OCTOBER' 2026

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INNOVATION FRONTIER



Our Company's Growth &

SUCCESS IN 2026

We are incredibly proud to celebrate **Dr. Amit Goel**, Director at **Effectual Services**, on being featured in the **IAM Strategy 300** - The World's Leading IP Strategists 2026.

EffectUal Services
Intelligence That Matters

CONTENTS

AI Advancements

Disruptive Technologies

IP Insights

IP News

Technology Themes

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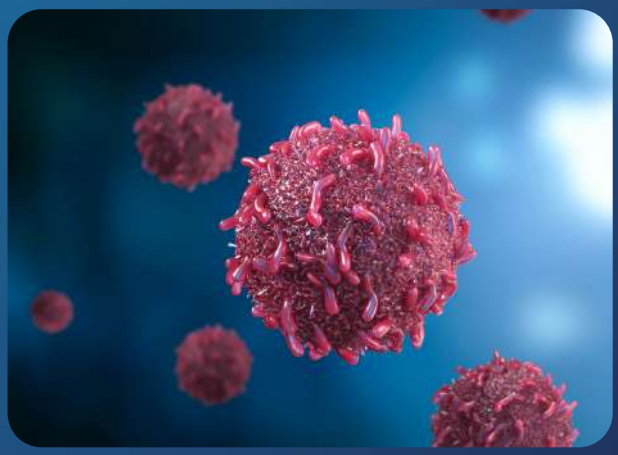
AI ADVANCEMENTS

New AI tool can predict cancer survival by a single patient selfie, study suggests

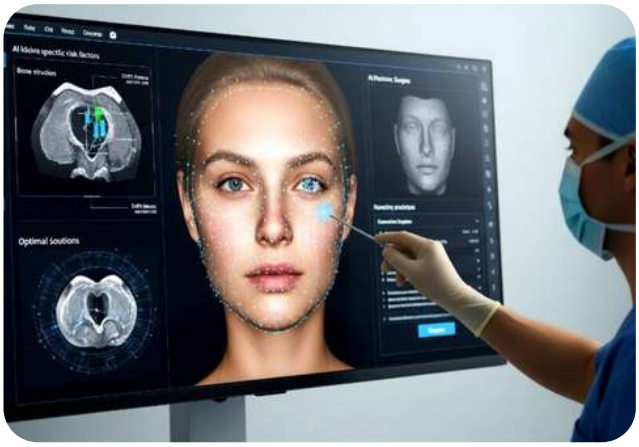
Developed by Mass General Brigham experts, the AI system analyzes selfies to estimate biological age and predict survival outcomes in cancer patients. Trained on over 40 million facial images spanning diverse ages and ethnicities, it represents a major advance in using AI-driven facial analysis to assess health and inform clinical care.





China's AI model predicts Bavi typhoon 108 hours earlier

According to China Daily, Niu Zeyi, an assistant researcher at the Shanghai Typhoon Institute, said increasingly unusual typhoon patterns are making forecasts more challenging. His team has developed a hybrid AI model combining machine learning with traditional weather forecasting to predict typhoon paths and intensity. The model accurately forecast Typhoon Bavi's trajectory 108 hours in advance, potentially enabling earlier disaster preparedness and more effective deployment of emergency resources.



AI helps tailor plastic surgery plans for patients at Norwood clinic

Advanced Cosmetic in Norwood is using artificial intelligence to help tailor procedures ranging from brow lifts and rhinoplasty to full facelifts, aiming for more personalized and natural-looking results. Doctors at Advanced Cosmetic Surgery and Laser Center are incorporating AI into patient consultations as part of what the practice describes as an education-focused approach.

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AI ADVANCEMENTS



Smart Farming Boosts Nitrogen Efficiency and Yields in Dryland Crop-Livestock Systems

Covering nearly 40% of the world's land and supporting around 700 million people, drylands face growing threats from erratic rainfall, soil degradation and nutrient depletion. A new review in Discover Agriculture highlights how AI, IoT and satellite remote sensing could make crop–livestock farming more productive, resilient and sustainable, provided barriers to adoption are addressed.

PepsiCo India expands AI and automation across farming, factories and supply chain.

PepsiCo India is scaling AI, data analytics and automation across its value chain, spanning agriculture, manufacturing, logistics and retail. Key initiatives include digitising potato procurement and farmer transactions, leveraging Cropin's satellite-based crop intelligence, introducing digital shop floors and deploying AI-powered tools to optimise transport and retail execution. The move aims to strengthen operational efficiency and digital capabilities from farm to market.





GhostX: AI meets filmmaking

GhostX is an India-built, AI-powered creative studio that brings script development, visual planning, production and editing into one workspace. Designed for filmmakers and creators, it helps turn ideas and scripts into screen-ready projects while streamlining creative decisions across characters, locations, performances, cinematography and sound—keeping creative control firmly in the hands of the creator.

