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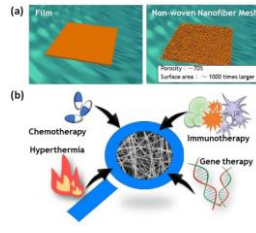
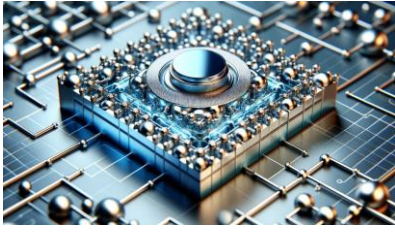
Dear Readers,

Welcome to **NewsEffect** –
January 2024

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Smart Materials



- [How smart nanofiber meshes can be used as a local drug delivery platform.](#) Polymeric nanofibers represent an exciting new material category, gaining substantial attention due to their exceptional characteristics, including a high specific surface area, pronounced porosity, strong molecular alignment, and nanoscale effects. Nanofibers also facilitate the convenient inclusion of various therapeutic molecules, enhancing drug loading capacity and supporting sustained release (Figure 1B). Moreover, manipulating polymeric fibers on a macroscopic scale opens up potential applications as implantable local drug delivery platforms. Recently, the scientific community has rekindled interest in expanding the repertoire of functional nanofibers for diverse applications. For instance, nanofibers with varied compositions can be prepared by electrospinning polymers blended with nanoparticles, carbon nanotubes, ceramics, biomolecules, and other substances.
- [Advances in Piezoelectric Composites Allow Harnessing and Interpretation of Kinetic Energy.](#) Piezoelectric materials allow for us to harness kinetic energy, by transforming force into an electric charge. First defined by the Curie brothers in 1880, Piezoelectricity has become a fundamental principle exploited in modern technology. *Boreas Technologies* showcased an innovative product in the realm of robotics, specifically its “Boréas Solid-State Piezo Haptic Buttons.” This product is described as representing a significant advancement in haptic technology, utilizing piezoelectric materials to create a more tactile and responsive user experience. *Goertek Inc.* also made a splash with a diverse range of products at the event. Among its offerings were advancements in automotive electronics, including an in-vehicle center console incorporating piezoelectric tactile feedback technology
- [Smart Bandages Set to Revolutionize Wound-care Technolog.](#) Conventional wound dressings have the benefits of an established practice, are well understood how to apply and manage, and are low-cost. But they have some well-known drawbacks, as well. Cotton gauze can dry the wound, stick to the wound, and then cause pain and damage upon removal. Smart bandages aim to create an ideal healing environment, which keeps the wound moist, prevents infection, aids in drainage, reduces odor, and provides comfort. Advanced materials include polymers, bio-active additives, antimicrobials, and multi-layers. Research and development are working toward multifunctional smart bandages with polymers, medications, stimulation, sensors, and real-time feedback to address the challenges of healing chronic wounds like diabetic ulcers.
- [Innovative wearables offer glimpse into continuous, unobtrusive health monitoring.](#) Advancements in noninvasive skin sensors, such as epidermal electronics, offer insights by capturing fluids and providing unique physical properties, enabling more sophisticated sensing beyond traditional methods. These sensors include biochemical and biophysical capabilities, allowing the measurement of markers like cortisol as well as insights into physiological stresses. Translating these innovations from the lab to clinical or home use faces challenges which may be categorized into (1) material and interface, (2) integration, and (3) adoption-related challenges. Widespread adoption of these innovations hinges on materials compatible with smart interfaces, skin renewal, and seamless integration into healthcare systems.

