

NEWSEFFECT

INNOVATION FRONTIER

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January' 25



Our Company's Growth & Success in 2024

We have been honored as the "IP Service Provider of the Year" at the 4th IP Excellence Awards & Global IP Conclave 2024, hosted by ASSOCHAM (The Associated Chambers of Commerce and Industry of India) in Delhi, India.

We have been recognized as one of the Top 10 Pharma IPR Consultants 2024 by India Pharma Outlook

Content

- AI ADVANCEMENTS
- DISRUPTIVE TECHNOLOGIES
- IP INSIGHTS
- IP NEWS
- TECHNOLOGY THEME



AI ADVANCEMENTS



New AI Tool Identifies Risk of Future Heart Failure

In a new study led by Yale School of Medicine's Cardiovascular Data Science (CarDS) Lab, researchers developed an artificial intelligence (AI) tool that can identify individuals at high risk of developing heart failure using electrocardiogram (ECG) images. The new tool enables earlier identification of heart failure, potentially reducing hospitalizations and premature death, the researchers said.

AI Transforming diagnosis through artificial intelligence

- AI-driven algorithms, using machine learning (ML) and deep learning (DL), assist clinicians in diagnosis, treatment, and predicting patient outcomes.
- These technologies aim to improve diagnostic accuracy and speed.
- Despite their potential, the real-world impact of AI in healthcare remains poorly understood.
- This gap in knowledge is referred to as the 'AI chasm' in healthcare.



Classrooms of the Future

The use of artificial intelligence allows teachers and students to focus on their core goals of teaching and learning while making education more dynamic, inclusive and effective

AI ADVANCEMENTS



Perplexity debuts AI assistant on Android to challenge Alexa, ChatGPT.

AI startup Perplexity launched an agent-based assistant for Android devices on Thursday as it looks to take on larger rival OpenAI's ChatGPT and incumbent assistants such as Apple's Siri and Amazon's Alexa. The Nvidia and Jeff Bezos-backed company said the tool, known as Perplexity Assistant, can book dinner reservations, hail rides on apps and set reminders, among other actions. It is available in 15 languages on Google's Play Store.

Smarter Schools: AI Enters the District Office.

- Artificial Intelligence can transform operations by speeding up processes, creating efficiencies, and easing tasks for administrators and educators.
- AI augments human judgment, not replaces it.
- It provides tools to handle routine tasks quickly and accurately.
- This allows educators to focus more on what matters most: students.



DeepSeek says its Janus Pro AI model beats rivals in image generation.

The company said its Janus-Pro-7B AI model outperformed OpenAI's DALL-E 3 and Stability AI's Stable Diffusion in a leaderboard ranking for image generation using text prompts.

AI ADVANCEMENTS



Azerbaijan is using AI for its sustainable energy transformation. Here's how.

Azerbaijan is leading AI-driven energy innovation, aiming to enhance efficiency, sustainability, and grid optimization.

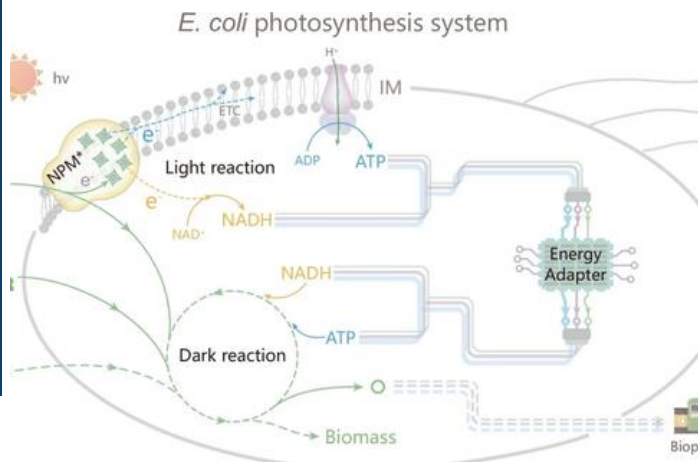
Public-private collaboration and partnerships with research institutions can speed AI integration, supporting a more sustainable energy future. The country's focus on renewables further opens opportunities for AI advancements.

