EffectUal Services

Intelligence That Matters

Monthly Newsletter from Effectual Services

Dear Readers,

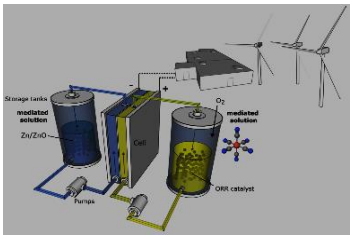
Welcome to NewsEffect – September 2023

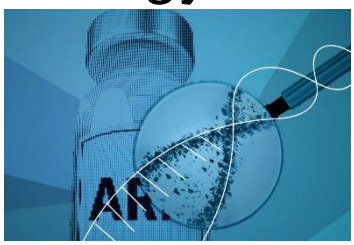
Newsletter Contents

Nanotechnology

- Nanotechnology Market is projected to witness heightened revenue of US$ 33.63 billion by 2030 with a high CAGR of 36.4%. The global nanotechnology market size was valued at $1.76 billion in 2020, and is projected to reach $33.63 billion by 2030, registering a CAGR of 36.4% from 2021 to 2030. Nanoscience and nanotechnology involve the study of nanoparticles and devices, which find their application across all the science fields such as chemical, bio-medical, mechanics, and material science among others. Nanotechnology market encompasses the production and application of physical, chemical, and biological systems and devices at scales ranging from individual atoms or molecules to around 100 nanometers.
- Use of Nanorobotics in the Treatment Therapy of Cancer Nanorobots, a subtype of nanotechnology, refers to the field of robotics that involves designing and creating extremely small robots or machines at the nanoscale, having applications in the aspects of medicine, industry, and other areas. This article published via DMIMS School of Epidemiology and Public Health provides an outline of the technological development of nanotechnology in medicine by making a nanorobot and introducing it in the medication of cancer as a new mode of drug delivery. It is believed that cancer treatment is most likely the driving force behind the creation of nanorobotics. It can be auspiciously treated using existing medical technology and therapeutic instruments, with the major help of nanorobotics. The nanorobotic devices working at the cellular and molecular level would help the doctors to carry out precise treatment.
- Advancements in nanotechnology and their impact across multiple areas of human health. Active nanotech-based research from China has yielded several new advancements with wide-ranging applications. Newly developed nanosensors can be used to detect toxic environmental pollutants, such as chromium; novel medical technologies can be leveraged to allow point-of-care testing for clinical diagnosis and drug analysis. The article describes about various nanotechnology research that has found applications in many fields, like nanodots to detect environmental chromium, nanozymes which are small artificial enzymes. These nanozymes caused a color change in the presence of a particular drug, and the intensity of the color change reflected the concentration of the drug.
- Advancement in Electronics due to the transition of carbon nanotube transistors from the laboratory to the commercial market. An assistant Professor at MIT and his team, analyzed and improved the deposition technique used to make the CNFETs (carbon nanotube field-effect transistors). This new technique could not only increase the numbers in production but also decrease the cost of production. This method of deposition of nanotubes is known as incubation, where a wafer is completely soaked in a bath of nanotubes until the nanotubes bind to the surface of the wafer. The article shows that CNFETs can be manufactured in a larger quantity and can be an energy-efficient option when compared to silicon field-effect transistors, which would eventually benefit the electronics industry.

Disruptive Technology Leads



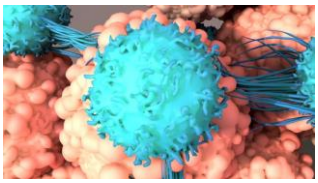

- ImageBiposy and Radiobotics partner to develop AI-assisted diagnostics. According to ImageBiopsy Lab and Radiobotics, their AI-assisted technology will support disease diagnosis in musculoskeletal, orthopaedic, and trauma use cases. The technology is expected to reduce the manual interpretation of X-rays and MRI images, thereby increasing efficiency. The technology will analyse imaging and conduct any measurement and scoring to help in interpretation and reduce manual load. It could also help with fracture detection workflow.

