started the annual workshop Data Science Africa in 2013, the same year IBM Research opened its first African office in Nairobi. Another group of African researchers formed Deep Learning Indaba in 2017, an organisation that now has branches in 27 of Africa's 54 countries. A few months ago, Google opened a new AI lab in Ghana. Next year, a major AI conference will take place in Ethiopia. Education programs teaching machine learning have also grown due to demand.

*Source Link*

## CONTACT INFORMATION

Daria Krivonos  
**CEO**

+45 2932 5931  
**PHONE**

dka@cifs.dk  
**MAIL**



# FUTURE OF BUSINESS & ECONOMY

## TOURIST TRIPS TO THE INTERNATIONAL SPACE STATION

NASA will be opening the ISS to tourism and other business ventures

NASA will allow tourists to visit the International Space Station (ISS) starting 2020. Private astronauts will travel on a US spacecraft in up to two missions a year and will be allowed to stay at the ISS for up to 30 days. The trip will cost USD 35,000 a night. For spacecrafts, NASA has hired Elon Musk's SpaceX and Boeing. They could potentially charge each tourist a 'taxi fare' of about USD 60 million per flight. Private commercial companies will handle crew compositions and ensure that tourists meet NASA's medical and training standards. While NASA previously banned any commercial use of the space station, Russia – which initially built the station with NASA – has taken more commercial opportunities in recent decades. US businessman Dennis Tito was the first ISS tourist in 2011, when he paid Russia about USD 20 million for a round trip. NASA is now looking for new sources of funding, as the US government plans for the ISS to be defunded by the government by 2025.

*Source Link*

## UP-CYCLING FARM WASTE

The results are usable ingredients with a lower carbon footprint

Canadian food technology company Comet Bio up-cycles farm waste into sustainably produced sweeteners and nutritional supplements. Up-cycling is the process of transforming by-products, waste materials, or unwanted products into new materials. Using a proprietary two-step conversion technology, the firm works with farmers to up-cycle agricultural harvest leftovers such as leaves, stalks, husks of corn and wheat straw into a variety of biomaterials, including dietary fibres and non-GMO glucose syrups. These products not only allow farmers to use the entirety of their harvests, but can also make processed food healthier. Up-cycling can achieve both a reduction in consumption and pollution and an increase in sustainability for businesses across many industries. This and other similar up-cycling initiatives, such as using farm waste as building materials for sustainable housing, are a step towards a circular economy and transforming our food systems for longer term sustainability.

*Source Link*

## WILL NEOBANKS TAKE OVER THE BANKING INDUSTRY?

With the digitalisation of the financial sector, emerging players challenge traditional banks

Swedish neobank P.F.C. has raised EUR 5 million in funding, having secured backing from banking company Nordea. P.F.C. is a personal finance app that offers a debit card that can be used abroad without additional fees. It is regulated under a payments institution license instead of being a fully licensed bank, comparable to the model used by other banking apps like Revolut. P.F.C hopes to fulfil a need for customisable financial services: their services include instantly topping up users' account or card, automatic transaction categorization, and the ability to create weekly budgets. Customers can also use the P.F.C app to freeze or unfreeze their account, change their PIN and order a new card. So-called 'neobanks' operate exclusively digitally. Revolut is one of the most successful fintech startups, offering an app-based account, money transfers in 29 currencies, a prepaid debit card, access to cryptocurrency exchanges and overseas medical insurance.

*Source Link*

## AIRBNB IS EXPANDING INTO THE LUXURY SEGMENT

The company has started offering castles, mansions and villas for rent

Airbnb has launched a new service, Airbnb Luxe, which offers unique and luxurious accommodation all over the world. The service offers 2,000 handpicked homes worldwide, and includes castles in France, Tuscan villas, and even a private island in French Polynesia. Each accommodation has to pass evaluation of more than 300 criteria covering design and function. The prices start from USD 1000 per night. The company promises a completely tailored experience thanks to a trip designer, with local bespoke activities and a range of services including childcare, private chefs and personal training sessions. The launch of this new tier is another step in Airbnb's expansion to a full-service hotel and travel platform. Other steps it has taken in this direction include buying hotel booking site HotelTonight and offering bed-and-breakfasts and boutique hotels through Airbnb Plus.