ISKCON Launches Transcend 2.0 – Integrates Artificial Intelligence with Spiritual Insights.

- The Bhaktivedanta Book Trust (BBT) launched Transcend 2.0, an enhanced e-library app.
- The new version features Transcend AI, offering AI-powered spiritual guidance based on Srila Prabhupada's teachings.
- Transcend 2.0 brings spiritual wisdom into the digital age, meeting global demand for accurate spiritual literature and Indian wisdom.



DISRUPTIVE TECHNOLOGIES



'Very important step': Chinese scientists turn E coli into a photosynthetic life form.

Chinese scientists engineered *E. coli* to harness sunlight like plants by incorporating an artificial photosynthetic system. This allows the bacteria to use sunlight and CO₂ to produce chemicals like acetone. The breakthrough, published in *Nature Communications* on January 2, could significantly reduce carbon footprints in industry and agriculture, offering a path to transform non-photosynthetic microbes into photosynthetic life forms.

China turns CO₂ into oxygen on space station.

- Astronauts on China's Tiangong space station used artificial photosynthesis to convert CO₂ and water into life-sustaining materials.
- The process mimics plant photosynthesis to generate oxygen and organic compounds, supporting long-term space missions.
- The experiment, conducted on January 18 in the Mengtian module, uses a semiconductor catalyst to break down CO₂ and water.

- The system captures astronauts' exhaled CO₂, converting it into breathable oxygen, and can produce methane or formic acid for fuel and food.
- NASA's MOXIE experiment on Mars is exploring similar technologies for future manned missions.



DISRUPTIVE TECHNOLOGIES



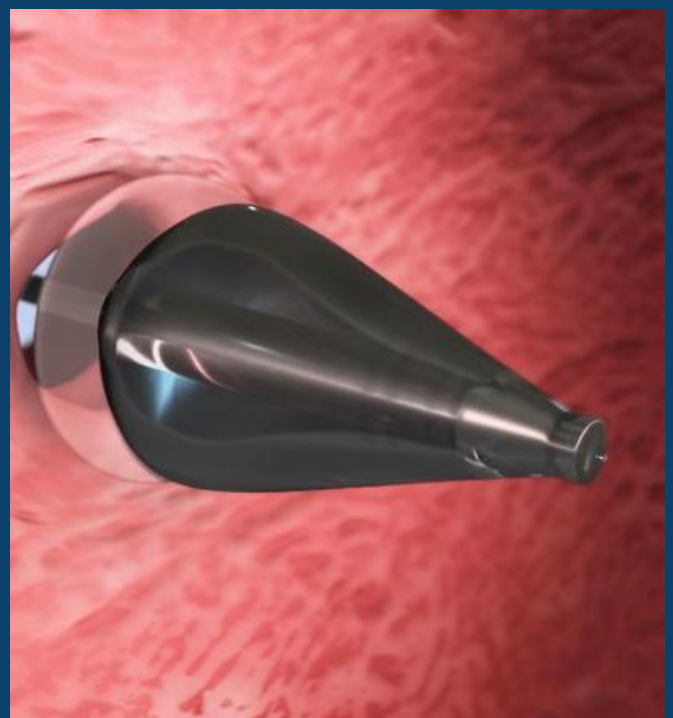
Grown from bacteria and yeast, BioHybrid gaming device evolves, adapts, and biodegrades

The BioHybrid Device is a video game controller grown using SCOBY (bacteria and yeast), integrating sensors and conductive elements during natural growth. Designed with biofabrication, it highlights the potential for sustainable, interactive tech that evolves, adapts, and biodegrades. While initially for gaming, it could inspire biofabricated devices in everyday life, from wearables to architectural components.