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DISRUPTIVE TECHNOLOGIES

Robot AI predicts future scenes to guide its next moves

Researchers at Seoul National University have developed Dynin-Robotics, an AI model that enables robots to understand instructions, predict the outcomes of actions and adapt their movements accordingly. By combining language, images, video and action prediction, it helps robots perform tasks even when instructions are unfamiliar or indirect.





AI that reconstructs cloud-covered ground in satellite images with photo-like clarity

Researchers at KAIST have developed GeoCore-9B, an AI model that generates, restores and converts satellite images, including reconstructing cloud-obscured imagery and turning radar data into photo-like visuals. Trained on 10 million image-text pairs, the model could enhance disaster assessment, environmental monitoring and tracking of changes in forests, farmland and urban areas.



Researchers develop conversational AI for self-driving labs

Researchers at KRICT have developed HILO, an AI framework that combines human expertise with autonomous scientific experimentation. Using large language models and Bayesian optimization, it translates researchers' instructions into experimental guidance while detecting unreliable inputs and shifting to data-driven decisions when needed.

Optical intelligence could help communications systems read complex light patterns

Researchers at South Africa's University of the Witwatersrand have developed a light-powered neural network that identifies hidden information in complex light patterns without detailed imaging or heavy computing. By combining AI and physics, the system detects distortion-resistant features of structured light using specially designed optical layers and detectors.

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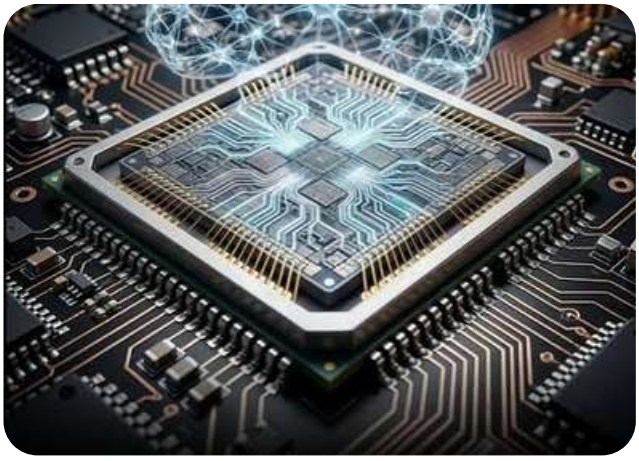
DISRUPTIVE TECHNOLOGIES

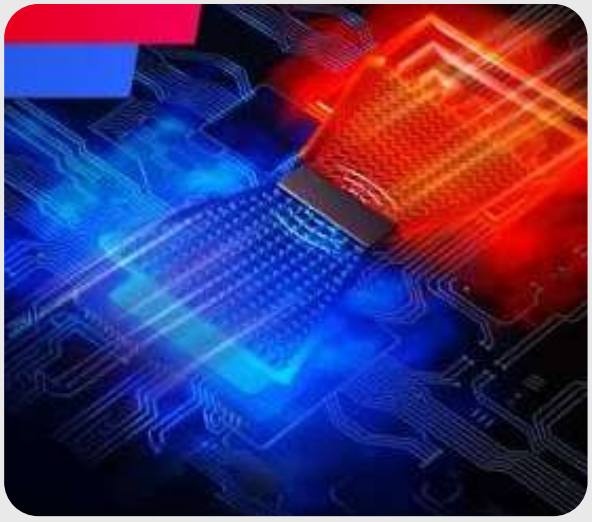


Building brain-inspired semiconductor chips for smarter, greener data centers

Researchers from the University of Ottawa, Columbia University and Hanyang University have reviewed emerging materials and chip architectures for neuromorphic computing, which mimics the brain's information processing. The technologies could overcome the traditional memory bottleneck, enabling faster, more energy-efficient AI chips and reducing power demands in data centres.

Self-cooling film for thermal management in AI-era electronic devices

Researchers at DGIST, led by Professor Seong Kyun Kim, have developed a flexible, adhesive cooling film that uses atmospheric moisture to cool electronic devices without electricity or an external water supply. Combining nanocellulose and moisture-absorbing organic ions, the film releases stored moisture through evaporation, reducing device temperatures while adhering safely to metal, semiconductor and glass surfaces.



Fingerprint authentication uses ultrasound without storing biometric information as digital data

Researchers at POSTECH in South Korea have developed an ultrasound-based fingerprint authentication system that uses acoustic patterns and AI to verify identities without storing fingerprint images or data. Achieving up to 97.92% accuracy in experiments, the technology could enhance biometric security and reduce the risk of fingerprint data theft.

Team develops embodied robotic arm 'EmArm' with human-like touch sensing

Researchers at HKUST have developed EmArm, an AI-powered robotic arm with integrated optical tactile sensors that enable it to sense touch, adjust its grip and avoid obstacles without visual input. It achieved up to 99.8% accuracy in recognizing five types of touch interactions, demonstrating reliable performance even under environmental interference.

