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## Worldwide Intellectual Property Value and Activity



KIRK HARTUNG Patent Attorney

The value of intellectual property, and activities surrounding intellectual property, has grown substantially in recent years. Research and development, patent and trademark filings, and investments in innovations and creativity are at an all-time high.

Lisa Jorgenson, Deputy Director General for Patents and Technology at the World Intellectual Property Organization (WIPO), and past Executive Director of the American Intellectual Property Law Association (AIPLA), recently stated that global intangible assets are valued at more than \$80 trillion. In the U.S. alone, Jorgenson states that 90% of the S & P equity market value is in intangible assets.

includes IP patents, industrial property, trademarks, copyrights, content, data, software, and other advanced technologies, with innovation expanding to many non-industrial subject matters. This value is created by all industries, despite the international landscape being more complex and unpredictable than ever before. Jorgenson acknowledges that there are many opportunities ahead for innovators across the world, as well as many challenges.

WIPO statistics report that worldwide IP filings nearly doubled in the last 10 years, to 20 million filings in 2023.That translates to approximately 40 IP filings every minute somewhere around the globe.

Investments in intangible rights were approximately \$7 trillion around the world in 2023, with 2/3 of that total being in the U.S.Total annual worldwide cross-border payments for use of IP are \$1 trillion, with foreign sales of U.S. IP being 2.5 times higher than any other country. In the U.S., IP intensive industries contribute \$8 trillion annually to our economy and support tens of millions of jobs, according to Jorgenson. Despite this, Jorgenson says that IP is seen less favorably in the U.S. than in other parts of the world. This gap between the public perception of intellectual property and economic reality in the United States is alarming.

On November 7, 2024, WIPO published is "Patents Highlights" for 2023, its most recent report on patent activity around the world. Patent application filings hit an all time high of 3.5 million, an increase of 2.7% over 2022. This is the fourth consecutive annual increase, after a COVID decline of 3% in 2019.

Inventors filed 2.5 million applications in their home countries, and 1 million foreign applications. The top 5 patent offices for filings, in order, are China, United States, Japan, Korea, and Europe, which account for 85% of all filings in 2023 around the world. China, alone, accounts for 47% of the world total of patent applications. The U.S. had the highest volume of foreign applications, with more than double the number of foreign applications filed in China. In 2023, the number of patents granted by all Patent Offices grew by 10% to approximately 2 million. Published patent applications show that computer technology ranks first worldwide in filings, at 12%. Electrical machinery was 2<sup>nd</sup> at nearly 7%, followed by measurement at 5.9%, medical technology at 5.4%, and digital communications at 5.3%, based on 2022 publications, which is the most recently available data. Solar (54%) and wind (19%) were the most common (54%) for energy related inventions.

In 140 global patent jurisdictions, there is an estimated 18.6 million live patents, up 7.6% over 2022. Ranking enforceable unexpired patents, China, is #1 at 5 million enforceable patents, with the U.S. #2 with 3.5 million patents, Japan with 2 million patents, the Republic of Korea with 1.3 million patents, and Germany with just under 1 million patents.

Only 17.5 % of the patents around the world last the full 20-year term, and about 74 % of granted patents expire prematurely less than 10 years after grant.

The purpose of WIPO is to advance creativity and innovation across the globe, and to strengthen IP systems in all regions. Their IP data informs decisions makers everywhere. WIPO also sets international standards and norms, for improved harmonization among the 193 countries which belong to WIPO. WIPO continues to assist many patent offices around the world to strengthen examination of pending applications and works with various countries to draft legislation for improved IP enforcement.



# Decoding the Value of Your Patents: The Art and Science of Valuation



**JACOB BLACKFORD** 

Patent Attorney

Imagine you've patented a novel semiconductor process that doubles chip efficiency, or you've patented a biotech brunities, and competitive advantages. So, what drives that value, how is it calculated, and what can you do with it? How does one assign a dollar figure to something as intangible as an idea locked in legal protection? Let's explore.

