



ACCELERATING IoT CONNECTIVITY

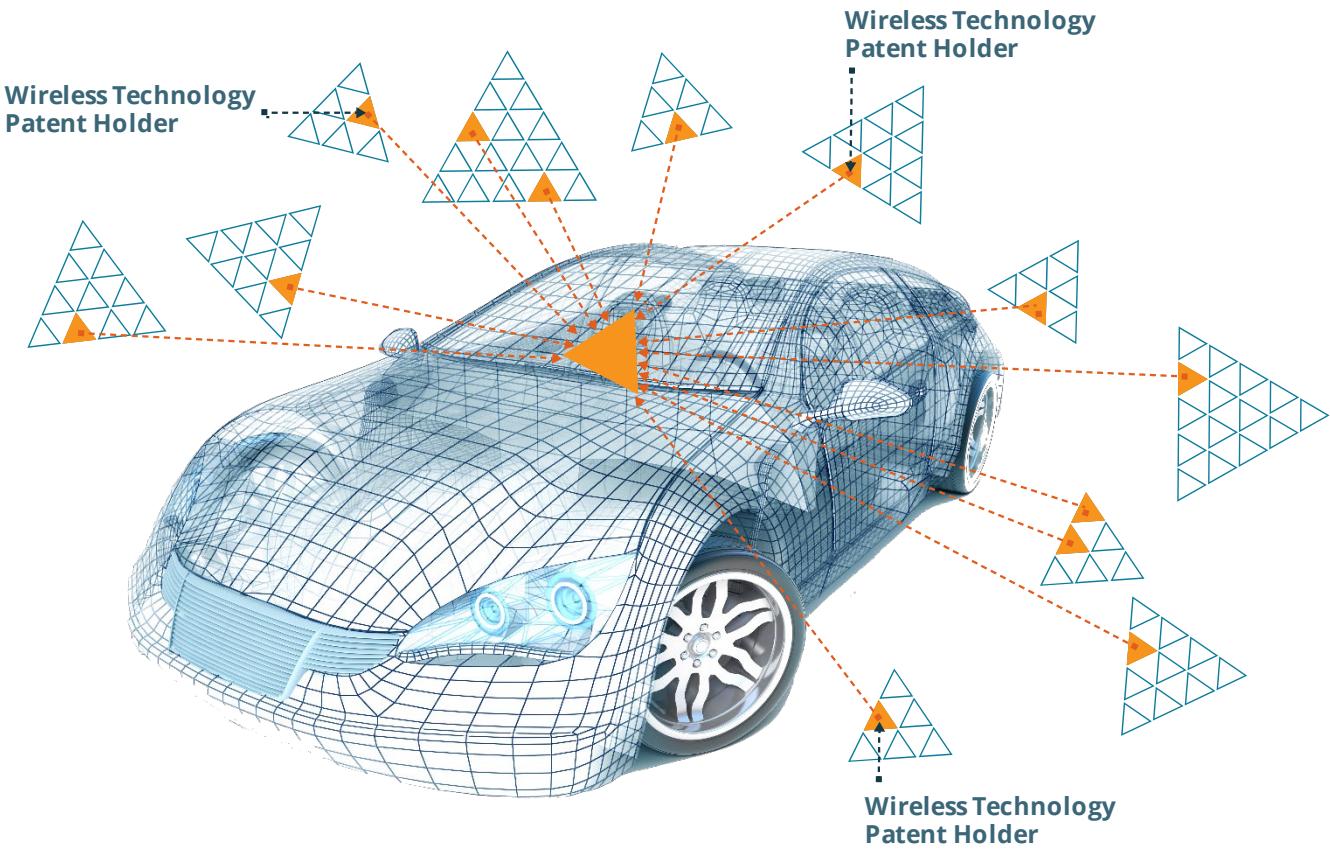
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The Internet of Things (IoT) has already seen explosive growth in a range of industries such as commercial real estate, healthcare, manufacturing, automotive and more who embrace the benefits of data insight and automation. Wireless connectivity will enable billions of products, from smart meters and connected cars to telerobotics and remote surgery equipment to join the IoT. To enable this unique ecosystem, where existing products are adding connectivity to enhance their current functionality, Avanci has created the first marketplace for IoT manufacturers to license crucial, standard-essential wireless technologies with an emphasis on fair, transparent pricing. Avanci's pricing model offers flat rate royalty calculations that streamline licensing and enable predictable costs to help IoT developers capitalize on a dynamic market opportunity.



The Internet of Things needs a patent licensing solution

AVANCI: ACCELERATING IoT CONNECTIVITY

With more than 41 billion devices expected to be connected to IoT platforms by the year 2025, the Internet of Things is fueling an entirely new and evolving economy of products that never existed before. This explosive growth, bounded only by imagination, opens the door for IoT manufacturers to reinvent brands and products, and for consumers to benefit from the convenience of a more connected world. To fully realize this vision of the Internet of Things, there must be an open and streamlined way for manufacturers of these new connected products to access the latest wireless technology.