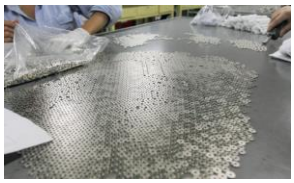
- ReZilient - Redox-mediated hybrid zinc-air flow batteries for more resilient integrated power systems Flow batteries have the potential to provide scalable, long-duration energy storage solutions that can effectively tackle the grid resiliency challenges. However, innovative chemistries and flow system designs are essential to maximize the potential of these solutions in meeting our future energy storage demands efficiently and sustainably. The goal of ReZilient is to fill the gap between short-term EES and long-term fuel storage by developing and demonstrating at TRL 4 (lab-scale) a completely new zinc-air flow battery technology. A disruptive redox-mediated strategy for enhanced charge transfer processes is employed with the goal of confining the Zn/Zn2+ redox reaction in the negative reservoir (filled with a semi-solid zinc solution) and eliminating the electroplating process inside the cell (no dendrites) to improve battery lifetime. This will allow discharge times beyond days, contrary to conventional zinc-based batteries where long discharge is hampered by the formation of a cm-thick zinc anode. The technology has disruptive potential in terms of both extremely low levelized-cost-of-storage, extended storage time, recyclability, and use of non-critical-raw-materials. A pilot concept design of the cell will be conceived after demonstration of the technology. The output of this design will lead to an update of the business case of the distribution network operators and potential customers.

- Dyadic and bYoRNA Collaborate on Production of mRNA The companies plan on targeting the production of abundant, low-cost messenger RNA from C1-cells. Dyadic International, a biotechnology company that builds microbial platforms, announced a collaboration with bYoRNA SAS, a French biotechnology company developing scalable mRNA bioproduction platforms. The development and commercialization agreement the companies have entered into includes work on disruptive bioproduction technologies to use the therapeutic potential of messenger RNA (mRNA). Companies combining bYoRNA's novel eukaryotic 'bio' RNA platform with Dyadic's industrially proven C1 protein production platform

- Disruptive technology for seafood traceability makes ORIVO a Responsible Seafood Innovation Award finalist Norway-based company's NMR spectroscopy technology is raising the bar for seafood traceability and transparency standards. ORIVO – a company that offers a unique science-based testing and certification service for the global feed and supplement industry. Based on laboratory testing, ORIVO provides verified origin (species and geographic origin), verified production process (organic versus non-organic) and verified specific feed formulations (algae, insect protein, etc.). The analysis technique is powerful in terms of sensitivity, yet able to avoid false positive test results which have been troubling DNA analysis for decades. ORIVO's technology offers what other existing traceability mechanisms currently do not: irrefutable, scientific verification.

Disruptive Technology Leads (Contd.)



