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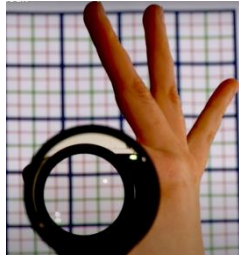
Dear Readers,

Welcome to **NewsEffect** –
March 2024

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Invisibility Devices



- [Backyard insect inspires invisibility devices, next gen tech](#) A recent study by Penn State researchers reveals that leafhoppers, common backyard insects, secrete and cover themselves in small, enigmatic particles called brochosomes. This groundbreaking research accurately replicated the intricate structure of brochosomes for the first time, shedding light on their ability to absorb both visible and ultraviolet light. This discovery opens up possibilities for developing bioinspired optical materials, potentially leading to innovations such as invisible cloaking devices and coatings for more effective solar energy harvesting. Professor Tak-Sing Wong, an expert in mechanical and biomedical engineering, highlights the transformative potential of this finding.
- ['Guardian of drone': Chinese scientists create new invisibility cloak.](#) Scientists at Zhejiang University in China have developed an advanced aero amphibious invisibility cloak, marking a notable advancement in this area of study. The researchers claim that this cloak can effectively counter external influences while retaining invisibility under changing conditions. The significant progress lies in the manipulation of tunable metasurfaces, which allows for the control of scattering patterns across both space and frequency domains through spatiotemporal modulation.
- [Invisibility isn't science fiction; it's interesting engineering.](#) Various techniques exist for achieving invisibility, all based on the fundamental principle that objects become visible when they interact with light. However, it's possible to manipulate light in such a way that it does not interact with an object, rendering it invisible.
- [Invisibility, once only imaginable in science fiction, is now a potential reality in engineering.](#) Recent strides in optical engineering have brought this concept closer to practical application, promising intriguing possibilities for invisible technology.. Outside the realm of speculative fiction, invisibility holds significant promise for real-world applications spanning various fields. From military operations requiring stealth capabilities to biomedical imaging relying on non-invasive methods, the practical uses of invisibility are extensive. As highlighted by Yang Ho in a piece for The Conversation, the benefits of invisibility extend to areas like computing and energy harvesting, emphasizing its diverse importance in modern engineering pursuits.
- [Invisibility cloak: China scientists create material that could make objects invisible on radar.](#) Inspired by the legendary Chimera, a group of scientists from Jilin and Tsinghua Universities in China has creatively combined traits from the chameleon, glass frog, and bearded dragon to devise a hybrid material. This material, designed with the goal of creating an invisibility cloak, is anticipated to be undetectable across various wavelengths, including microwave, visible light, and infrared frequencies. Featured in the prestigious Proceedings of the National Academy of Sciences, the research introduces a bionics-inspired method that tackles the shortcomings of existing camouflage technologies, which frequently struggle across different landscapes. The researchers explain, "Our study moves camouflage technologies from fixed scenarios to dynamic terrains, representing a significant leap towards innovative, adaptable electromagnetics capable of altering circuit configurations."