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IP INSIGHTS

On Antigen-Specific Immune Tolerance Induction Technologies

What is antigen-specific immune tolerance?

- The development of tolerance to a specific antigen is defined as the capability of the immune system not to react to the specific antigen but still be able to respond to other antigens.

- Antigen-specific tolerance can be developed through various ways, for example, via energy, removal of reacting cells, and regulatory T-cell suppression**.**

What is antigen-specific immune tolerance induction technology?

- Technology for inducing immune tolerance to an antigen means techniques that involve teaching the body's immune system to be tolerant of a specific antigen, without suppressing the entire immune system.

    - **tolDC Therapy –** Modified dendritic cells.
    - **Treg Therapy –** Regulatory T-cell suppression.
    - **Nanoparticle Delivery –** Antigen delivery via nanoparticles.
    - **Peptide-Based Tolerance –** Antigen-specific peptides.
    - **DNA/RNA-Based Tolerance –** Genetic immune regulation.
    - **Liver-Targeted Delivery –** Liver-mediated tolerance.
    - **Tolerogenic Liposomes –** Lipid-based antigen delivery.
    - **CAR-Treg Therapy – E**ngineered regulatory T cells.
    - **Oral/Mucosal Tolerance –** Mucosal antigen exposure.
    - **B-Cell-Based Tolerance –** Modified B-cell therapy.

What are the applications of antigen-specific immune tolerance induction technologies?

- **Autoimmune diseases -**Type 1 diabetes, MS, rheumatoid arthritis.
- **Allergies -** Food and environmental allergies.
- **Organ transplantation -** Prevents graft rejection.
- **Gene therapy -** Reduces immune reactions to therapeutic proteins.
- **Hemophilia -** Induces tolerance to clotting factors.
- **Biologics -** Reduce anti-drug antibodies.
- **Cell therapy -** Improves therapeutic cell acceptance.
- **Inflammatory diseases -** Controls antigen-specific inflammation.

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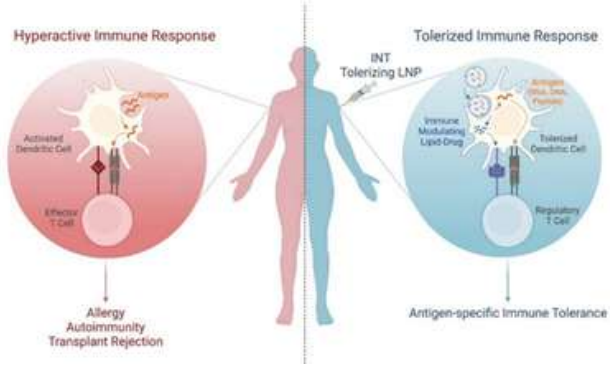
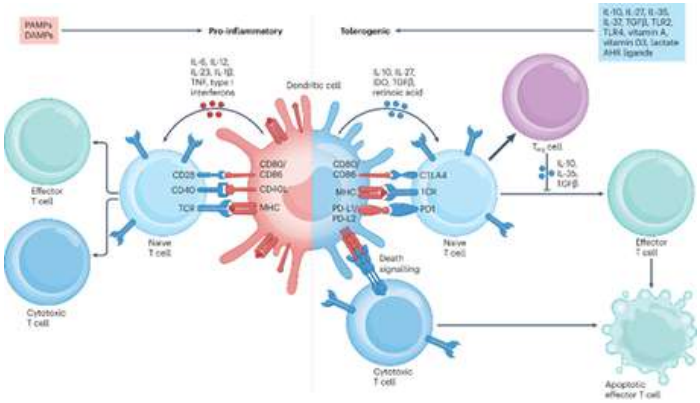
IP INSIGHTS

On Antigen-Specific Immune Tolerance Induction Technologies

What are the type of antigen delivery technologies for immune tolerance induction available?

- Nanoparticle-based delivery
- Liposomal delivery
- Polymer-based delivery
- Liver-targeted delivery
- Oral delivery
- Mucosal delivery
- Cell-based delivery
- Peptide-based delivery
- DNA/RNA-based delivery
- Microparticle-based delivery





Emerging advances in antigen-specific immune tolerance

1. Tolerogenic nanocarriers: Deliver rapamycin and allergen-specific peptides to induce targeted immune tolerance without triggering unwanted antibody production.

2. Peptide identification: APIPS technology identifies MHC-II-binding peptides to support the development of targeted autoimmune therapies.

3. Reverse micelle vaccines: Combine antigens and immunomodulatory drugs in lipid-based carriers to induce tolerance to food, environmental and autoimmune triggers.

4. ICAM-1-mediated tolerance: Placental cell studies suggest ICAM-1 may help regulate immune responses and maintain maternal–fetal tolerance.

5. Intravenous antigen tolerance: High-dose self-antigen administration can suppress disease-causing T cells, with IFN-γ, IL-27 and PD-L1 implicated in tolerance pathways in mouse models of multiple sclerosis.