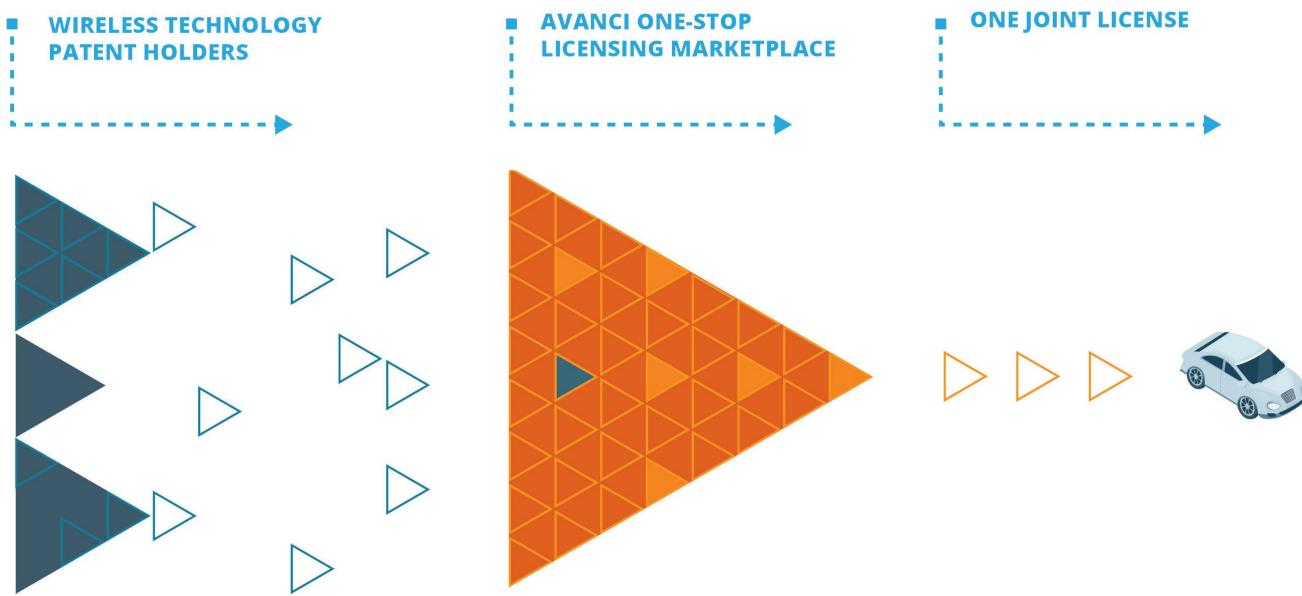
To meet this pressing industry need, Avanci designed a first-of-its-kind marketplace to license patented and standardized wireless technology for the Internet of Things. Avanci is making the world's best ideas easily accessible to industries and product developers that would have previously had to navigate a tangled web of Intellectual Property (IP) license agreements. This simplified, transparent approach to licensing lets manufacturers focus on what they do best—create new, innovative products to benefit consumers.

The goal of Avanci's efficient and scalable marketplace is simple: provide access to the vast majority of the standard-essential wireless patents that exist today in a manner that helps companies innovate more quickly.

This is accomplished by making connectivity technologies available to IoT product manufacturers in one place and in one license using fair, reasonable and non-discriminatory (FRAND) licensing terms.

Avanci's pricing simplifies patent licensing for the Internet of Things

Avanci has created a pricing model that provides patent licenses covering standard-essential wireless technology to the IoT ecosystem using well-established FRAND licensing principles. Currently including 2G, 3G and 4G technologies, this approach ensures necessary patent rights are available to product developers, while providing a return on investment to wireless technology patent holders. For companies entering the IoT market, this means that Intellectual Property Rights (IPR) costs will be predictable over time, and they can be confident they are getting a fair price that is the same as their competitors. For patent owners, this means a simple way to share their essential technology across many IoT industries. And it lowers transaction costs for everyone. To explain how all of this is possible, this white paper details four key benefits of Avanci's pricing model: transparency, flat rate royalty calculations, cost predictability and pro-competitive, differentiated rates based on the value the patented technology brings to different applications.



Avanci brings transparency to patent licensing

The world of patent licensing is generally marked by confidentially negotiated terms. Secrecy has become the norm because, for example, it allows companies to avoid revealing business plans and can even keep competitors from knowing a license exists. But these confidentiality provisions, even though they make sense in other contexts, would make it difficult for new market entrants to navigate licensing and royalty terms for IoT devices and products, as well as evaluate whether proposed terms are fair and consistent with what others are paying. Furthermore, confidentiality obligations make it difficult to understand the total royalty stack to be paid to all essential patent holders.