Light-activated ink developed to remotely control cardiac tissue to repair the heart

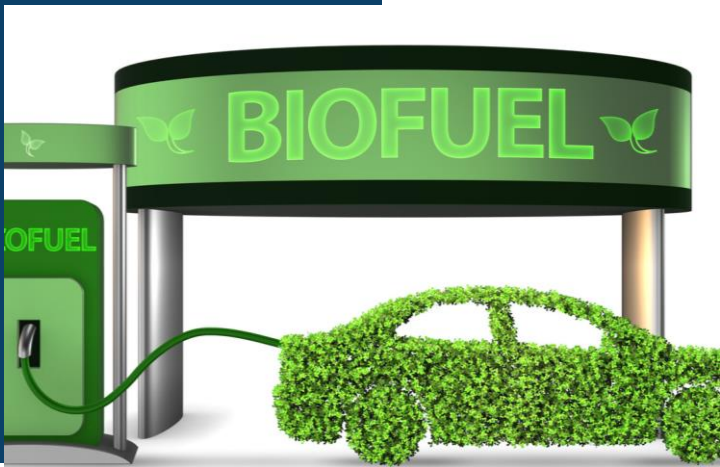
- Researchers developed a non-invasive method to manipulate cardiac tissue using light to stimulate an innovative ink in bioprinted tissue.
- The goal is to repair heart tissue using preclinical models, as shown in Science Advances.
- Bioprinted tissues, typically unable to generate electrical activity, can now be stimulated remotely by light using "optoelectronically active" ink.

- This approach eliminates the need for invasive wires and electrodes, reducing tissue damage.



IP INSIGHTS

on Biofuel Production from Agricultural Waste



What is Biofuels?

Biofuel is a fuel that is produced over a short time span from biomass, rather than by the very slow natural processes involved in the formation of fossil fuels such as oil. Biofuel can be produced from plants or from agricultural, domestic or industrial bio waste

What are the types of Biofuels?

There are various types of biofuels production-

- **Biodiesel:** It is a renewable and sustainable fuel produced from biological sources, such as vegetable oils and animal fats.
- **Renewable diesel (HVO):** This biofuel, which usually comes from used cooking oil, can be used as a complement to traditional fuel.
- **Biogas:** It is a type of renewable gas formed by the anaerobic decomposition of organic matter, such as agricultural waste, manure, food waste, and sewage.
- **Bioethanol:** It is a type of biofuel obtained through the fermentation of materials rich in sugars or starches, such as corn, sugar cane, sugar beet, and other food crops.
- **Biobutanol:** It is a type of biofuel obtained through the fermentation of organic materials, such as energy crops, agricultural waste, or even forest waste.
- **Biomethane:** A sustainable alternative to natural gas, it is known as the renewable gas whose origin comes from biogas.

IP INSIGHTS

on Biofuel Production from Agricultural Waste



What is the benefit of Production from Agricultural Waste?

In the U.S., 30-40% of food is wasted, contributing to greenhouse gas emissions from both production and decomposition. While states like Oregon, Washington, and Idaho are better at repurposing food waste, some dairy farmers are using anaerobic digesters to convert food waste and manure into biofuel, recovering energy and reducing emissions.

What are the applications of Biofuels?

- Transportation
- Generating Energy
- Provide Heat
- Charging Electronics
- Cleans Oil Spills and Grease
- Cooking
- Lubricates
- Helps in Removal of Paint and Adhesives
- Enables the Creation of Energy, in the Absence of Fossil Fuel
- Reduce Costs and the Need to Import Oil



Recent Technical Advancement in Biofuel Production from Agricultural Waste

- Co-digestion has boosted biomethane yields from agricultural waste, with notable results like 518.58 mL/g VS from corn stover and cattle dung, and 652 mL/g VS from banana peel and glycerol. This method enhances waste management, energy recovery, and provides digestate for fertilizer.
- Microalgal technology enables biodiesel production from agricultural waste, such as banana peel and sugarcane bagasse, as shown by Kakkad et al. (2015).
- The biofuel industry is diversifying feedstocks—like algae, waste oil, and residues—to reduce food crop competition and improve sustainability. Advanced biofuels, such as cellulosic ethanol and renewable diesel, offer better energy efficiency and lower emissions than first-gen biofuels.