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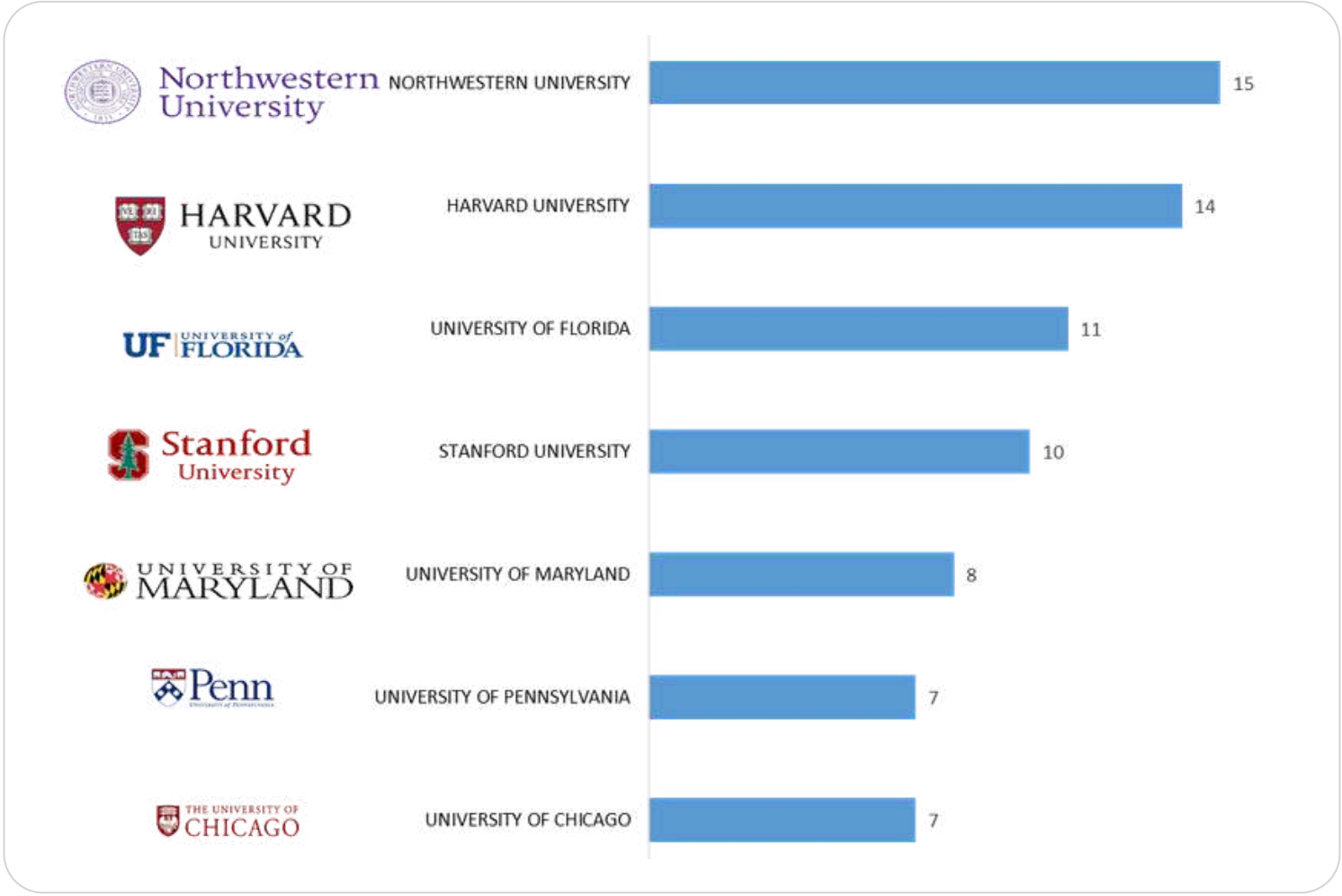
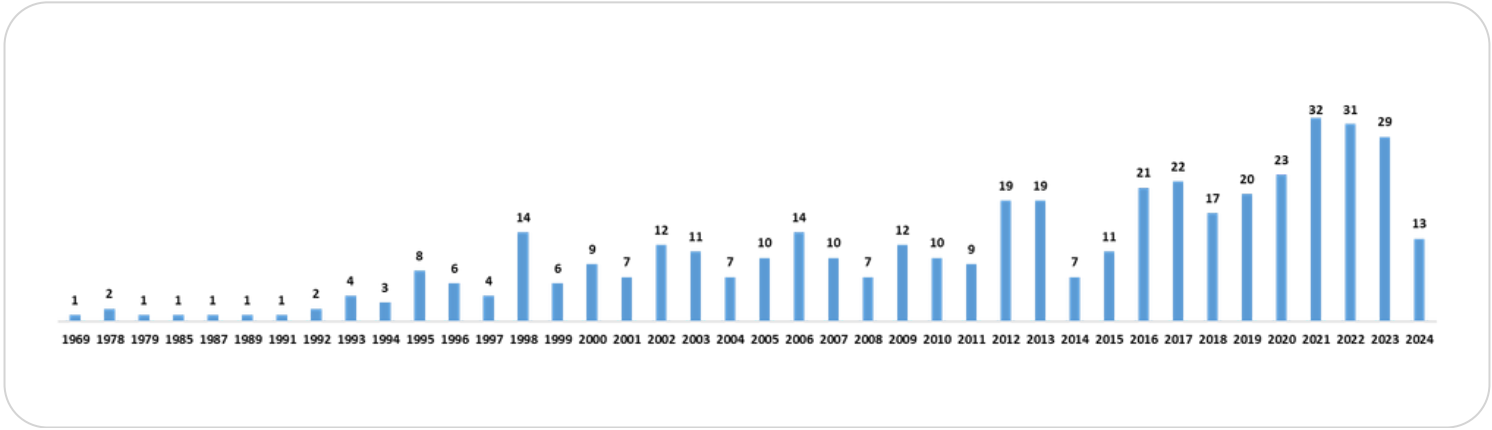
IP INSIGHTS