IoT will benefit from Avanci's different approach, one that is transparent and provides confidence to the product manufacturers that they have secured a fair deal. Avanci's transparent pricing model includes published royalty rates on its website, making them available to all in the industry. In doing so, Avanci offers all competitors an identical price for a license to an aggregated portfolio of patents from the leading patent owners.

This consistent and transparent approach will help to lower IoT companies' transaction costs and ultimately simplify their license agreement process. Instead of building a team of lawyers and technologists to secure standard-essential wireless patents on the most favorable terms possible, companies in the IoT space can focus on what they do best—developing innovative new products and applications built on a strong foundation of wireless technology.

All of Avanci's licenses include flat rate royalty calculations

The Internet of Things ecosystem is rapidly expanding and very dynamic—new market entrants can disrupt the industry by addressing the right need at the right time, while established technology players can leverage existing assets to offer vertically-tailored products. With the dynamic nature of IoT products, traditional royalty constructs come with major downsides. For example, a license structured with a lump sum payment based on future sales estimates—which are just that, estimates—can over-reward a patent owner if the product misses, or, in the inverse, provide a windfall to a licensee that came up with a big hit. Another possibility, calculating royalties as a percentage of sale price requires extensive reporting, and for many IoT products, it is difficult to derive the value of the licensed wireless technology from the sales price of the device since the products have primary uses unrelated to connectivity.

For example, the value of a license to wireless technology bears little relation to the \$75,000 price tag for a luxury sports car or a \$2,000 stainless steel refrigerator.

This is why Avanci implemented something different – a flat rate royalty calculation where a fixed price is paid for each unit produced or sold, which Avanci believes is the simplest and fairest mechanism for licensing standard-essential patents to IoT device makers. Here's why:

- All competitors will pay an identical royalty when using the same technology;
- Flat rate royalties vary in direct relation to the actual number of units rather than being tied to unreliable and/or outdated projections; and
- Transaction costs are lowered by avoiding the need to report sensitive revenue and product pricing information.

Avanci's licenses have a predictable cost and ever-increasing value

Due to the unique nature of its marketplace, a license from Avanci becomes more valuable over time due to the following:

- Existing licensors in the marketplace receive new patent grants that are automatically included in the license.
- Existing licensors acquire patents that are automatically included in the license.
- New licensors with standard-essential patents join Avanci and their patents are automatically included in the license.

Even as these three growth drivers increase the scope of an Avanci license over time, the price remains the same! Since Avanci offers long-term licenses, a licensee can count on a fixed cost for a license for the duration of the solution's shelf-life. In addition, supply chain or product design changes, including the addition of multiple connectivity modules to the same device or a new component supplier, will not affect the availability or cost of an Avanci license.

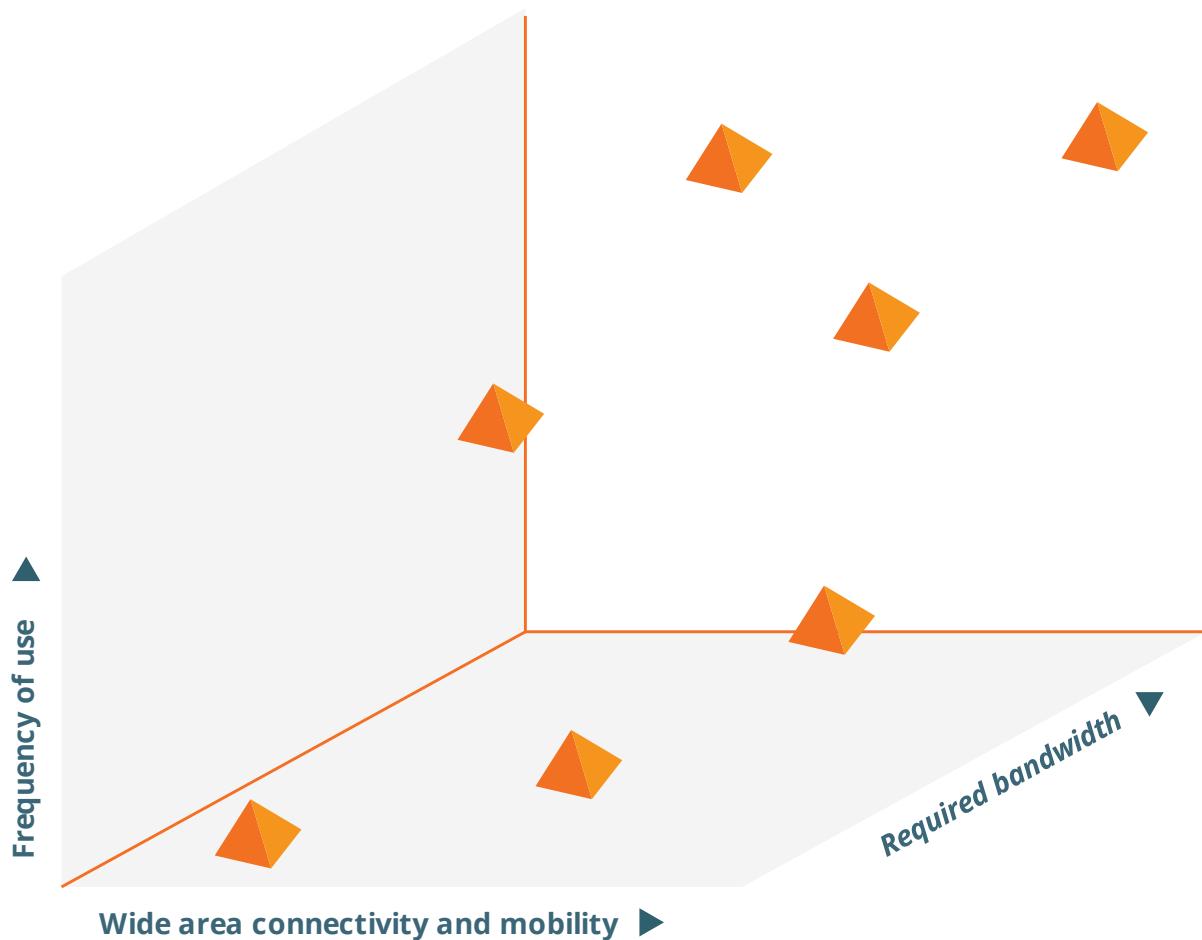
To ensure fairness, Avanci differentiates royalty rates for different applications