Disruptive Technology Leads



- [Google's SVP of research, technology and society: People understand that AI will disrupt their lives—but they hope it's for the better. We must not let them down](#) AI also offers new ways to address pressing societal challenges—whether it's helping us diagnose and improve health outcomes or mitigate and adapt to climate change. For example, AI-enabled flood forecasting is now providing flood alerts to more than 80 countries and 472 million people. This is not going unnoticed by the general public. The results of forthcoming public opinion research Google conducted with Ipsos, spanning 17 countries, show that while respondents expect AI to disrupt work and life, they also believe that this disruption would overall be positive. These attitudes are most pronounced in countries in the Global South—but come with heightened expectations that those countries will be involved in AI's development and use and benefit from its transformational potential.
- [Top health-tech innovations we're following in 2024](#) Global and individual health care is experiencing disruption through a variety of technologies. Building disruptive technologies is at the core of what we do, and since our inception, the University of Waterloo has also been disrupting the boundaries of health. Vital Bio, a startup incubated at Velocity, has unveiled the VitalOne, a desktop-sized blood diagnostics device capable of running comprehensive tests on small blood samples in just 20 minutes. The device won the Disruptive Technology Award at the American Association for Clinical Chemistry conference. Co-founder and CEO Vasu Nadella envisions the VitalOne transforming diagnostics, making them ubiquitous and enabling new forms of care delivery. The device offers easy-to-use blood diagnostics, providing results in real-time and potentially facilitating immediate health interventions. The company aims to revolutionize routine diagnostics, aligning with its vision of achieving impactful success in patients' health lives and the health-care system
- [Creative Disruption and Innovation Contest – 2024 growth and resilience dialogue](#) GRD (Growth and Resilience Dialogue) 2024 desires to recognise and celebrate young adults, ages 18-40, who are worthy of the distinction of being called a creative disruptor and innovator. The objective is to reward creative disruptors and innovators whose ideas and works have disrupted or have the potential to disrupt the status quo for the betterment of their communities.
- [Cell-based meat impact: Study says farmers identify a "competitive edge" over bioreactor meat](#) Amid the cultured meat advancements worldwide, scientists in the UK have investigated the opinion of groups that the technology has impacted the most — farmers. The two-year study will examine farmers' attitudes to cultured meat, potential opportunities and risks and how it could affect UK agriculture if production is scaled up. "They have shared insights that we would not have known about or appreciated without involving farmers in a meaningful way. To ensure disruptive technologies like cultured meat are developed ethically and responsibly, it is essential that we engage with, and include, farmers in the research process." The research, published in the journal *Frontiers in Sustainable Food Systems*, reports the views of UK farmers about this "potentially disruptive" technology and is being conducted by the University of Lincoln and Royal Agricultural University (RAU), UK.
- [Disruptive Concepts: Ten Predictions for 2024](#) 2024's Most Disruptive Innovations" — Dive into the world of tomorrow with our captivating exploration of the top ten disruptive concepts set to redefine 2024. From the wonders of AI personal assistants and quantum computing breakthroughs to the revolutionary shifts in autonomous vehicles and green energy, we delve deep into the innovations poised to transform our lives. Uncover how advancements in telemedicine, neural interfaces, and blockchain technology are reshaping industries, while 3D printing, VR/AR in education, and biotech breakthroughs promise a future filled with unimaginable possibilities.