*Source Link*



## CONCRETE FROM INDUSTRIAL WASTE

A more environmentally friendly alternative for concrete

Finnish construction start-up Betolar has developed an ash, water and sand-based cement replacement from the waste of steel, energy, lumber and mining industries. The secretly developed construction material is surpassing concrete in external qualities (such as in strength) as well as in climate-friendliness; the mixture of ash, water and sand is leaving a 90% smaller carbon footprint than conventional alternatives. As concrete is the most frequently used construction material, it can be considered more detrimental to the environment than air traffic, as it produces 5-8% of all carbon emissions. Betolar's method is highly inspired by the construction technologies of ancient Egyptians; the moulded pyramids of Nile River are known to be made out of volcanic ash. Accordingly, Betolar is intending to commercialise the archaic geopolymers technologies of primeval North Africa by cultivating a more homogeneous material.

*Source Link*

## AUSTRALIAN BLOCKCHAIN STARTUP TO FIGHT SLAVERY IN THE FOOD INDUSTRY

The startup wants to make the food supply chain more transparent

Australian startup Lumachain is aiming to help fight slavery and forced labour in the food industry. It uses blockchain technology to track and trace the origin, location and condition of food products in the supply chain in real time. The company claims that this can reduce waste, improve product recalls and optimise audits, while helping businesses make sure products are produced ethically. The startup received funding from the venture capital fund Main Sequence Ventures, which is backed by the Australian government and the federal Commonwealth Scientific and Industrial Research Organisation. It has also received some support through Microsoft's 'start-up scale-up' initiative. Lumachain is not the only organisation using blockchain to promote better labour practices. In 2018, Coca-Cola and the US Department of State, among others, started a project to create a blockchain-based labour registry with the goal of addressing global forced labour.

*Source Link*

## FIGHTING GLOBAL WARMING FROM SPACE

MethaneSAT will be launched in 2021, and data will be available to the public

MethaneSAT LLC has developed a new type of satellite that will monitor methane emissions across the globe. With a view path of more than 200 kilometres, it will not only be able to measure emissions from oil and gas facilities and other major sources, but also find previously unidentified sources of emissions. It will regularly monitor around 50 major areas that are responsible for more than 80% of global oil and gas production. Because it will not measure any other greenhouse gases, MethaneSAT will be quicker and cheaper to launch, allowing experts to receive data more easily. The potential of technological solutions in monitoring methane emissions is increasingly coming into the radar of oil and gas companies. For example, the Environmental Defense Fund and BP recently announced a three-year collaboration to test different technological solutions for methane management.

*Source Link*

## UNPRINTING CAN HELP REUSE PAPER

Future printers could wipe paper clean at the click of a button

Imagine if your printer had an "unprint" button that could remove toner and extend the lifespan of paper before it is recycled. A Rutgers team of engineers has found a new way to unprint paper. Using pulses of light from a xenon lamp, the method weakens the bond between the paper and the toner, allowing the toner to be removed with an ethanol wipe. Currently, this procedure can erase black, blue, red and green toners without damaging the paper. This makes it possible to unprint and then reprint on the same paper at least five times, which is typically the number of times paper can be reused with conventional recycling. Conventional recycling, while using fewer resources than making paper from wood, still uses energy and harmful chemicals. This new unprinting method could reduce energy costs, pollution and emissions of greenhouse gases, while also prolonging the life of paper. The engineers are working to integrate unprinting with typical office and home printers.