Disruptive Technology Leads



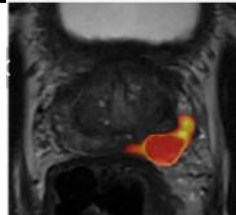
- [Future of Flight plan: One step closer to flying taxis.](#) The Future of Flight plan sets out a roadmap for flying taxis and novel electric aircraft in the UK and details how technology, once confined to sci-fi, could transform our skies. Studies estimate drone technology could boost the UK economy by £45bn by the end of the decade. It details plans for the first piloted flying taxi flight by 2026, regular services by 2028, regular drone deliveries across our skies by 2027, and demos of autonomous flying taxis without pilots on board by 2030 – transforming how people and goods are transported. The Future of Flight action plan contains measures to make drone applications and assessments easier by creating new and simple digital platforms that operators can use – ensuring companies and public services are no longer shackled by red tape and get drone technology up and flying quicker.
- [Overcoming Common Challenges to Disruptive Innovation.](#) It has been nearly three decades since Clay Christensen first introduced the concepts of disruptive innovation in his classic HBR article, “Disruptive Technologies: Catching the Wave,” followed by his seminal book, The Innovator’s Dilemma. While he initially defined disruption as an innovation or new technology that comes in at the low end of an existing market at a lower price and with some performance tradeoffs, Christensen eventually broadened the concept to include innovations with the potential to create a new market or reinvent an existing one.
- [Coeptis Therapeutics’ Dave Mehalick on the disruptive potential of SNAP-CAR technology for autoimmune diseases](#) Coeptis is a biopharmaceutical company developing innovative cell therapy platforms for cancer, autoimmune, and infectious diseases that have the potential to disrupt conventional treatment paradigms and improve patient outcomes. Coeptis is developing a universal, multi-antigen CAR T technology licensed from the University of Pittsburgh (SNAP-CAR), and the GEAR™ cell therapy and companion diagnostic platforms, which Coeptis is developing with VyGen-Bio and leading medical researchers at the Karolinska Institutet.
- [Understanding the Science Behind the Paper Tablet: reMarkable’s Disruptive Innovation](#) Diving into the world of reMarkable 2, the next-generation paper tablet, reveals a fascinating blend of technology and traditional paper-like experience. This device, designed to mimic the tactile sensation of writing on paper, stands out for its commitment to enhancing productivity, creativity, and focus. Let’s dive into the remarkable world (pun intended) of the remarkable tablet and explore its potential to transform your digital life.
- [Menta Exhibiting Reliable, Disruptive Tech at GOMACTech Conference.](#) Menta, a pioneer of eFPGAs and a leading company in semiconductor design, is continuing to consolidate its position in the US defense market and will be presenting its IP eFPGA technology, which are core configurable blocks with the ability to perform any logic function. Working on several projects in the military space and aeronautics sectors, Menta’s eFPGA IP technology is certified for these sectors, and the company benefits from numerous collaborations across the country, such as the two years ago partnership with TSS (Trusted Semiconductor Solutions).
- [Novel technologies for transforming wind turbine and power grid stability control.](#) The technologies overcome forced oscillations and grid frequency events, which can cause widespread disruption over entire power grids. Researchers from the University of Birmingham, U.K., are working on novel ways of preventing threats to grid stability that can result in the loss of power to millions of people, equipment damage and limit power transfer capability. With increasing reliance on renewables global installations of wind farms has increased rapidly. However, two major technological issues remain – power system frequency control and forced oscillations, which can cause widespread disruption over entire power grids.

Disruptive Technology Leads (Contd.)



- [China sees rise of humanoid robots as 'disruptive innovation' that will spur economic growth](#) Just months old, the Beijing Humanoid Robot Innovation Centre says it will release a humanoid robot body soon, but core components still appear out of reach amid tech war. In a nine-page document on the humanoid robot industry in November, the Ministry of Industry and Information Technology (MIIT) laid out goals involving innovation, technological breakthroughs and the safe supply of core components that will lead to the mass production of such robots in China. The ministry also said humanoid robots were on a path to becoming another type of "disruptive innovation", like computers, smartphones and new-energy vehicles have been.
- [Logitech's Future Positive Challenge in Search of Disruptive Carbon Reduction Solutions](#) Breakthrough, disruptive innovation is integral to advancing lower carbon impact technologies in the consumer electronics sector," said Prakash Arunkundrum, Chief Operating Officer at Logitech. "By harnessing a global community of entrepreneurs and changemakers who defy what is possible today, Logitech's Future Positive Challenge aims to reshape the way electronic devices will be manufactured in the future. Logitech continually seeks next-generation materials, components, and processes to accelerate its Design for Sustainability capabilities. Still, the solutions needed to further drive down carbon reductions are either not available at scale today or require investment to become the breakthroughs needed in the future.
- [TikTok-owners ByteDance scared of Sora's potential to disrupt technology, will refocus efforts on GenAI](#) After OpenAI released the video generator Sora, ByteDance admitted its in-house video motion control tool, Boximator, is still in its early stages and lacks image quality and fidelity. ByteDance's CEO, has laid out three goals for their AI endeavours this quarter: bolstering AI talent recruitment, refining organizational structure, and advancing fundamental research.
- [Novel technologies for transforming wind turbine and power grid stability control](#) The technologies overcome forced oscillations and grid frequency events, which can cause widespread disruption over entire power grids. Researchers from the University of Birmingham, U.K., are working on novel ways of preventing threats to grid stability that can result in the loss of power to millions of people, equipment damage and limit power transfer capability. With increasing reliance on renewables global installations of wind farms has increased rapidly. However two major technological issues remain – power system frequency control and forced oscillations, which can cause widespread disruption over entire power grids. Professor Xiao-Ping Zhang, Chair in Electrical Power Systems at Birmingham's Department of Electronic, Electrical and Systems Engineering, whose research focuses on developing of advanced technologies for smart grids, has developed technologies to overcome these challenges.
- [Explained: How D2M technology could disrupt the media landscape](#) A look at direct-to-mobile (D2M) technology, its pros and cons, and how it can benefit consumers and companies. We are busy watching our favourite show or movie on a streaming service on our smartphones when suddenly, the internet connection is disrupted. Whether we are travelling or trying to lull ourselves to sleep, such an experience isn't great. However, with the introduction of D2M (direct-to-mobile) technology across India, people will be able to access a variety of content on their smartphones without an internet connection. D2M makes use of advanced error-correction techniques and robust transmission methods to ensure reliable reception, even in areas with weak signals or high-mobility scenarios, according to a draft report by the Telecommunication Engineering Centre (TEC).