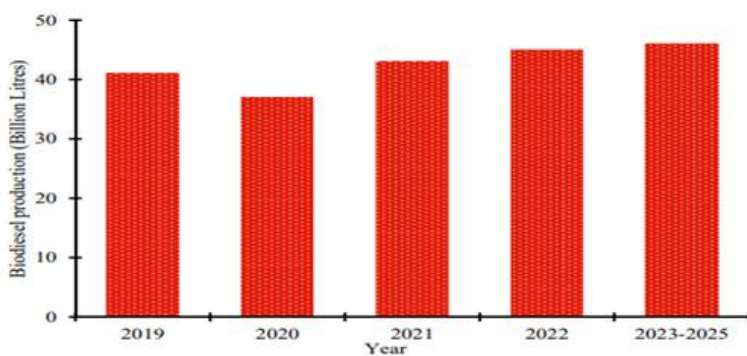
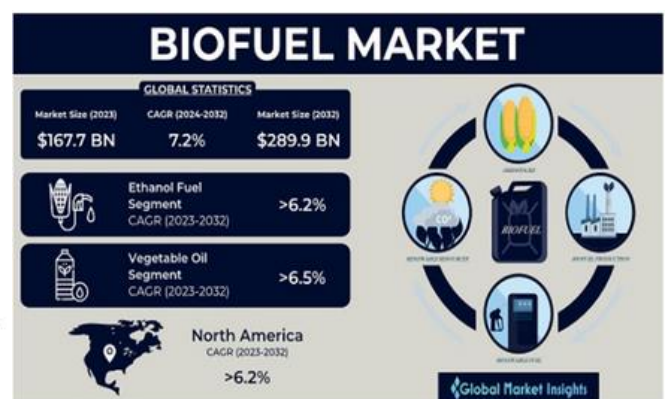


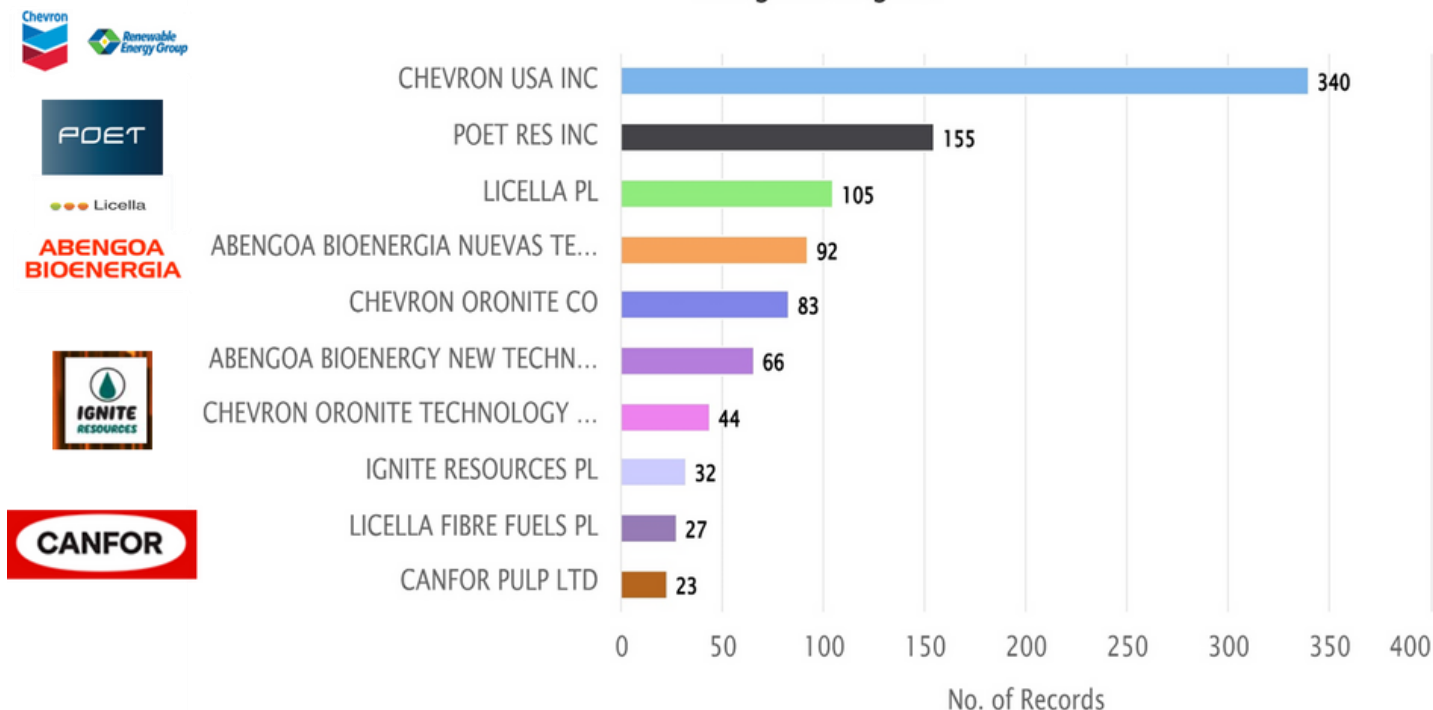
Figure 10. Global biodiesel production (Billion Litres).