Advancement in AI



- [Shifting megatrends: Electric air taxis and generative AI named driving forces of travel.](#) Collaborating with innovation partners, 86% of airlines are spearheading advancements in AI, machine learning, and computer vision. With 39% already implementing these technologies and another 47% slated to do so by the end of 2026, the aviation industry is currently in a transformative state. Only 3% of airlines stated having no plans to invest in AI technologies. Looking at airports, 16% of airports already use AI and ML for improved decision-making, with another 51% confirming plans to implement such solutions by the end of 2026.
- [ExecOnline Partners with AWS Generative AI Innovation Center for Leadership Development Advancements.](#) ExecOnline, the pioneer of online leadership development, announced its collaboration with the Amazon Web Services (AWS) Generative AI Innovation Center (GenAIIC), a \$100 million program to help AWS customers develop and implement generative artificial intelligence (Gen AI) solutions. This collaboration marks a significant milestone in the EdTech space. ExecOnline will use Amazon generative AI technologies, including Amazon Bedrock, and leverage the expertise of the AWS GenAIIC to develop an innovative B2B virtual assistant.
- [Intel's AI-Centric Advances: Impact on CPUs and Cloud Services.](#) In a landscape increasingly dominated by the artificial intelligence (AI) revolution, semiconductor giant Intel has strategically positioned itself at the forefront. This strategic move is evident in their latest offerings, such as the Meteor Lake CPUs, which go beyond traditional processing capabilities. These CPUs feature built-in hardware specifically designed for local AI inference workloads in the PC market. Notably, functions like background blurring in video conferencing can be offloaded to dedicated AI hardware. This not only enhances user experiences but also optimizes the CPU and GPU for other processing tasks, resulting in a faster overall performance and improved battery life for devices.
- [Intel Launches Enterprise GenAI Company: Articul8.](#) Intel and DigitalBridge, a global investment firm, launched an independent generative artificial intelligence (GenAI) company named Articul8. The platform offers enterprise customers a full-stack, vertically-optimized, secure GenAI platform. Customers have the flexibility to choose between cloud, on-premises, or hybrid deployment options. Articul8 offers a turnkey solution for enterprise customers looking to simplify their workflows while keeping data within the enterprise security perimeter. Articul8 is powered by Intel Xeon Scalable processors and Intel Gaudi accelerators.
- [IBM-SAP Partnership Drives AI Advancements in Retail Sector.](#) IBM and SAP, both leaders in their respective fields, have a rich history of collaboration that spans several decades. Their partnership has been characterized by a shared vision of leveraging technology to drive business transformation. Over the years, these two tech giants have successfully integrated IBM's cutting-edge AI and data platforms, like IBM Watson, into SAP's robust solutions, enhancing enterprise capabilities across various sectors. This new venture in AI is a natural progression of this long-standing collaboration, promising to bring transformative solutions to the forefront of the consumer industry.
- [Rapid rise of AI requires HR pros to fine-tune hiring practices.](#) As if hiring and retaining skilled employees was not challenging enough during the pandemic and Great Resignation, companies now must integrate human talent needs with the coming automation boom. More than half of HR professionals anticipate that artificial intelligence will create new roles within their organization in the near future. according to new research from SHL, an HR technology and psychometric science company.

IP News



• [U.S. District Court Issues Decision on REGENXBIO and University of Pennsylvania NAV® Technology Patent Infringement Lawsuit](#)

ROCKVILLE, Md., Jan. 8, 2024 /PRNewswire/ -- REGENXBIO Inc. (Nasdaq: RGNX) today announced the U.S. District Court for the District of Delaware granted Sarepta Therapeutics, Inc. (Sarepta) summary judgment on invalidity in a patent infringement suit arising from Sarepta's manufacture and use of cultured host cell technology covered by a University of Pennsylvania (Penn) patent that Sarepta uses to make clinical and commercial supplies of SRP-9001 (also known as ELEVIDYS in the U.S.), for itself and Roche, for the treatment of Duchenne muscular dystrophy. REGENXBIO intends to file an immediate appeal.

• [Sale of generic versions of cancer drug stops as Delhi HC prohibits patent infringement.](#)

NEW DELHI: Sale of generic versions of cancer medication Ibrutinib, used to treat leukaemia, has been blocked across the country, denying patients access to affordable therapy. The Delhi high court recently passed an injunction against six domestic companies Natco Pharma, Hetero, BDR Pharma, Shilpa Medicare, Alkem and Laurus Labs from marketing generic versions. The order was passed on grounds of an infringement of the drug's patent. The Ibrutinib patent is held by Pharmacyclics, a subsidiary of US firm AbbVie, while the drug is marketed in the country by Johnson & Johnson, an Indian affiliate of Janssen Biotech..

• [Hyperice Expands IP Enforcement Action, Files Percussion Patent Infringement Lawsuits Against Sharper Image, HoMedics, Ekryn Athletics, and Over a Dozen Others.](#)

IRVINE, Calif.--(BUSINESS WIRE)--Hyperice, a high-performance wellness brand and innovator of percussion, dynamic air compression, thermal, vibration, and contrast therapy technology, filed 16 additional lawsuits in Federal Court on Tuesday, January 16th, 2024 against Sharper Image, HoMedics, Ekryn Athletics, and more than a dozen others, including retailers CVS, Costco, Walgreens and Kohl's, related to the sale of percussive massage guns, alleging infringement of Hyperice's patented percussion massage technology.