On Antigen-Specific Immune Tolerance Induction Technologies

Key Players Working on Antigen-Specific Immune Tolerance Induction Technologies



Patent Filing Year Trends



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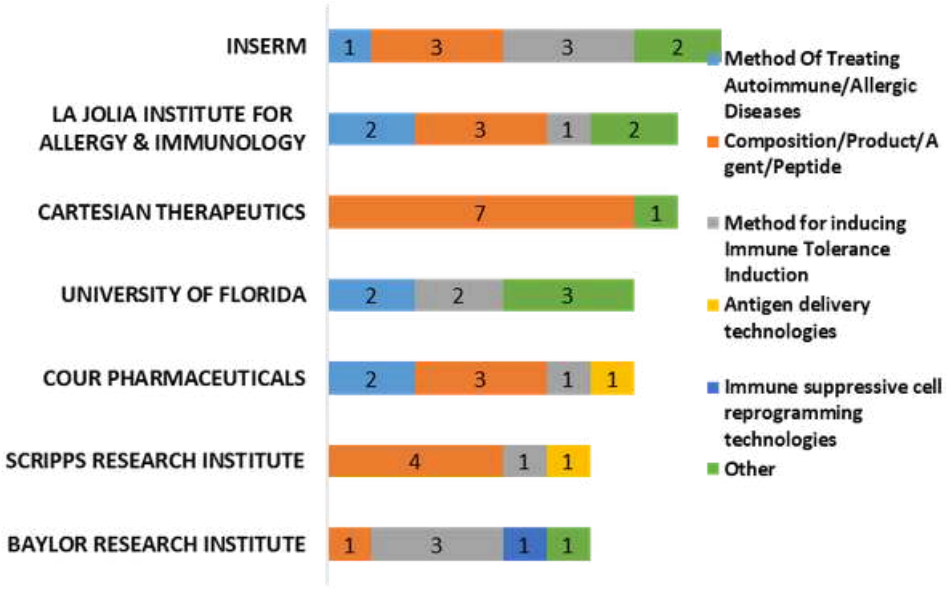
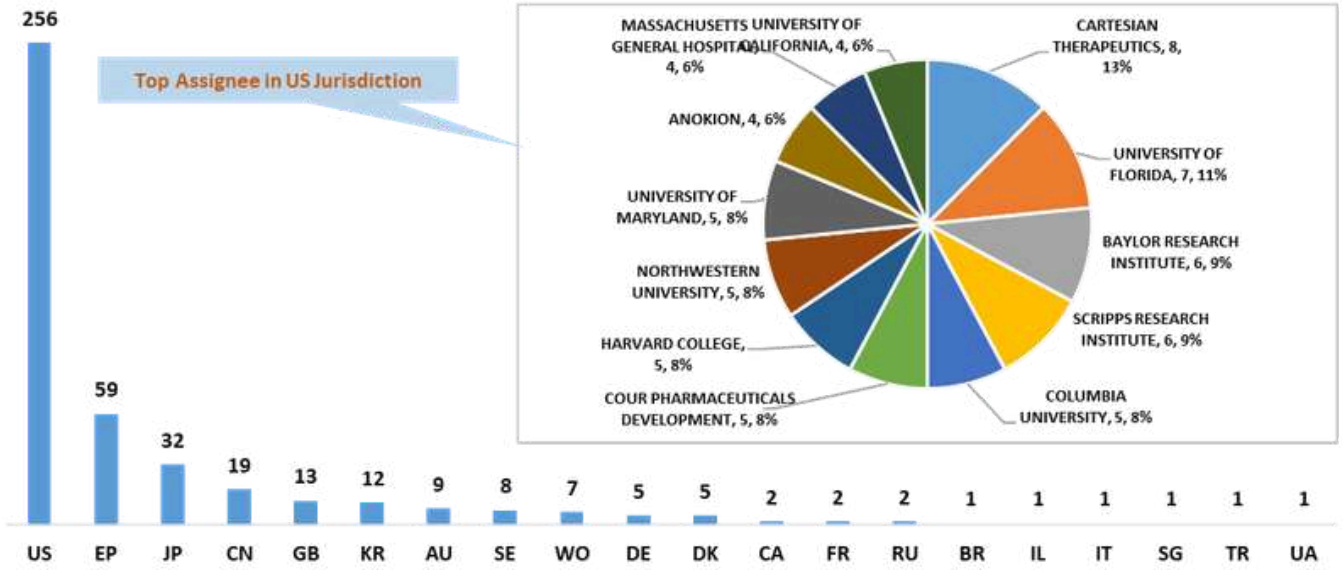
IP INSIGHTS