When it comes to valuing technology, context is everything. Consider the comparative value of an air conditioning unit for an office in Dallas, Texas, as the scorching summer sun beats down, and of that same air conditioner in an office north of the Arctic Circle. Clearly the value drops from business critical in Dallas to worthless at the North Pole. The point is, there is no inherent value for any technology in a vacuum.

In the case of standard-essential 2G, 3G and 4G technology, the application in which the technology is deployed sets this context. To address this reality, Avanci launched its marketplace with prices that reflect the value cellular connectivity brings to a specific application. Although there is no explicit formula, some of the considerations when determining the value of a license for a particular application include: (1) the need for wide-area connectivity and mobility, (2) the amount of use, and (3) the required bandwidth. We explore each of these elements in greater detail below.

Wide area connectivity and mobility

IoT deployments will include vastly different requirements ranging from highly mobile drones, and, on the other end of that scale, stationary solutions such as industrial sensors. Wireless connectivity brings tremendous value to a drone because continuous mobility is an imperative. In the context of a fixed sensor, however, the value is lower since alternative connectivity technologies without mobility may be available, and because the full scope of the cellular standards and, hence, the full scope of the standard-essential patents covering them, may not be used or needed. Therefore, higher mobility leads to a higher fair value for a license that enables it.



Frequency of use

IoT deployments will also vary greatly in how often connectivity is used. A point of sale terminal executes retail transactions constantly throughout the day, while a smart trash bin on a public street only uses cellular connectivity infrequently to send a message when it reaches capacity. As one factor, the point of sale terminal's frequent usage of the cellular connection indicates that connectivity provides more value in that application compared to a smart trash can. This is a common sense principle with broader application: generally the more something is used, the more value it brings.

Required bandwidth

Bandwidth demands also vary greatly between IoT applications. For example, a wireless video surveillance camera must utilize a high bandwidth to support video streaming, meaning the usage of more aspects of the standard and a wider portfolio of standards-essential patents. A wireless utility meter, on the other hand, may only report very small amounts of information in each transmission. It would, therefore, require only a subset of the standard's features – and a smaller subset of standards-essential patents – leading to a lower value for a license.

In summary, Avanci provides pricing which is tailored to the value that connectivity brings to a particular application to ensure fair licensing terms, wide adoption and a reasonable return on investment for the inventors of the standard-essential technology.

Summary

To keep pace with and enable growth in the IoT space, Avanci created its one-stop licensing marketplace to reflect a strong belief in tailored, transparent and fixed prices for standard-essential wireless technology. Avanci provides licenses to the technology that IoT developers need in a manner that changes the licensing paradigm. Instead of navigating a complicated legal web, companies in the IoT space can instead focus on creating innovative technology to address market demands and provide new consumer choices in IoT solutions. Avanci's goal is to help the connected world evolve faster by providing a one-stop solution that brings convenience, predictability and affordability to the IoT space. To learn more about Avanci and its pricing structure, as well as how to access or contribute to its license offering of standard-essential wireless technology patents, contact the company at Avanci.com.