- Pinpoint Precision for CAR-T Cell Therapy With Nanoneedles. The research is developing a breakthrough technology to solve a long-standing challenge in biomedicine: how to inject genetic materials into cell interiors with much greater precision but without damaging the cells' intricate structure. Our team develops tiny (nano) needles of specific dimensions to deliver genetic materials such as DNA into cells, giving them powerful new properties – including such functions as attacking specific cancer cells. These advances will have major potential as a platform for novel cell-based therapies for conditions that until now have eluded medical science or for which current therapies are too slow and costly to be viable. The target markets for these technologies are all comparatively young and still very open to disruptive innovation that improves efficiency and or reduces costs.
- Disruptive technology play: the fulcrum of supply chain resilience and efficiency. Insulating supply chain operations from external shocks tops the priority of all supply chain management companies. As a result, the conventional framework of supply chain is increasingly making way for digitally-enabled architecture equipped with smart technologies such as artificial intelligence (AI), machine learning, big data, Internet of Things (IoT), cloud systems, data sciences, etc. The core agenda driving the smart technology adoption is three-pronged –to build predictive capabilities, enhance operational effectiveness and boost capacity to manage a higher volume of cargo.
- Birmingham scientists partner with CoTec to develop disruptive technologies for mineral extraction. The Birmingham Centre for Strategic Elements and Critical Materials (BCSECM) at the University of Birmingham is partnering with Canadian CoTec (TSXV: CTH) to identify and commercialize disruptive technologies related to the critical mineral extraction industry. HyProMag's recycling technology was originally developed by materials scientists at the university and is based upon the patented process – hydrogen processing of magnet scrap (HPMS) – allowing extraction of rare earth magnets from scrap and redundant equipment.
- Disruptive Technologies Shaping The Future Of Media And Communication. One of the most disruptive technologies in the media and communication industry is artificial intelligence (AI) and machine learning (ML). AI-powered algorithms are revolutionising content creation, curation, and personalisation. Automated content generation systems can produce news articles, reports, and even video content at an unprecedented speed and scale. ML algorithms enable media organisations to analyse vast amounts of data, identify patterns, and make data-driven decisions regarding content strategy, audience targeting, and monetization.
- Disruptive Innovation at DPHARM: WCG Deploys AI to Deliver Efficient, Safe, and Impactful Clinical Research. WCG, the global leader in providing solutions that measurably improve and accelerate clinical research, will share how to safely use artificial intelligence to advance clinical trials, as presented by Paul Mancinellli, PhD, WCG's Chief Technology Officer, at the 13 annual DPHARM conference taking place in Boston, MA, September 20 – 22, 2023.
- Birmingham scientists partner with CoTec to develop disruptive technologies for mineral extraction The Birmingham Centre for Strategic Elements and Critical Materials (BCSECM) at the University of Birmingham is partnering with Canadian CoTec (TSXV: CTH) to identify and commercialize disruptive technologies related to the critical mineral extraction industry. The partnership will focus on potential opportunities to bring the university's low-carbon, disruptive technologies in the mineral extraction industry to market,

Advancement in AI




- Decoding Women's Health: Artificial Intelligence Revolutionizes PCOS Diagnosis. Artificial intelligence (AI) and machine learning (ML) can effectively detect and diagnose Polycystic Ovary Syndrome (PCOS), which is the most common hormone disorder among women, typically between ages 15 and 45, according to a new study by the National Institutes of Health (NIH). Researchers systematically reviewed published scientific studies that used AI/ML to analyze data to diagnose and classify PCOS and found that AI/ML based programs were able to successfully detect PCOS.
- AI-Powered Audience Growth: How Esports Uses Artificial Intelligence To Connect With Fans. Stadiums filled to the max with legions of loyal fans. Global audiences in the millions. A multibillion-dollar economy. Full-ride university scholarships for top-performing athletes. Talent agents, managers and spotters on never-ending hunts. Celebrity endorsements in the billions. Today, esports, which commands only a relatively niche audience, is using advanced machine learning (ML) to help game development evolve into enhanced player experiences. Developers use AI across multiple touchpoints through the production process—from generating content to naturally responsive, fully animated nonplayer characters (NPCs)—to drive a new form of sports engagement.
- Apple's latest technological advancements: the integration of ai in new devices. Leading technology company Apple has unveiled its latest range of iPhones and the Apple Watch, introducing substantial improvements in user experience by integrating cutting-edge artificial intelligence (AI) technology. While Apple refrains from explicitly highlighting its AI features, these innovations are quietly reshaping the core software of its products. In contrast to some competitors, Apple's approach centers on enhancing fundamental functions, offering users greater convenience and accuracy in their daily activities.
- Artificial Intelligence in Healthcare: Advancements and Applications. With the growing advancements in artificial intelligence (AI), its applications in the healthcare industry have become increasingly prevalent. AI has proven to be a valuable tool in diagnosis, treatment, and overall patient care. The integration of AI technologies has the potential to revolutionize healthcare improving accuracy, efficiency, and patient outcomes. AI has made significant strides in medical imaging, particularly in the field of radiology. By analyzing medical images, AI algorithms can detect abnormalities, assist in early detection of diseases, and aid in treatment planning. The use of AI in radiology has shown promising results, with increased accuracy and reduced human error.
- How do ai and machine earning technologies improve learning experience. AI and ML Technologies: Due to the incorporation of artificial intelligence (AI) and machine learning (ML) technologies, the conventional educational system is about to undergo a revolutionary phase. These advancements have fundamentally altered how teachers and students both teach and learn, allowing for the creation of personalised learning experiences that are tailored to the needs and interests of each individual.
- Avant Technologies Reshaping Future of Supercomputing and AI with Disruptive Private Cloud Infrastructure. vant Technologies, Inc. (OTCQB: AVAI) ("Avant" or the "Company"), an artificial intelligence technology (AI) company specializing in creating and developing innovative and advanced AI solutions, today announced it's advancing the next generation of cloud supercomputing to meet the burgeoning AI industry's demands for more power and value. Avant's cloud supercomputing network has the potential to be the world's most powerful and cost-effective private cloud infrastructure.