On Antigen-Specific Immune Tolerance Induction Technologies

Top Assignee Vs Patent Focus



Priority Country Filing Trend



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IP NEWS

Apple faces new damages bid after landmark $5.7 billion patent verdict

- Taction is seeking additional damages and interest after winning a landmark $5.7 billion patent infringement verdict against Apple.
- A California federal jury ruled in September that Apple infringed Taction's haptic feedback technology used in iPhones and Apple Watches.
- Taction is seeking damages for an additional six months of Apple sales (since late March 2025).
- It is also demanding 7% annual prejudgment interest, potentially adding hundreds of millions of dollars to the award.
- Apple denies wrongdoing and is seeking to overturn the verdict, while planning to appeal.
- In a separate case, Apple was recently ordered to pay $184.2 million in interest to Masimo following a $634 million patent verdict.



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IP NEWS

Micron Enters $600 Million Settlement of Netlist Patent Dispute

- Netlist has announced a $600 million settlement with Micron over a patent dispute involving memory chips.
- Micron will pay $30 million per quarter for five years in exchange for a license to Netlist's patent portfolio, including High Bandwidth Memory (HBM) technology.
- Netlist previously won a $445 million patent infringement verdict against Micron in Texas in 2024.
- In September, Netlist filed a fresh complaint with the US International Trade Commission (ITC), seeking to block imports of Micron chips used in AI products by Google, Nvidia and Broadcom.
- Netlist also settled a separate patent dispute with Samsung in August, following $421 million in patent verdicts against the South Korean company.



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IP NEWS

Comcast owes $213 million in video-streaming patent dispute, US jury said

- Comcast has been ordered to pay $213 million in damages to digital TV provider WhereverTV in a patent infringement case.
- A Florida jury found that Comcast's X1 set-top boxes infringed WhereverTV's patent covering technology that integrates cable channels with streaming services.
- WhereverTV founder Mark Cavicchia developed the patented technology for accessing and managing digital content from multiple sources.
- The lawsuit, filed in 2018, alleged that Comcast incorporated the technology into its X1 platform around 2012.
- Comcast denied infringement, challenged the patent's validity and said it would pursue an appeal.
- Comcast also stated that the verdict would have no impact on its customers.



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IP NEWS

Biocon settles Roche's US patent lawsuit over proposed breast-cancer drug copy

- Roche's Genentech has settled its US patent lawsuit with Indian biopharmaceutical company Biocon over its proposed biosimilar of the blockbuster breast-cancer drug Perjeta.

- The settlement allows Biocon to launch its biosimilar, Pebrilzo, on the following timelines:
  - UK and EU: Q1 2027
  - US: Q3 2028

- Biocon said the agreement provides the earliest licensed launch dates for its Perjeta biosimilar.

- Genentech had sued Biocon in New Jersey earlier this year, alleging patent infringement.

- Perjeta generated nearly CHF 2.97 billion ($3.67 billion) in global revenue for Roche last year, making it the company's sixth-best-selling drug.

- Biosimilars are highly similar versions of biologic medicines made from living cells, unlike conventional generic drugs.



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IP NEWS

Former Eminem Employee Pleads Guilty to Criminal Infringement of Copyright

- Joseph Strange, 48, of Michigan, a former employee of rapper Eminem, has pleaded guilty to charges related to illegally reproducing and selling Eminem's unreleased music.
- Strange allegedly abused his position of trust to copy and sell unreleased tracks without authorization.
- The US Department of Justice said his actions violated Eminem's intellectual property and artistic rights.
- The DOJ reaffirmed its commitment to protecting intellectual property and prosecuting individuals involved in music piracy and unauthorized distribution.
- US prosecutors emphasized that intellectual property theft will be treated as a serious criminal offence.