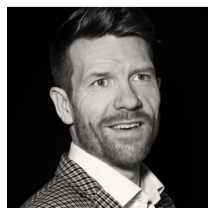
*Source Link*

## CONTACT INFORMATION

Lasse Jonasson  
**DIRECTOR**

+45 5366 0040  
**PHONE**

lj@cifs.dk  
**MAIL**



# FUTURE OF CONSUMERS & RETAIL

## UGLY CARROTS FOR SALE!

An American start-up is combating food waste by selling produce too ugly for grocery stores

Approximately a fifth of US food produce gets discarded just because it looks unattractive. About 60 million tons, or USD 160 billion worth, of fruits and vegetables gets thrown away in the US every year. Philadelphia-based start-up Misfits Market wants to address this cycle of food waste by buying misfits from farms and selling them. The subscription grocery platform start-up ships a box of 'ugly' produce to subscribers at their preferred frequency, and for prices that are lower than grocery stores'. According to Misfits Market, a misfit includes produce that has natural imperfections, such as scarring or bruising, or varies in size. The company sells via an e-commerce channel and currently ships to some major cities within the US. Consumers can sign up for weekly or biweekly subscriptions.

*Source Link*

## PIZZERIA CHAIN RUN BY ROBOTS

The first restaurant is expected to open in Paris later this year

French startup EKIM and Universal Robots have developed a robot pizza maker for Pazzi, a fully digitalised restaurant. The robot can make up to 10 pizzas simultaneously, from nearly five million recipe combinations, 24 hours a day, seven days a week. EKIM plans to have these automated pizzerias in high-traffic areas like train stations, airports and shopping centres, and to help reduce junk food consumption. Customers order their pizzas using a touchscreen, and can watch the robot while it fulfils their orders. Three robot arms work in tandem, assembling, slicing, and packaging the pizzas. They learned to replicate the movements of a pizza chef, placing ingredients randomly so that each pizza is unique. Pazzi is the latest among food and beverage outlets to tap into technology. Boston chain Spyce uses robots to prepare its meals, while Caliburger uses a robot kitchen assistant to make hamburgers. In China, Alibaba, JD.com and Haidilao have plans for thousands of automated eateries.

*Source Link*

## KIKI THE ROBOT PET

The founder hopes Kiki will be a companion to both children and the elderly

Kiki, created by the company Zoetic, is an AI-powered robot pet. Through deep learning technology, it builds a memory map of its interactions, which in turn influences its personality. The same technology allows it to change its behaviour based on its owner's reactions, which it can read through a camera in its nose. It can perform a range of movements and expressions. Owners are able to 'feed' and train Kiki, and it also responds to petting due to 16 sensors spread over its body. Kiki is one of several companion robots available today. While some have practical functionalities, others are purely created for companionship. While these robots can potentially be therapeutic or help people build better connections, there are also ethical considerations behind the emotional bonds formed between humans and robots, and the impact on human psychology.

*Source Link*

## FUNGI HEADPHONES

Yeast, fungus and bacteria have been used instead of metal, plastic and leather

Korvaa is the world's first microbe-grown headphone prototype, the result of a collaboration between Finnish design firm Aivan and the VTT Technical Research Center of Finland, Aalto University. The prototype headphones are made up of different substances synthesised by microbes. The wild materials had not been used in this manner before; they took days to grow, and some had to be freeze-dried so they could be used. The frame is made of a bioplastic, 3D printed using lactic acid from yeast. The padding that sits over the ears is a mixture of a bubbly, foaming protein produced by a fungus, and some plant cellulose. The leather on top of the foam is the vegetative part of fungus, while biosynthetic spider silk made by microbes forms the inner mesh that touches the ears. For now, all electrical components are missing, but the designers hope to develop the concept further.

*Source Link*

## LIMITING ELECTRIC SCOOTERS AND BICYCLES IN COPENHAGEN

Despite demand, safety issues may lead to stricter laws

Electric scooters became legal in Denmark in January, but the municipality of Copenhagen has recently declared that the number of e-scooters allowed to circulate might have to be limited. This is in hopes of protecting pedestrians and other traffic by preventing excessive traffic on pedestrian lanes, which could force pedestrians into the streets. Authorities believe that a limit of 200 e-scooters in the city centre should help to avoid accidents. The Committee for Environmental and Technical Issues is also considering a similar limit for share bicycles, limiting their numbers, in combination with scooters, to 3,000 in certain regions. If these limits are imposed, rental companies will need to apply for a permit to provide these means of transport.