IP INSIGHTS

on Biofuel Production from Agricultural Waste

Assignee Original



Key Players Working on Biofuel Production from Agricultural Waste

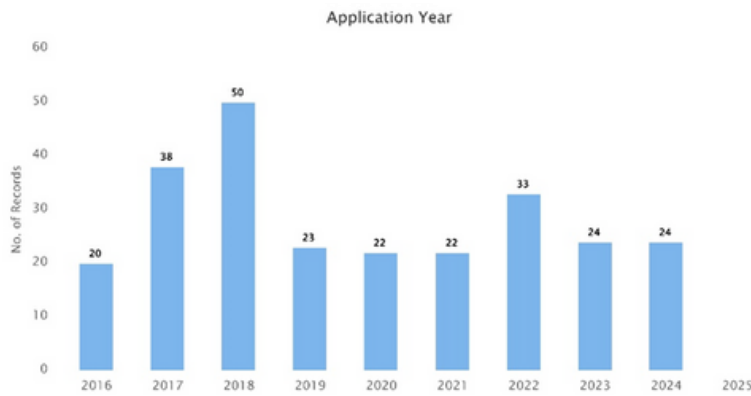
- During our analysis, we identified more than 50 assignees operating in the domain. The leading assignee, chevron holds the highest number of patents,.
- Another prominent assignee is POET. The company's patents mainly focus on biomass collection for production of ethanol. [EP2648498B1](#), A method for collecting biomass for ethanol production involves using a combine to harvest biomass, where a portion is forced to the ground and the rest forms bales. These bales contain mostly the second portion of biomass with a small amount of the first portion.

IP INSIGHTS

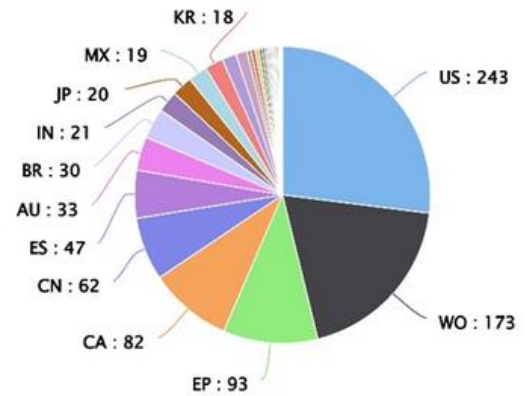
on Biofuel Production from Agricultural Waste

Trends on Biofuel Production from Agricultural Waste

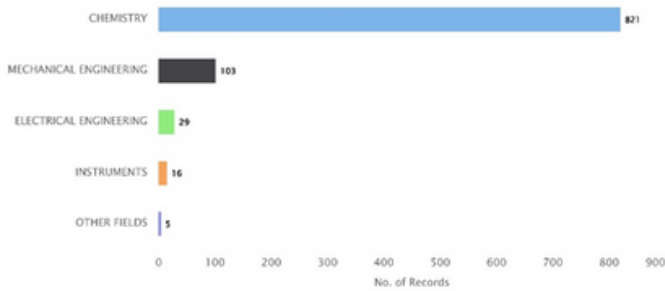
Patent Filing Year Trends (Last 10 years)