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IP NEWS

US Supreme Court rejects music labels' challenge to copyright termination ruling

- The US Supreme Court has upheld a ruling favouring songwriters in a copyright dispute against major music labels.
- The case involved BMG, Sony Music, Universal Music Group and Warner Music, which challenged a ruling allowing creators to reclaim copyright ownership globally, not just in the US.
- The dispute centred on the 1960s rock hit "Double Shot (Of My Baby's Love)", co-written by Cyril Vetter and the late Donald Smith in 1962.
- The 5th US Circuit Court of Appeals had previously ruled in Vetter's favour.
- The music labels argued that the decision could disrupt billions of dollars' worth of copyright and licensing agreements.
- Four Supreme Court justices recused themselves. The remaining justices did not take up the case, leaving the lower court's ruling intact.
- Key takeaway: The ruling strengthens songwriters' ability to reclaim copyright rights from music publishers, including for works exploited internationally.



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IP NEWS

OpenAI Is Being Sued Over the Name “Astra.” Here’s Why the Smaller Company Has a Real Shot

- TradeSun, a California-based software company, has sued OpenAI over its use of the name “Astra” in federal court in San Francisco on October 5, 2026.
- TradeSun claims it has used the ASTRA trademark since 2021 and federally registered it in 2022 for AI software serving banks and financial institutions.
- OpenAI launched GPT-6 Astra on September 3, 2026, and has expanded the name to specialised products such as “Astra for Law.”
- TradeSun alleges that OpenAI's use of the name creates consumer confusion and makes customers associate “Astra” with OpenAI.
- The company is seeking a court order to stop OpenAI from using the name and recover profits linked to its use.
- OpenAI has said the lawsuit lacks merit.
- Legal status: The case is newly filed, and no court has ruled on the allegations



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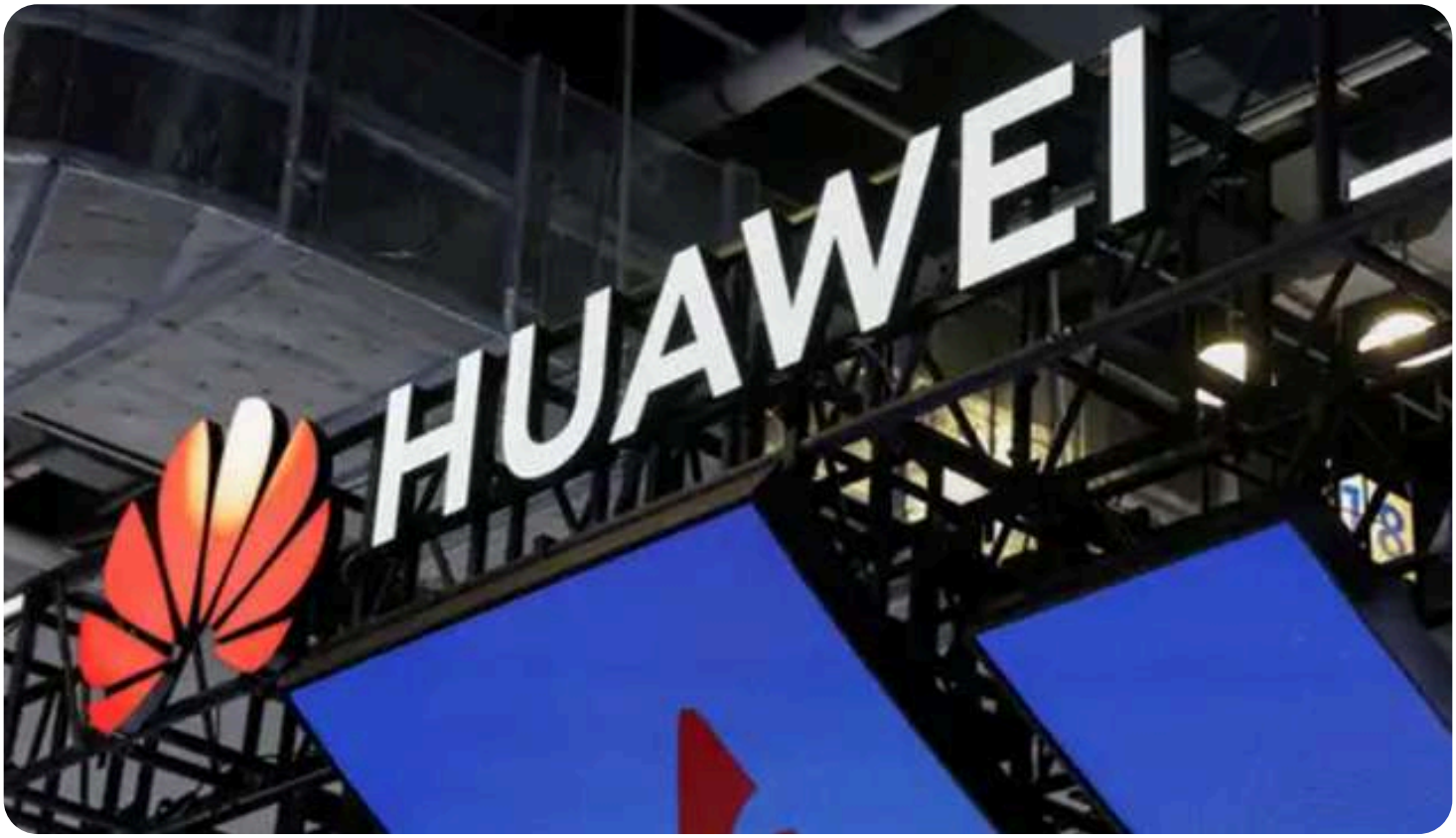
IP NEWS