Advancement in AI



- [Generative AI Achieves Breakthroughs in Audio and Video Modalities.](#) OpenAI launched a new video-generation model dubbed Sora that can create realistic and imaginative scenes from text instructions. The text-to-video model allows users to generate up to one-minute-long photorealistic videos from written prompts.¹³ The model can also generate a video based on a still image and fill in missing frames on an existing video or extend it.¹⁴ Adobe unveiled Project Music GenAI Control, a versatile platform capable of creating audio from textual descriptions or a melody reference.¹⁵ Users can fine-tune key elements like tempo, intensity, patterns, and overall structure, all within their workflow. Users can also extend tracks to any length, enabling remixes or endless, seamless loops.¹⁶ Updates about OpenAI's existing models include financial services firm Klarna's AI chatbot assistant, handling 2.3 million conversations in its first month, the equivalent of 700 full-time agents.
- [AI and IP Law: A Shifting Legal Landscape Amid Groundbreaking Technology Advancement](#) Artificial Intelligence ("AI") technology has rapidly embedded itself into business and popular culture. The sudden pace of advancement has given rise to new legal concerns in the field of intellectual property law, which faces a litany of new legal tests. Join our attorney panel as they explore issues related to AI and intellectual property law through a comprehensive view of recent cases and guidance from the USPTO and administrative bodies. Topics will include:
- [The Future Of Global AI Governance: A Kenyan Perspective](#) The pioneering resolution marks an unprecedented commitment to embedding human rights at the core of AI development, deployment, and use. It signifies a crucial step toward ensuring that the rapid advancement of AI technologies aligns with fundamental principles of respect, protection, and promotion of human rights worldwide.
- [Can Autonomous AI Help Reduce Prostate MRI Workloads Without Affecting Quality?](#) The use of an autonomous artificial intelligence (AI) model for clinically significant prostate cancer (csPCa) detection on magnetic resonance imaging (MRI) demonstrated better accuracy than radiologist readers at three different centers, a finding that could significantly alleviate increasing prostate MRI worklist volume, according to research presented recently at the European Congress of Radiology. The researchers employed a non-inferiority specificity margin of -0.05 to calculate accuracy with the AI assistance pathway whereas radiologist accuracy was determined by comparing their PI-RADS 4 and higher assessments with biopsy findings.
- [UN adopts global AI resolution to ensure 'safe, secure and trustworthy' AI advancement](#) The UNGA has requested member states and stakeholders to refrain from deploying AI in manners inconsistent with international human rights laws. It also acknowledged the varying technological advancements across countries and called for efforts to bridge this development gap. Sections of the eight-page document call for raising awareness, strengthening investments, safeguarding privacy, ensuring transparency, and addressing diversity issues around AI.
- [AWS and NVIDIA Extend Collaboration to Advance Generative AI Innovation](#) As customers move quickly to implement AI in their organizations, they need to know that their data is being handled securely throughout their training workflow. The security of model weights—the parameters that a model learns during training that are critical for its ability to make predictions—is paramount to protecting customers' intellectual property, preventing tampering with models, and maintaining model integrity.