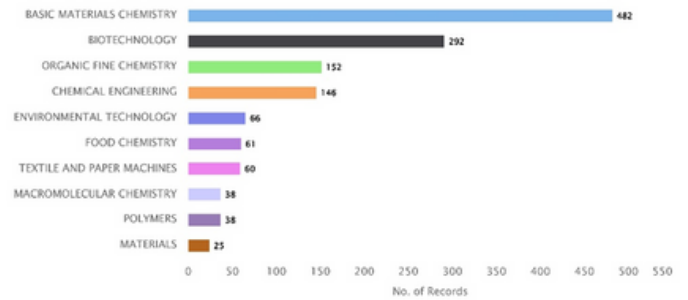
Publication Country



Tech Domain



Tech Sub Domain



- It has been observed that the maximum number of patent families have the filling year of 2018, followed by 2022.
- The maximum number of patent families were filed by the following Assignees CHEVRON.
- Chevron Renewable Energy Group operates 9 bio-refineries in the U.S. and Europe, producing 408 million gallons of biofuels in 2023, resulting in a 3.8 million metric ton carbon reduction. It is meeting the rising demand for lower-carbon fuels and driving a more sustainable future.
- The patent [ES2788378T3](#) discloses method for producing a purified biodiesel from a feedstock, comprising: a. extracting free fatty acids from said feedstock in a free fatty acid extraction process to produce a first refined feedstock and a fatty acid distillate.

IP NEWS

January' 2025

Adobe's new Gen AI tool can bulk edit 10,000 images with a click



- Adobe's new GenAI tools simplify photo editing with bulk image edits and one-click video translation.
- Features include a background removal tool that quickly removes and replaces backgrounds using Adobe Firefly AI.
- Image files can be uploaded from Dropbox, Adobe Experience Manager, or your PC and saved as PNG, JPG, and soon PSD.
- The resizing tool offers presets for social media and ad banners, using AI to stretch backgrounds to fit selected sizes.
- "Bulk Create" can process up to 10,000 image files at once.

<https://www.androidheadlines.com/2025/01/adobe-new-gen-ai-tool-can-bulk-edit-10000-images-with-a-click.html>

IP NEWS

January' 2025

USPTO announces new Artificial Intelligence Strategy to empower responsible implementation of innovation



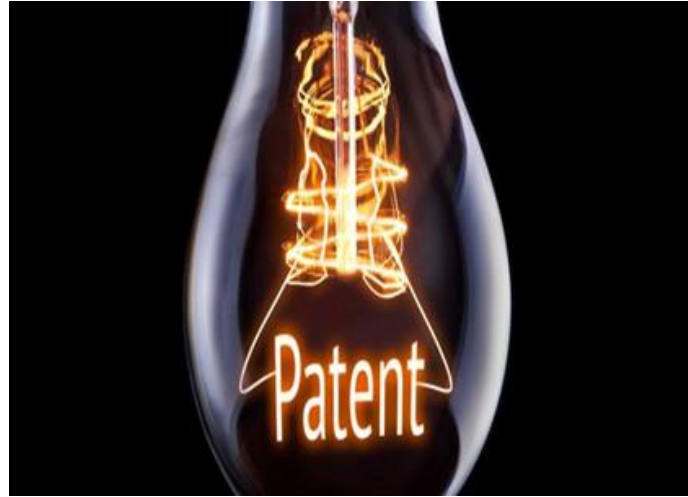
- The U.S. Patent and Trademark Office (USPTO) has launched a new AI Strategy to enhance its operations and foster responsible, inclusive AI innovation. The strategy aims to support the USPTO's mission, promote innovation, and ensure U.S. leadership in AI and intellectual property.
- Derrick Brent, Acting USPTO Director, emphasized the need to leverage AI's power while managing risks to advance innovation.
- **The strategy aims to achieve the USPTO's AI vision and mission through five focus areas which include:**
 - Advance the development of IP policies that promote inclusive AI innovation and creativity.
 - Build best-in-class AI capabilities by investing in computational infrastructure, data resources, and business-driven product development.
 - Promote the responsible use of AI within the USPTO and across the broader innovation ecosystem.
 - Develop AI expertise within the USPTO's workforce.