Huawei agrees to a multi-year patent licensing deal with Qualcomm

- Huawei and Qualcomm have signed a multi-year patent licensing agreement, covering several technology areas, including 5G, computing, AI and networking.
- The agreement includes cross-licensing of both companies' patent portfolios, allowing each to access the other's patented technologies.
- Qualcomm will also acquire certain Huawei US patents related to computing, AI, networking and other technologies.
- Huawei highlighted its contributions to 4G and 5G technologies, including polar-code technology used in wireless communications.
- Qualcomm said the agreement reinforces its leadership in 5G technology and recognises Huawei's continued innovation.



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TECHNOLOGY THEMES

Bridge Neurotech Partners with Butterfly Network to Develop Non-Invasive Brain-Computer Interface

Bridge Neurotech has partnered with Butterfly Network to develop a fully non-invasive, ultrasound-based BCI, leveraging Butterfly's Ultrasound-on-Chip technology to explore real-time brain imaging and neural interaction without implants.





Paradromics taps Siemens Healthineers to develop scalable BCI imaging

Paradromics is teaming up with Siemens Healthineers to build an imaging workflow that will support its plans for offering brain-computer interface devices at scale.This year, Paradromics completed the first implantation of its Connexus BCI in a feasibility study, and then demonstrated that the patient could use the device to choose her own words and answer open-ended questions in real time.



China achieves breakthrough in international standards for brain-computer interfaces

ISO has published a China-led international standard establishing a unified reference architecture for BCIs, covering concepts, applications, functions and implementation. Developed collaboratively by experts from China, India, the US, UK, Italy, South Korea and other countries, the standard aims to support interoperability and the regulated adoption of BCIs across healthcare, consumer, industrial and transport applications.

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TECHNOLOGY THEMES



This AI-powered brain implant hints at the future of human interaction

UCSF researchers have developed an AI-powered brain implant that simultaneously decodes attempted speech and gestures in people with paralysis, translating them into text and digital avatar movements. Published in Nature, the breakthrough enables more natural communication, although current decoding remains limited by small vocabularies, participant numbers and accuracy.

Brain-computer interface helps paralyzed hand play a tune

A woman identified as Chu, who lost most right-hand function following brain tumour treatment, has regained the ability to play simple tunes using a brain-computer interface (BCI) at Wuhan's Union Hospital. After nearly two months of BCI-assisted rehabilitation and training, she played Twinkle, Twinkle, Little Star on an electronic keyboard.





Paradromics and Siemens Healthineers Launch Strategic Initiative to Build Advanced Imaging Foundation for the Future of Brain-Computer Interfaces

Paradromics Inc., a neurotechnology company developing high-data-rate brain-computer interfaces to restore and enhance human capabilities, today announced a collaboration with Siemens Healthineers to develop an advanced multimodal imaging platform designed to support the growing clinical use of implantable brain-computer interfaces (BCIs).

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A Proud Moment for Effectual Services

We are incredibly proud to celebrate Dr. Amit Goel, Director at Effectual Services, on being featured in the IAM Strategy 300 - The World's Leading IP Strategists 2026.

We are delighted to share that our esteemed leader, **Dr. Amit Goel**, has been featured by The Enterprise World in its prestigious issue **"Top Pioneering IP Management Experts to Watch in 2026."**



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GLA MENA is the Middle East edition of the Global Legal Association's flagship disputes platform Unlike conventional conferences, GLA MENA is curated as a closed-door executive summit designed to convene the senior leaders shaping the future of arbitration, litigation, mediation, enforcement and cross-border commerce

The summit brings together leading arbitrators, judges, general counsel, law firm partners, arbitral institutions, policymakers, sovereign stakeholders and multinational legal leaders to exchange ideas, build strategic relationships and influence the future of global dispute resolution

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GLA MENA is intentionally limited to approximately **100 senior participants** to maximise:

- Meaningful conversations
- Relationship building
- Business development
- Executive networking



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Asean is becoming a critical hub for global investment, infrastructure, energy, manufacturing, technology, trade, supply chains and digital commerce. As capital, businesses and infrastructure move across borders, legal complexity moves with them.

GLA ASEAN is built to examine the disputes agenda behind this transformation: where disputes are emerging, how they are evolving and what businesses need to anticipate next.

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Intelligence That Matters

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