IP News

- USPTO issues milestone 1 millionth design patent. The U.S. Patent and Trademark Office (USPTO) today officially issued U.S. design patent 1 million, an important milestone in American innovation and creativity. Granted to Agustina Huckaby of Fort Worth, Texas, design patent 1 million is for the ornamental design for a dispensing comb. Huckaby, a licensed cosmetologist, holds another patent for a different comb design and markets her business under the federally registered trademark Pomp and Powder.
- Above Food Corp. to Acquire AI-based Genomic Assets, Intellectual Property and Trait Development Technology Licensing Rights from NRGene. Above Food Corp. ("Above Food"), an innovative food company leveraging its vertically integrated supply chain to deliver differentiated ingredients and consumer products, and NRGene Technologies Ltd. (TASE: NRGN, "NRGene"), an Ag-Tech company engaged in research, development, commercialization of IP-intensive technologies and novel traits and varieties of crops and animals, announced today that they have entered into an asset-purchase agreement ("APA") pursuant to which Above Food will purchase certain AI-based genomic assets, intellectual property, and trait development technology licensing rights from NRGene (the "NRGene Acquisition").
- ElectroCore Expands Intellectual Property Portfolio for Non-Invasive Vagus Nerve Stimulation (nVNS) Technology. electroCore, Inc. (Nasdaq: ECOR), a commercial-stage bioelectronic medicine and wellness company, today announced the United States Patent and Trademark Office has issued a patent related to non-invasive nerve stimulation with mobile devices.
- Williams Mullen Expands Intellectual Property Section with Addition of R. Brian Drozd. Williams Mullen is pleased to announce that R. Brian Drozd has joined the firm as a partner in the Intellectual Property Section. Drozd is an electrical engineer whose practice involves creating and prosecuting both national and international patent applications across a spectrum of industries. He has represented various Fortune 500 companies in the technology industry, including those related to the automotive industry, RFID devices, software, scanners, mechanical, wireless communications, cameras, aerospace, power and hand tools, printers, banking (business method) sector and household appliances.
- IN8bio Strengthens Intellectual Property Portfolio with Newly Granted Global Patents. N8bio, Inc. (Nasdaq: INAB), a leading clinical-stage biopharmaceutical company focused on innovative gamma-delta T cell therapies, today announced significant updates to its foundational IP portfolio. The company was recently granted patents around the world that cover use of the combination of its proprietary DeltEx DRI platform with CAR-T and CPI's.
- Wolverine offloading Hush Puppies intellectual property in China, leathers business. Wolverine World Wide Inc. continues to transform its portfolio with the sale of its U.S. Wolverine Leathers business as well as a new agreement to sell the intellectual property of its Hush Puppies brand in parts of Asia. The roughly $58.8 million Hush Puppies deal, which is expected to close in the coming weeks, gives the brand trademarks, patents, copyrights and domains in China, Hong Kong and Macau to current sublicensee Beijing Jiaman Dress Co.