### What Drives and Fuels Patent Value?

At its core, a patent's value stems from its ability to generate economic benefit. Think of it as a shield and a sword: it protects your invention from competitors while giving you the exclusive right to wield it in the marketplace. Several factors fuel this value. The robustness of the patent—how well it's written, how broad its claims are, and how defensible it is against challenges—plays a starring role. A patent with a stainless prosecution history, free of obvious vulnerabilities, is a safer bet. A patent covering a wide range of applications, like a foundational technology in renewable energy, often carries more weight than a narrow, niche innovation.

Market demand is another key driver. A patent for a cutting-edge AI tool might skyrocket in value if industries are clamoring for AI solutions, while a patent for a fading technology might gather dust. The potential for licensing or sales, the size of the addressable market, and even the patent's remaining lifespan (typically 20 years from filing) all feed into the equation. External factors, like emerging competitors or regulatory shifts, can also nudge the value up or down.

### How Is That Value Determined?

Valuing a patent isn't guesswork, it's a blend of analysis and expertise. Professionals often use three main approaches: the cost method, the market method, and the income method.

The cost method looks backward, asking, "How much did it take to develop this invention?" It tallies R&D expenses, prosecution fees, and time invested. While straightforward, it misses the future potential of the patent. The cost method is a sturdy baseline, but it ignores the future earnings and is therefore a bit like valuing a car based on its manufacturing cost alone.

The market method evaluates your patent based on comparable examples sold or licensed recently. Analysts scour databases like USPTO assignments or licensing registries for similar patents, adjusting for differences in scope, jurisdiction, or market conditions. For example, if a competitor's patent for a solar panel design fetched \$5 million, that sets a benchmark—though no two patents are identical and variations in claim breadth or litigation history complicate the match.



The income method, often the most forward-looking and therefore predictive method, estimates the future revenue a patent could generate through sales, licensing deals, or cost savings. The method is rooted in a discounted cash flow analysis but is tailored to the unique risks and rewards of intellectual property such as market adoption, competitor workarounds, or patent expiry.

Each approach has its strengths. In practice, experts might blend the methods in a hybrid approach to paint a fuller picture, factoring in industry trends, technological obsolescence, and legal risks like potential infringement disputes.

### Verifying the Number

A seven-figure valuation sounds impressive, but is it solid? How do you know it's accurate? Verification often involves stress-testing the assumptions. Are the projected revenues realistic? Is the market comparison truly apples-to-apples? Bringing in a neutral third party, like a valuation specialist or patent analyst, can add credibility. They might dig into patent citations (a sign of influence), review competitor activity, or assess the enforceability of your claims. For the scientifically minded, think of it as peer review for your patent's worth, a process to ensure the data holds up under scrutiny. It's a data-driven audit, ensuring the valuation isn't just a hunch.

### What Can You Do with This Information?

With a verified valuation figure, the possibilities multiply. Armed with a solid valuation, you can pitch to investors, showing them the tangible worth of your intellectual assets. A solid valuation can guide negotiations in a licensing deal, helping you set a royalty rate that reflects the patent's market power. If you are eyeing a merger or acquisition, a strong portfolio valuation can boost your company's price tag. Even internally, it can shape R&D priorities, for example, a low-value patent with weak citations might get sidelined for one with blockbuster potential.

### Why Bother Knowing?

For business executives and inventors alike, patents are more than legal documents; they're strategic assets which bridge the lab and boardroom. Understanding their value helps you see the forest, not just the trees. It's about recognizing where your innovation stands in a competitive landscape and leveraging that insight to stay ahead. Whether you're securing funding, fending off rivals, or plotting your next big move, understanding the worth of your patents offers a compass for navigating the future.

In a world where patents shape markets, knowing their worth isn't just nice to have; it's strategic.