<https://www.uspto.gov/about-us/news-updates/uspto-announces-new-artificial-intelligence-strategy-empower-responsible>

IP NEWS

January' 2025

UK launches new patent search tool



- The UK's Intellectual Property Office is mothballing its old Ipsum service in favour of a more modern alternative with a raft of new functionality.
- The UK Intellectual Property Office launched One IPO Search on January 22, replacing the 13-year-old Ipsum service. The new tool aims to simplify and modernize patent searches, making it easier for businesses and innovators to access UK patent information.
- Aaron Cole of Ashurst highlighted that One IPO Search offers broader search functions, including by applicant, inventor, and status, while the old Ipsum system was limited to grant, publication, or application numbers, pushing users to non-UK platforms.
- One IPO Search offers user-friendly features, including keyword searches in everyday language, visual data analysis tools to spot market trends, and downloadable patent information for easy sharing.
- The IPO has also outlined future developments for One IPO Search. By the end of 2025, users will be able to save searches and receive patent notifications, while additional features, such as AI-assisted searching and integrated trade mark and design searches, are expected in 2026

IP NEWS

January' 2025

Did Disney steal Moana's story? Animator files \$10 billion lawsuit over alleged theft



- Buck Woodall has filed a \$10 billion lawsuit against Disney, claiming Moana copied his project Bucky. He alleges his work was shared with Disney by former Mandeville Films director Jenny Marchick. This follows a 2023 lawsuit dismissal and the success of Moana 2.
- Animator Buck Woodall has filed a \$10 billion lawsuit against Disney, claiming Moana and Moana 2 copied ideas from his 17-year project Bucky. The lawsuit, filed in California federal court, alleges Disney used key elements from Woodall's screenplay and trailer.
- Woodall's Bucky project, set in an ancient Polynesian village, follows teenagers protecting their homeland. He argues that the central plot and visuals in Moana closely resemble his work.
- Woodall claims he shared extensive intellectual property with Jenny Marchick, including the screenplay, character designs, animated trailer, and other materials for Bucky between 2003 and 2008. Marchick, former Mandeville Films director, now works at DreamWorks Animation.

IP NEWS

January' 2025

9th Circuit holds that law firm's conquering of competitor's trademark does not violate Lanham Act



- Trademark protection grants rights to the first user of a distinctive mark to distinguish their goods. (*B&B Hardware, Inc. v. Hargis Industries*, 575 U.S. 138, 142, 2015).
- The 9th U.S. Circuit Court's decision in *Lerner & Rowe PC v. Brown Engstrand & Shely LLC* (119 F.4th 711, 9th Cir. 2024) highlights the limits of trademark protection in online keyword searches under the Lanham Act.
- Accident Law Group ("ALG") is a personal injury law firm that was founded in 2015. It has nine lawyers who operate out of six offices, five of which are located in Arizona.
- Lerner & Rowe, founded in 2005, is a large Arizona-based personal injury firm with 19 offices and over 30 attorneys. It has invested over \$100 million in promoting its trademarked brand.
- ALG bought the "Lerner & Rowe" keyword on Google Ads, making its ad appear when users search for the larger competitor's name, a practice known as "conquering."
- The 9th Circuit ruled that ALG's use of Lerner & Rowe's trademark for Google Ads did not infringe the Lanham Act.

TECHNOLOGY THEME

Post-Quantum Cryptography



PQShield Participating in NEDO Program to Implement Post-Quantum Cryptography

PQShield has joined Japan's Cyber Research Consortium (CRC) to bolster defenses against quantum cyber threats. As part of the NEDO-funded K Program, PQShield will develop post-quantum cryptography (PQC) protocols for Japan's tech supply chain and contribute to global PQC standardization.

Infineon and BSI Achieve Post-Quantum Cryptography Certification

- Infineon Technologies, in partnership with BSI, achieved Common Criteria EAL6 certification for post-quantum cryptography in a security controller.
- This milestone enhances security for eSIMs, 5G SIMs, and smart cards against future quantum threats.
- The certification sets a new industry standard for quantum-safe digital security.
- Infineon highlights the urgency of adopting post-quantum cryptography to protect critical infrastructure.