• [Eagle Pharmaceuticals Provides Update on Bendamustine Intellectual Property Portfolio.](#)

WOODCLIFF LAKE, N.J., Jan. 18, 2024 (GLOBE NEWSWIRE) --Eagle Pharmaceuticals, Inc. (Nasdaq: EGRX) ("Eagle" or the "Company") today provided an update on its bendamustine intellectual property portfolio.. On January 16, 2024, the United States Court of Appeals for the Federal Circuit affirmed the previously announced decision by the United States District Court for the District of Delaware finding that the 505(b)(2) drug applications referencing BELRAPZO® filed by Slayback Pharma Limited Liability Company ("Slayback")¹ and Apotex Inc. and Apotex Corp. ("Apotex") did not infringe Eagle's previously issued '483 patent. Slayback, Apotex, and Baxter Healthcare Corporation ("Baxter") launched their respective products in December of 2022.

IP News (Contd.)



[Epic accused of patent infringement](#) SynKloud Technologies filed the lawsuit in the Western District of Wisconsin, alleging that Epic's MyChart uses similar software as the one listed in its U.S. patent No. 8,856,383, according to the Jan. 17 suit obtained by Becker's. Specifically, SynKloud Technologies states that Epic has infringed on the patent by creating, having others create, using, selling and offering for sale their MyChart product. The accusation also includes situations where Epic tests its products or provides cloud-based hosting services to healthcare providers.

[US PTO voids Seagen's ADC patent infringement claims against Daiichi](#). The decision invalidates all claims of patent infringement, which has been central in litigation of breast cancer drug Enhertu. Daiichi Sankyo scored a patent battle win against Seagen when the US Patent and Trademark Office (PTO) invalidated all claims of infringement on Seagen's patent for an antibody drug conjugate (ADC) linker technology. The ruling was delivered in a post-grant review (PGR) proceeding after Daiichi issued a challenge against Seagen in December 2020 for patent number 10,808,039, which covers Seagen's technology involving auristatin compounds attached to antibodies using various linker molecules. The petition was granted in April 2022. Both Seagen and Daiichi have been leaders in the ADC space in recent years. The most recent event is a twist in the long-running patent dispute between the two global companies, and comes after Pfizer's \$43bn takeover of Seagen, which concluded last month.

[Google is facing a \\$7bn patent infringement case because of its AI, accused of stealing key tech](#) In what could be the largest-ever patent infringement case in US history, Google is set to appear before a federal jury in Boston on Tuesday in a case filed by Singular Computing, related to processors Google used in its AI technology. Google is set to appear before a federal jury in Boston on Tuesday, facing accusations of patent infringement related to processors used in its Artificial Intelligence technology. Singular Computing, founded by computer scientist Joseph Bates, alleges that Google copied his technology to power AI features in prominent products such as Google Search, Gmail, and Google Translate. According to court filings, Singular Computing is seeking up to \$7 billion in monetary damages, surpassing the record for the largest-ever patent infringement award in US history.

[South Korea To Launch Patent Infringement Probe Into China-Made Smartphone Battery](#). Seoul: South Korea's trade commission said on Thursday that it will launch a probe into alleged patent infringement involving a China-made smartphone battery and battery material. South Korea's trade commission to probe alleged patent infringement involving a China-made smartphone battery and NCM811 cathode material. Investigations underway. The Korea Trade Commission (KTC) stated that it plans to investigate whether the patent for LG Chem Ltd.'s cathode material, utilized in battery production and known as NCM811, was infringed upon by three Chinese firms and a local importer. The material is a mixture of nickel, cobalt, and manganese, used to enhance the power capacity of batteries, as reported by Yonhap news agency.

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Effectual's New Website Launched on January 22nd 2024

We are thrilled to formally announce the launch after months of diligent labor and commitment. The new website can be accessed at www.effectualservices.com

With this new website, we hope to make it easier for our visitors to learn about [Effectual Services](http://www.effectualservices.com) and solutions and to give them the freedom to peruse information as they see fit. Better access to information about About Us, Our Research & Consulting expertise, Technology Verticals We Deal With, and Industries We Operate in is provided by the new dynamic website. The homepage of our website contains helpful information about our services for both present and potential clients. The projects we have finished and the value that was produced for each client will be described in the Case Studies and articles.

Inclusion of social media links to encourage better client communication has been seamlessly embedded. We will be adding useful material, articles, blogs, newsletters, business announcements, and client triumphs on a regular basis to our content.

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