# Paradise Denied: Why U.S. Courts Rejected Copyright for Al Art



JULIE SPIEKER Patent Attorney

Dr. Stephen Thaler, a computer scientist and artificial intelligence (AI) researcher, has spent decades and untold amounts of money pushing the boundary of AI and intellectual property (IP) law. As the founder of Imaginations Engines Inc., a Missouri-based company focused on advanced neural network technology, Thaler has gained international attention, not only for his innovative AI systems but also for his persistent legal battles to secure IP rights for the AI's creations.

Thaler's most recent legal battle centers on an artwork titled A Recent Entrance to Paradise (shown to the right) generated by his AI system, called Creativity Machine. Thaler describes Creativity Machine as a system that mimics the chaotic, associative processes of the human brain to produce outputs such as visual art. Creativity Machine operates using a dual-network architecture build on artificial neural networks (ANNs). One component, known as an imagining network, consists of a trained ANN that generates a stream of potential ideas or patterns based on its prior exposure to vast datasets. This network is deliberately perturbed to simulate the randomness and spontaneity often associated with human creativity. Thaler has likened this process to daydreaming, where unexpected connections emerge from a relaxed or disordered state of mind. The perturbations loosen the network's adherence to rigid patterns, allowing it to produce outputs that deviate from its training data in innovative ways.

Thaler applied to register for copyright protection for A Recent Entrance to Paradise with the US Copyright Office listing Creativity Machine as the author. The Copyright Office application reiected the asserting that copyright law requires a human author. Thaler challenged the application's denial by filing an action in the US District Court for the District of Columbia. The court ruled against Thaler, granting summary judgment to the Copyright Office. The court held that human creativity is an essential prerequisite for copyright protection, citing decades of precedent that tie authorship to human agency including Supreme Court cases interpreting authorship as a human act. Thaler appealed to the D.C. Circuit Court of Appeals. On March 18, 2025, a threejudge panel unanimously affirmed the lower court's decision. The appeals court emphasized that the Copyright Act's language and judicial interpretations leave no room for non-human authors, effectively closing the door on copyright for AI-generated works in the US.

Thaler has waged a similar battle with the United States Patent and Trademark Office (USPTO) over patent rights for Al inventions.



A Recent Entrance to Paradise

Building on the foundation of Creativity Machine, Thaler developed DABUS (Device for the Autonomous Bootstrapping of Unified Sentience), an AI system he describes as capable of independently generating novel ideas and inventions. DABUS reportedly conceived of two novel inventions, one related to a food container based on fractal geometry allowing for improved storage and handling, and another related to a flashing light beacon that emits an unusual flash pattern suitable for search and rescue operations.

Thaler filed two patent applications, one for each invention, with the USPTO in 2019, listing DABUS as the sole inventor. The USPTO rejected the applications asserting that under the US Patent Act, an inventor must be a being. Thaler challenged that human decision, first to the Eastern District of Virginia, which upheld the USPTO's rejection, and then to the US Court of Appeals for the Federal Circuit. In August 2022, the Federal Circuit held that the Patent Act's language specifically its reference to "individuals" who invent or discover - unambiguously limits inventorship to natural persons. The court emphasized statutory terms like "himself" and "herself" which imply human identity and

cited Supreme Court precedent reinforcing that "individual" means a human unless Congress explicitly states otherwise.

Thaler sought to appeal the case to the Supreme Court, arguing, among other things, that excluding AI from inventorship stifles innovation – a core purpose of patent law. However, the Supreme Court declined to hear the appeal, cementing the Federal Circuit's decision.

Thaler's efforts extend beyond the US. He has filed patent and copyright applications for DABUS-generated works in the UK, the European Patent Office, Australia, Germany, New Zealand, and South Africa. Most jurisdictions have rejected his claims, aligning with the human-centric view of IP law. South Africa stands as an outlier, granting DABUS a patent in 2021, the first patent granted for an Al invention.