*Source Link*

## PETS SHOPPING ONLINE

A new e-commerce platform lets pets make purchase decisions

A Brazilian pet shop chain, Petz, has launched an online store called Pet-Commerce, which uses AI and facial recognition to judge dogs' reactions to different products and identifies those the dogs are interested in. The system analyses the dogs' characteristics through a camera, including the position of the ears and mouth, and looks for signs of relaxation. Products 'chosen' by pets are added to the shopping cart and confirmed by their owners later. The company worked with a dog trainer to gather a database of thousands of facial expressions from different dog breeds. The platform was designed with dogs in mind: the products are shown in video form, as dogs don't pay attention to still images, and the colours and audio have been adjusted so they can see and hear better. The CEO of Petz believes the project could also be applied to felines.

*Source Link*

## UBER'S DRONE FOOD DELIVERIES

Uber is another company, along with Google and Amazon, to work with drones

Uber Elevate is working with McDonald's to deliver food by drone. The company hopes to start business in San Diego this summer. Delivery will initially cost up to USD 8.50, in line with Uber Eats prices. Drones will land in designated safe zones – or possibly, on the hood of parked Uber cars – after which a courier will complete the delivery. The head of Uber Elevate believes that drones could improve on what customers want: selection, quality and efficiency. A drone can make a 1.5 mile delivery in about 7 minutes, compared to ground transport's 21 minutes. However, safety issues include noise pollution and the possibility of collisions. Google and Amazon are also working with drones (Amazon aims to deliver packages under 5 pounds in less than 30 minutes) while San Diego is testing them for emergency blood delivery and monitoring soil composition. Uber Elevate is waiting for the Federal Aviation Administration's approval, and plans to introduce its own customised drone this year.

*Source Link*

## BANANA LEAF WRAPPING

Supermarkets in Thailand and Vietnam are using banana leaves instead of plastic to wrap groceries

Vietnamese supermarket chains Lotte Mart, Saigon Co.op and Big C are following Thailand's Rimping Supermarket to use banana leaves as a packaging alternative. Lotte Mart stated that while they are in a testing phase, they aim to spread the practice nationwide. Currently, they use banana leaves to wrap vegetables and fruits, with plans to extend to fresh meat products. Vietnam ranks number four in the world for the amount of plastic discarded into the ocean; estimates show that the country generates about 2,500 tons of plastic waste per day. This initiative joins several others, including Big C's use of biodegradable bags made with corn powder. There is a similar trend of reducing single use plastic bags in other Asian countries. For instance, South Korea has banned disposable plastic bags, opting for recyclable containers. In Singapore, supermarkets have launched campaigns to reduce plastic bag use, while Taiwan has started charging for single-use plastic bags.

*Source Link*

## CONTACT INFORMATION

Carsten Beck  
**DIRECTOR**

+45 3065 1101  
**PHONE**

cab@cifs.dk  
**MAIL**



# FUTURE OF PEOPLE & WELL-BEING

## TELEPATHIC COMMUNICATION ONE STEP CLOSER

University of Washington researchers conducted an experiment where individuals collaborated via their minds

BrainNet is a Tetris-like game wherein two players help a third to complete a line of blocks on a screen, using just their brains. Each in a separate room, two 'Senders' conveyed information to a 'Receiver'; the information was sent from one brain to the other through the internet. Participants wore caps that detect electrical activity in the brain, while Receivers also had a coil that stimulates the part of the brain that translates signals from the eyes. Neurons in the back of the Receiver's brain were 'tricked', making the Receiver see a flash according to the Senders' signals. This was the first time someone was able to both send and receive information using just the brain, and the first time a brain-to-brain network of more than two people was formed. Even though the development has been called 'a baby step' in telepathic communication, the researchers hope it will help future brain-to-brain interfaces to solve problems too complex for one brain alone.