IP News (Contd.)

- FTC Issues Policy Statement on Brand Pharmaceutical Manufacturers' Improper Listing of Patents in the Food and Drug Administration's 'Orange Book' The Federal Trade Commission today issued a policy statement, supported by the U.S. Food and Drug Administration (FDA), warning pharmaceutical companies that make and sell brand-name drugs that they could face legal action if they improperly list patents in the FDA's catalog of "Approved Drug Products with Therapeutic Equivalence Evaluations," commonly known as the "Orange Book." Improperly listing patents in the Orange Book may harm competition from less expensive generic alternatives and keep prices artificially high, according to the policy statement. The FTC will scrutinize improper Orange Book patent listings as potential unfair methods of competition in violation of Section 5 of the FTC Act.
- Pfizer Ordered to Give Moderna Key Covid Vaccine-Making Details (Correct) Pfizer Inc. and BioNTech SE have until the end of the month to give ModernaTX Inc. key information on what it learned and when about critical details of Moderna's mRNA vaccine formulation that helped rein in the coronavirus pandemic. The judge's order to turn over the information is the latest development in Moderna's patent infringement suit against Pfizer and the German drug manufacturer, which have countersued. Moderna accuses them of infringing three patents covering its revolutionary mRNA vaccine technology used to create the Covid-19 vaccine. Both sides claim to have developed the technology..
- Applied Optoelectronics Filed Patent Infringement Lawsuit Against Molex Applied Optoelectronics, Inc. (Nasdaq: AAOI), a leading provider of fiber-optic access network products for the cable broadband, internet datacenter, telecom and fiber-to-the-home (FTTH) markets, today announced that it has filed a complaint for patent infringement against Molex, LLC (Molex). The complaint, filed yesterday, September 18, 2023 in the U.S. District Court for the Northern District of California, alleges that at least the Molex 100G QSFP28 PSM4 optical transceiver module infringes two of Applied Optoelectronic, Inc.'s (AOI) patents: U.S. Patent No. 9,523,826, entitled "Pluggable Optical Transceiver Module," which was issued on December 20, 2016, and U.S. Patent No. 10,466,432, entitled "High Speed Optical Transceiver Module," which was issued on November 5, 2019..
- United Therapeutics Corporation Files Lawsuit Alleging Infringement of Tyvaso Patent Already Found to Be Invalid by U.S. Patent Office Liquidia Corporation (NASDAQ: LQDA) (Liquidia or the Company), announced today that United Therapeutics Corporation (UTHR) filed a patent infringement action under the Hatch-Waxman Act in the U.S. District Court for the District of Delaware (District Court) asserting infringement of U.S. patent No. 10,716,793 ('793 patent) in response to Liquidia's amendment to add the PH-ILD indication to the tentatively approved New Drug Application (NDA) for YUTREPIA™ (treprostinil) inhalation powder. The '793 patent was previously found to be unpatentable by the PTAB in an inter partes review (IPR) in July 2022, a decision that was reaffirmed by the PTAB in February 2023.

GLANCE @ EFFECTUAL

GLOBAL LEGAL ASSOCIATION – 2023, AMSTERDAM

The second edition of Global Legal Association 2023 Conference was held from 04th-06th September, in Amsterdam, which bought together 300+ Law Firm Partners, Lawyers, In-House/Corporate Counsel, Investors, C Level Executives, Directors & Heads of Legal Departments, Policy Makers, stakeholders, Legal Service Providers & other Legal Professionals from all over the globe. The event marked a new beginning to a new line of business being operated under Effectual services.

NEXT EVENT – GLA 2024, DUBAI, UAE

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