### Cat Fight: Puma v Tiger



MIKE GILCHRIST Patent Attorney

There is an ongoing trademark dispute between the German shoe and athleticwear giant Puma and Tiger Woods' latest apparel line SUN DAY RED.[1] In particular, the Tiger Woods/TaylorMade affiliated company Sunday Red, LLC is seeking to register a tiger-like logo that Puma alleges is confusingly similar with its puma-like logo:

Sunday Red's Tiger Logo	Puma's logo

So far, the dispute is limited to the Trademark Office as Puma is seeking to prevent Sunday Red from registering its Tiger logo. The proceedings are in their early stages at the Trademark Office, as Puma filed its opposition on January 2, 2025, and Sunday Red filed its answer on February 10. A few issues related to this case may be of interest to illustrate important issues in selecting and protecting trademarks.

### Trademark Oppositions

After the Trademark Office finds a trademark to be suitable for registration, the mark is published, and anyone who believes they will be harmed by the registration has thirty (30) days to file an opposition challenging the registration. Most of the time, no opposition is filed, and the mark proceeds directly to registration.

In this case, Puma has alleged that the Tiger logo is likely cause confusion with its Puma logo when used on the goods listed in Sunday Red's application. To prevail, Puma will need to show that it has a valid trademark with priority over Sunday Red's mark (which it will almost certainly be able to show) and that concurrent use of the two marks in commerce is likely to cause confusion or mistake as to the origin, sponsorship or approval of Sunday Red's products.

Trademark oppositions could be described as quasi-litigation. Discovery is permitted but is somewhat limited compared to litigation in federal courts. The "trial" is on paper with testimony provided by deposition excerpts—though commonly the proceedings will include oral arguments before a panel of three administrative judges who decide the case. The only issue is whether the mark in the application is entitled to registration—there are no damages, injunctions, or attorneys' fees available as remedies. However, as a practical matter the determination of that issue commonly resolves the dispute between the parties. This is especially so because of a Supreme Court case (B&B Hardware, Inc. v. Hargis Indus., Inc., 575 U.S. 138 (2015)) that gives binding effect to issues decided by the Trademark Office in later litigation between the same parties.

If a timely opposition is not filed and the mark issues as a registered trademark, it is still possible to challenge the registration through a similar process called a cancellation. However, in that instance the challenged mark is presumed to be valid and the opposer has a more difficult path to cancelling the mark than an opposer has in preventing registration in the first place.

So, parties that own trademarks are wise to learn from Puma and watch the publications issued by the Trademark Office so that they can timely challenge trademarks that might cause confusion before they issue as registrations. I'm old enough to remember thumbing through the paperback gazettes that came out every Tuesday to look for trademarks of interest. Now there are electronic services that can automatically review and highlight potentially relevant marks (which are still published on Tuesdays). If you are not monitoring published trademark applications and want to start, contact your MVS attorney who can discuss the various options with you.

### Who will win?

Because Puma has clear priority based on its decades of use of the Puma logo in commerce, the issue will turn on whether there is likelihood of confusion as to origin, sponsorship, or approval created by concurrent use of the marks. The Trademark Office uses a list of thirteen (13) different factors known as the DuPont factors to decide whether confusion is likely. Federal courts use similar multi-factor tests that vary in their specific factors considered depending on which circuit is applying the test.

Of most significance at the Trademark Office are the similarity of the marks themselves and the similarity of the goods and services associated with the marks. In this case, Sunday Red is seeking to register the Tiger logo for a variety of goods including importantly "Clothing, namely shirts, shorts, pants, jackets, sweatshirts, sweatpants, jogging pants, skirts, dresses, hoodies, sports jackets, polo shirts, golf shirts, golf pants, footwear, headwear." Needless to say, Puma offers all or nearly all of those same goods using its Puma logo. So, the similarity of goods factor will favor a finding of likely confusion.

The similarity of the marks themselves is likely to be the most hotly contested issue. Both involve active felines in a leaping or running position with their tails extended. The Tiger Logo includes tiger stripes (15 stripes in all to match the total number of major championships won by Tiger Woods); whereas the Puma Logo is shown in a solid outline. The Tiger Logo has the tiger facing to the right, whereas the Puma Logo has the Puma leaping to the left. A related factor is third-party use of similar marks on similar goods, which if it exists would tend to show no likelihood of confusion because it indicates that consumers are able to distinguish between similar marks on sports apparel and sports equipment as an example of other cat logos for clothing.