QuSecure

Accenture Invests in QuSecure to Protect Against Future Quantum Threats with Crypto Agility

- Accenture Ventures invests in QuSecure for post-quantum cybersecurity.
- QuProtect provides quantum-resilient security for networks, cloud, and devices.
- Safeguards emails, e-commerce, and communications from future quantum threats.

TECHNOLOGY THEME

Post-Quantum Cryptography

The DigiCert logo is displayed in white lowercase letters on a blue background.

DigiCert Publishes PQC For Dummies, DigiCert Special Edition

DigiCert's PQC for Dummies explores quantum computing challenges and strategies for adopting post-quantum cryptography (PQC) to secure digital infrastructure. It highlights the need for quantum-safe encryption and tools for transitioning to quantum-resistant algorithms.

WISat.Space and SEALSQ Advance Secure Post-Quantum Transactions from Space

- WISat.Space and SEALSQ revealed a post-quantum blockchain security breakthrough at the World Economic Forum.
- Uses SEALCOIN tokens and advanced cryptography for secure transactions.
- Showcases the role of space tech in post-quantum security.
- To be featured at EmTech Invest 2025 in Davos.
- Solidifies both companies as leaders in quantum tech and blockchain security.



Palo Alto Networks Standardises Quantum Security

Palo Alto Networks has launched an open QRNG framework with six quantum firms to set industry standards for quantum-safe security. The framework, available on GitHub, will be integrated into the company's firewalls, using quantum-generated randomness for encryption. Partners include Anametric, ID Quantique, Quantinuum, Qrypt, Quantropi, and Quside.

GLANCE @EFFECTUAL



Global Legal Association and Global Finclave

Join us in Dubai this February for two exceptional events that will shape the future of law and finance.

First, attend the Global Legal Association Conference 2025 on February 3-4, where legal experts from around the world will gather to explore emerging trends and challenges in litigation. Participate in insightful panels, hands-on workshops, and valuable networking sessions designed to elevate your legal knowledge and foster global connections.

Then, on February 5, join us for the Global Finclave 2025, where leading minds in finance and fintech will converge to discuss groundbreaking technologies and strategies transforming the financial landscape. Engage with industry leaders, discover innovative ideas, and connect with professionals at the forefront of financial innovation.

Don't miss these two back-to-back events in Dubai, offering a unique opportunity to expand your expertise and network with professionals in both the legal and financial sectors.

GLANCE @EFFECTUAL



Global IP Academy

We are thrilled to announce that [Global IP Academy](#) has successfully completed the first batch of our Patent Analyst Training Program! This marks a significant achievement, and we are incredibly proud of our participants who are now equipped with the skills to excel in the world of Intellectual Property.

We are now accepting registrations for the second batch of our Patent Analyst Training Program. If you are looking to kickstart your career in IP, expand your knowledge, or make a career transition into this dynamic field, this is your chance to gain valuable insights and hands-on experience in patent analysis!

Additionally, we are excited to announce the launch of our new Trademark Analyst Training Program. Contact us today to reserve your spot and take the next step in your IP career. Visit the Global IP Academy website for more details and updates.



Effectual Launches a new website for high-quality patent, design, and trademark drawings.

Effectual Services is excited to introduce a brand-new website dedicated to Patent Drawing services. Patent drawings play a pivotal role in the patent application process, as they serve as a visual medium to clearly communicate the invention's structure, functionality, and design. Understanding the critical nature of these drawings, our specialized drawing team, backed by over two decades of expertise, has developed a cutting-edge platform tailored to overcome the industry's most pressing challenges.

This innovative platform not only streamlines the creation of precise and compliant patent drawings but also ensures they meet the high standards required for successful patent filings across jurisdictions. Whether it's utility patents, design patents, or complex technical schematics, our team is committed to delivering top-notch drawings that enhance the clarity and quality of your applications.

With user-friendly features, faster turnaround times, and an emphasis on detail, the new website aims to be a game-changer for inventors, law firms, and businesses alike. At Effectual Services, we strive to make the patenting process seamless and efficient, and this launch is another step toward that mission.

Click on the link below to know more:
https://thepatentdrawings.com/our_mission

GET IN TOUCH

The sum of human ingenuity and expertise that powers us.

Human interactions that drive innovation.



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