*Source Link*

## A NEW PERSPECTIVE ON PARKINSON'S TREATMENT

Research has revealed that a gut microbiome may interfere with medication absorption

Scientists at Harvard used a large genomic dataset, the Human Microbiome Project, to identify species of bacteria that are responsible for degrading the drug used to treat symptoms of Parkinson's disease (levodopa). In making this connection, the lead researcher proposed the mechanism that accounts for much of the interpatient variability in drug efficacy for patients living with Parkinson's disease. In the past, drug discovery treated all patients alike – with biochemical reactions driving drug chemistry considered standard across all patients. The researchers at Harvard who studied how bacteria in the intestines degraded drugs before they could produce the desired effect have helped explain a possible mechanism for reduced efficacy of the L-dopa biochemical cascade. By shifting the focus to the species of gut microbe, new drug targets can be designed that are less susceptible to degradation.

*Source Link*

## LESS ADDICTIVE, CRISPR-EDITED TOBACCO

Scientists have discovered a way to grow tobacco plants that contain 99.7% less nicotine

A team of scientists from the Technical University of Dortmund, Germany, has used gene-editing technique CRISPR to disable six enzymes in the tobacco plant that aid the production of nicotine, and has produced tobacco with almost undetectable amounts of the stimulant. Research has shown that cigarettes with less nicotine are just as harmful, but they could help alleviate the smoking problem by helping people quit the habit. The WHO finds that globally, an estimated 1.1 billion people are smokers and out of that, more than 7 million people die from the ill effects of smoking every year. One of the key ingredients in tobacco causing addiction is nicotine. The US Food and Drug Administration (FDA) believes that reducing nicotine levels in cigarettes could be the way to lower smoking rates, and is exploring policies to introduce new product standards with lower levels of nicotine.

*Source Link*

## DNA DATING IN JAPAN

Dating company Nozze. is helping people find a perfect partner based on genetics

DNA Matching is one of Japan's latest attempts in helping singles unable to find partners, an issue which has led to low marriage and birth rates. The process is based on the theory that those with most diverse DNA are most attracted to each other. Scientists analyse saliva swabs from participants, especially focusing on the gene complex HLA, which is usually associated with the immune system but is also believed to have a role in attraction levels. People with low HLA similarity are matched, as this is said to indicate higher compatibility. The company has previously hosted a 'DNA Party', modelled on blind speed-dating. More events, including a DNA Cruise, are being planned. A recent report from the Japanese government showed that nearly half of Japanese singles wanting to get married couldn't find a partner, for reasons such as lack of opportunity, insufficient financial resources and inability to connect with people. Nozze. stated that hundreds of people have joined the service since its launch.

*Source Link*

## GET MORE SLEEP WITH POKEMON SLEEP

The Pokemon Company is planning a new app to gamify sleep

In a recent press conference, Pokemon announced the upcoming Pokemon Sleep, a game where sleeping will become entertainment in the way Pokemon GO gamified walking. At the press conference, CEO Tsunekazu Ishihara shared that the concept is for players to look forward to waking up every morning. The game will work with Nintendo's newly announced Pokemon GO Plus Plus - a peripheral device that can track sleep information. The game will change based on how long the player sleeps and his or her wake up time. Select Button Inc will be the developer of Pokemon Sleep, and Pokemon GO developer Niantic Labs will also be involved. Previously, Pokemon GO has brought about a change in social behaviours, allowing people to exercise and socialise more. This new app is planned for release in 2020.

*Source Link*

## THE SMARTPHONE THAT WANTS LESS OF YOUR TIME

BoringPhone wants to be useful without being distracting

Branded as a "minimalist smartphone", BoringPhone does not have an internet browser, or access to social media or email. It is designed to help provide a digital detox without taking away the tools typical smartphones provide. Users of the BoringPhone will get a host of practical pre-installed apps, including a camera, GPS, music, as well as apps to make phone calls and send messages. There is no way to download additional apps. The developers envision the phone being used in different ways, whether as a first phone for children, or as an occasional alternative for users who need a break from their smartphones. The developers ran a Kickstarter campaign, which has raised more than NZD 30,000. They plan to deliver these phones sometime around December 2019. The phone will retail for NZD 499.