Other factors that may be of importance include whether there has or has not been actual confusion. Survey evidence may be considered as well regarding confusion or lack of confusion by relevant consumers. The fame of Puma's mark may be of importance because the more famous the senior mark the more likely confusion is to arise by a later user.



### Summary

The dispute is in its early days. If it does not settle, it will likely take a year or more to reach an initial decision by the Trademark Trial and Appeal Board, which decision is subject to appeal to the federal courts. Of course, it very possible the parties will reach some sort of settlement without the need for a final determination by the Trademark Office. This not simply a domestic dispute, fights are occurring in trademark offices around the world, including at least Mexico and Morocco. Per Sunday Red's Answer to the initial complaint, Saudi Arabia, Indonesia, and Russia issued registrations for the Tiger Logo over the objections of Puma.

Those interested in following the filings at the United States Trademark Office can do so at https://ttabvue.uspto.gov/ttabvue/v?pno=91296035&pty=OPP&eno=5.

<sup>[1]</sup> The company name is Sunday Red, LLC (with Sunday written like the day of the week), but the branding seems to be using the name SUN DAY RED with sun and day separated. The SUN DAY RED line of products is part of a partnership between the golf equipment company TaylorMade and Tiger Woods. An intent-to-use application for the mark SUN DAY RED has been allowed at the United States Patent and Trademark Office, but no statement of use has been filed as of this writing. Sunday Red, LLC also acquired an existing registration for the mark SUNDAY RED that had been owned by an individual since 2009 for various golf apparel.

No Analysis of a Reasonable Expectation of Success is Necessary Where an Inherent Property of an Obvious Composition or Process is Claimed



VANESSA LANCASTER Patent Attorney

On December 4, 2024, the U.S. Court of Appeals for the Federal Circuit (CAFC) issued a precedential opinion in Cytiva Bioprocess R&D AB vs. JSR Corp.<sup>[1]</sup> The CAFC affirmed the Patent Trial and Appeal Board's (the "Board") finding that Cytiva's composition claims were obvious and reversed the Board's finding that process claims for making the compositions are not unpatentable. In the key analysis, the CAFC set out to resolve the question of "whether a claim limitation that merely recites an inherent property of an otherwise obvious combination requires additional analysis to demonstrate a person of ordinary skill in the art would have a reasonable expectation of success." The CAFC concluded that this additional showing is not required.

Cytiva's challenged patents relate to a mutant Protein A with increased stability in highly alkaline conditions to increase the lifetime of its use to bind antibodies in purification columns. Specifically, the amino acid sequence asparagine-glycine, known in the prior art to be sensitive to alkaline conditions, was mutated to a more resilient asparagine-alanine sequence in the antibody binding domains of Protein A. Additionally, the challenged claims recite that the mutant Protein A binds "to the Fab part of an antibody," which the Board construed as Fab fragments of antibodies. However, the CAFC disagreed and construed this as binding to either the whole antibody or a fragment.

The CAFC discussed the Honeywell[2] and "important providina Hospira[3] cases as quideposts between claims which require knowledge of an inherent property to arrive at the claimed invention and claims which simply claim an inherent property or result." The claims in Honeywell recited "a heat transfer composition for use in an air condition system compromising [an HFO refrigerant] and [a PAG lubricant]." HFO refrigerants were known to be reactive and unstable, and PAG lubricants were known to be unstable and both were "disfavored in the art for intended purposes the in the claim. Unexpectedly, the combination of these two components achieved a stable composition." In Honeywell, the CAFC determined that the claims "did not attempt to claim the inherent result instead, they claimed a composition that itself was not inherent, the combination of which had unexpected properties. As a result, a person of ordinary skill in the art would not have been motivated to combine the two compounds in the first place."