IP News



- [BeiGene sues Sandoz and MSN for Brukinsa patent infringement.](#) Sino-American biotech BeiGene (Nasdaq: BGNE) on March 8 disclosed in stock exchange announcement that it has filed patent infringement suits under the Hatch-Waxman Act against the US subsidiary of Swiss firm Sandoz (SIX: SDZ) and separately against Indian-owned companies MSN Pharmaceuticals and MSN Laboratories Private in the US District Court for the District of New Jersey.
- [Patent \(Amendment\) Rules, 2024: Key Changes.](#) The Ministry of Commerce and Industry has, on March 15, 2024, notified the Patents (Amendment) Rules, 2024 to amend the Patents Rules, 2003 ("Amended Rules"), making significant changes to Indian patent practice and procedure.
- [Akebia defends anaemia drug patents at EPO amid huge Fibrogen battle](#) Akebia Therapeutics has successfully defended two patents integral to a drug used to treat anaemia resulting from chronic kidney disease. The result is part of a wider dispute between the biotechnology company and Fibrogen, with the two currently involved in litigation in the UK patent courts. Biotechnology company Akebia has successfully combatted attempts to invalidate two patents at the European Patent Office. Opponents Fibrogen and Sandoz mounted the challenge, amid a wider litigation battle involving multiple patents for anaemia drugs. EP 3 277 270 and EP 3 357 911 both cover Vafseo, a drug which uses active ingredient vadadustat. This is an HIF-prolyl hydroxylase inhibitor for the treatment of chronic kidney disease (CKD) in adults.
- [Hero Motocorp patents new Vida e-scooter design.](#) Hero MotoCorp has filed a design patent for a new electric scooter. The images reveal a more conventional-looking e-scooter. The new model could be based on the same platform as the Vida V1. It has a large front apron with a V-shaped headlamp and a flat seat. The new e-scooter appears to be designed with the cost-conscious buyer in mind. It has a more basic suspension setup with a leading link at the front and a conventional shock absorber at the rear. While technical details of the new model are still unclear, reports suggest that it might use the same electric motor as the Vida V1. It could be powered by a fixed battery pack instead of the removable type offered in the Vida V1.
- [Fujifilm Files Patent Infringement Lawsuit Against Eastman Kodak Company.](#) FUJIFILM North America Corporation, Graphic Communication Division today announced that FUJIFILM Corporation filed a patent infringement lawsuit against Eastman Kodak Company (NYSE: KODK) in the United States District Court for the District of New Jersey. Fujifilm has asserted four patents (U.S. Patent Nos. 10,427,443, 10,525,696, 10,875,346, and 11,294,279) pertaining to various aspects of processless lithographic printing plate technologies, including method and apparatus claims. Fujifilm is seeking remedies including damages and injunctive relief related to Eastman Kodak's unauthorized commercial manufacture, use, offer to sell, or sale within the United States, and/or importation of its processless lithographic printing plate products that infringe the four asserted patents, including those sold under the product name "SONORA X" and the brand umbrella name "SONORA XTRA".

IP News (Contd.)



[Puma Biotech's lawsuit against AstraZeneca progresses](#) In a significant development, the legal battle between Puma Biotechnology Inc. (NASDAQ: NASDAQ:PBYI) and AstraZeneca (NASDAQ: NASDAQ:AZN) over alleged patent infringement has seen recent court decisions. The dispute centers around the accusation that AstraZeneca's cancer drug Tagrisso® infringes on two patents held by Puma Biotech. The patents in question, United States Patent Nos. 10,603,314 and 10,596,162, relate to treatments for non-small cell lung cancer resistant to certain drugs. Puma Biotech claims that AstraZeneca's manufacture and sale of Tagrisso® infringe these patents. Puma is an exclusive licensee under the Pfizer Agreement, which includes the '314 and '162 patents..

[The battle over EV tire tech: Hyosung and Kolon clash in U.S. patent dispute](#) Hyosung Advanced Materials and Kolon Industries, two leading South Korean chemical and textile manufacturing companies, are embroiled in a patent infringement lawsuit in the U.S. The conflict revolves around the alleged infringement of core technologies related to next-generation tire cords for electric vehicles, a flagship product for both companies in the tire cord market.

[Easter surprise as Brødrene Hartmann files claim over egg packaging patent](#) Egg carton manufacturer Brødrene Hartmann has filed a lawsuit against Omnipac at the UPC, shortly before Easter. The Danish company accuses its German competitor of infringing a patent on a new type of sealing technology for egg cartons. But this is not the first time that the two opponents have faced each other in court..

[Seoul Semiconductor Initiates Patent Infringement Lawsuit against Amazon in Europe](#) Seoul Semiconductor announced on March 5 that it has filed a patent lawsuit against global retailer Amazon in the Unified Patent Court in Europe seeking a ban on the sale of infringing products. Seoul Semiconductor and its affiliates have obtained 15 injunctions against infringing manufacturers and sellers in the United States, Germany, France, and the Netherlands over the past five years, but it has been cumbersome to file lawsuits in each of these countries. However, the opening of the Unified Patent Court in Europe in June 2023 which has general jurisdiction over European patent litigation has enabled Seoul Semiconductor to simultaneously ban the sale of infringing products distributed throughout Europe with one single lawsuit. This is because an injunction and damages judgment from a court under the jurisdiction of the Unified Patent Court

[Hypertherm wins major patent infringement case against Changzhou Termmei](#) Hypertherm Associates won a court case in China's Superior Court against Changzhou Termmei, a Chinese consumables manufacturer, for copying two of its patents, resulting in a large settlement. The five-year legal battle confirmed that TRM had been selling Hypertherm plasma patent-infringing aftermarket consumables since 2011. Despite numerous patents held by Hypertherm Associates in China and continuous warnings, TRM refused to stop its infringing activities until compelled by a Chinese court. Following the discovery of TRM's infringement of two core Hypertherm Associates patents, the Suzhou IP Court initially granted Hypertherm Associates a modest damages sum.

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