*Source Link*

## MORE CHILDREN SUFFERING FROM HIGH BLOOD PRESSURE IN BULGARIA

Children as young as seven years have been affected

According to Prof. Krasimira Hristova, cardiologist at National Heart Hospital in Sofia, every tenth Bulgarian under 25 year of age suffers from high blood pressure, also known as arterial hypertension. She believes there are currently more than two million hypertensives in the country. Reasons for this include lifestyle (e.g. spending large amounts of time in front of the computer) and being overweight. Teenagers are the most affected, with lifestyle choices and dietary habits being major contributing factors. Prof. Hristova believes that solutions lie in spending more time being active and in open space, as well as maintaining a healthy diet and body weight.

*Source Link*

## ALGORITHM TO OPTIMIZE CAFFEINE CONSUMPTION

Coffee is most effective when consumed at the right time in the right amount

The Sleep Research Society has developed an algorithm to provide guidance on optimal caffeine consumption. Based on information provided by users, including caffeine tolerance and desired level of alertness, the algorithm has two functions: to predict alertness patterns for users based on their caffeine usage and sleep patterns, and to recommend doses in personalised timings and amounts, so that users are at peak alertness levels when they want to be. This is the first quantitative tool designed to strategise caffeine consumption to maximise alertness without overconsumption. The research was funded by the US military. When compared to US Army guidelines in various sleep deprivation and work scenarios, results from the algorithm were 40% better on average. The algorithm's recommendations enhanced alertness by 40% or required 40% less caffeine intake to achieve the required standard. The tool is open access and user-driven, allowing users to compare their results.

*Source Link*

## CONTACT INFORMATION

Anne  
Dencker Bædkel  
**FUTURIST**

+45 3311 7176  
**PHONE**

adb@cifs.dk  
**MAIL**



## **MEMBERS' REPORT 3/2019**

### **RETHINKING HIGHER EDUCATION**

The way higher education operates and is perceived is facing comprehensive transformation. With technological advances among the most important drivers for this change, the educational paradigm in the digital economy will be re-imagined in new ways to meet rapid societal and demographic changes as well as a more automated and fluid job market, in the shape of more flexible and innovative alternatives to traditional education models. New actors are already itching to shake up the conventional models, and meanwhile, students' expectations and demands have sharpened.

### **CIFS EXECUTIVE**

CIFS Executive is our international membership network for decision-makers. The CIFS Executive meetings are open for members of the Copenhagen Institute for Futures Studies and are by invitation only. We wish to create a dialogue between people who understand the need to use the future proactively. Our idea is to deliver flashes of inspiration that highlight potential game changers. We are putting the future on the agenda, and our members get the first chance to discuss opportunities and threats related to the latest developments identified by CIFS.

August 29 2019  
**COPENHAGEN**

September 2 2019  
**WEBINAR**

August 28 2019  
**OSLO**

August 27 2019  
**BRUSSELS**

## **SCENARIO MAGAZINE 04/2019**

For this issue's main article, we talked to US scientist and author Jared Diamond about what he sees as humanity's greatest challenges: nuclear power, climate change, and a global population that will reach 11 billion by the end of this century. Other topics and articles include: Lene Hald: Red Ball | An epigenetic tale | The Square | Teenagers have stopped being teenagers | Will we have time to save the world? | Wildcard: A future without privacy | News about science and technology | Fake news and the internet | Future medias | Futures past: Aerotropolis | Full circle: Minimalism | Sociotech: When the internet is judge, jury, and executioner | Ideas, visions, scenarios, and much more...

### **COPENHAGEN INSTITUTE FOR FUTURES STUDIES**

is an international, apolitical and not-for-profit think tank that has advised governments, multinationals, public and intergovernmental bodies all over the world about the future since 1970 through a membership network, strategic consultancy, seminars, workshops, presentations and publications.

The Institute identifies and analyses the trends and driving forces that shape the world, and works with scenario planning that can be used in strategy development and other change processes. The Institute is therefore both a think tank and strategic advisor for public and private enterprises that wish to know more about the future before they make important decisions.

The objective of the Copenhagen Institute for Futures Studies is to strengthen the basis for decision-making in public and private organisations by creating awareness of the future and highlighting its importance to the present.

For more information about CIFS or this publication:

Phone: +45 3311 7176

Web: [www.cifs.dk](http://www.cifs.dk)

Email: [cifs@cifs.dk](mailto:cifs@cifs.dk)