Conversely, the claims in Hospira contained a limitation that stated the "composition when stored in the glass container for at least five months exhibits no more than about 2% decrease in the concentration of dexmedetomidine." This claim limitation recited "the stability and activity of the composition after storage—an inherent property of the claimed composition." In Hospira, the CAFC determined that the limitation was an inherent property of an obvious composition and that further analysis of a reasonable expectation of success was unnecessary because "if a property of a composition is in fact inherent, there is no question of a reasonable expectation of success in achieving it."

In Cytiva vs. JSR, the CAFC discussed Honeywell and Hospira to show that when claims require prior knowledge of the inherent property for a motivation to combine, then a petitioner would need to demonstrate a reasonable expectation of success. The CAFC cited In re Spormann for precedent that "unknown properties cannot be used as the basis for such a motivation... But that situation is different from simply claiming an inherent property of an otherwise obvious composition or process" in which "there is no question of a reasonable expectation of success."

In affirming that Cytiva's composition claims were obvious, the CAFC found the "undisputed Fab-binding ability is dispositive." The CAFC explained that "(n)o reasonable expectation of success argument or analysis is required where the sole disputed limitation was an inherent property of the claimed composition already determined to be obvious." The CAFC also reversed the Board's decision that Cytiva's process claims are not unpatentable in which the Board reasoned that "even though Fab-binding was an inherent, JSR had failed to show a reasonable expectation of success." The CAFC noted that "(w)hile much of our case law on inherency in the chemical and biological fields discusses composition claims, we see no reason that these same guideposts do not apply equally to claims for processes of making those compositions."

# **MVS: SUPPORTING INNOVATION EVENTS**

### IAPP 2025 Global Privacy Summit

April 23-24, 2025 - Washington, DC

<u>Sarah M.D. Luth,</u> Patent Attorney in the MVS Biotechnology and Chemical Practice Group and Co-Chair, MVS Data Privacy and Cybersecurity Practice Group

### ABA IP Section Annual Meeting April 30-May 2, 2025 - Arlington, VA

Mark Hansing, Patent Attorney

### AIPLA Spring Meeting

May 13-15, 2025 - Minneapolis, MN

Sarah M.D. Luth, Patent Attorney in the MVS Biotechnology and Chemical Practice Group and Co-Chair, MVS Data Privacy and Cybersecurity Practice Group

#### **Iowa Engineering Conference**

May 14-15, 2025- West Des Moines, IA

<u>Gregory Lars Gunnerson</u>, Intellectual Property Attorney in the MVS Mechanical Electric Practice Group

### INTA Annual Meeting

May 17-21, 2025 - San Diego, CA

<u>Christine Lebron-Dykeman,</u> Trademark Attorney and Chair, MVS Trademark Practice Group

Andrew J. Morgan, Trademark & Copyright Attorney in the MVS Trademark Practice Group

### ABI Taking Care of Business Conference

June 10-12, 2025 - Council Bluffs, IA

Multiple MVS attorneys will attend.

MVS is a sponsor and will host a booth at this event.

### **LEGUS Annual Meeting**

June 26-28, 2025 - Boulder, CO

### Jill N. Link, Pharm.D., JD

Patent Attorney in the Biotechnology/Technology Practice Group and Licensing Practice Group.

<u>Kirk. M. Hartung</u>, Patent Attorney in the MVS Mechanical Electric Practice Group

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<sup>[1]</sup> Cytiva Bioprocess R&D AB v. JSR Corp., 23-2074 (Fed. Cir.), decided Dec. 4, 2024.

<sup>[2]</sup> Honeywell Int'l Inc. v. Mexichem Amanco Holding S.A. DE C.V., 865 F.3d 1348, 1354–55 (Fed. Cir. 2017).

<sup>[3]</sup> Hospira, Inc. v. Fresenius Kabi USA, LLC, 946 F.3d 1322 (Fed. Cir. 2020).