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PERSPECTIVE

Patent filings for high-tech medical devices are on the rise

By Rich Christiansen

In contrast to many other industry spaces, patent filings in the medical device space have nearly continuously increased over the past decade. While the growth in patent filings is almost ubiquitous in technology areas in the medical device segment, the biggest growth in patent filings has occurred in high-tech medical device, potentially indicating a shift away from traditional medical device technologies.

Since 2007, patent filings have increased in the medical device space by nearly 50 percent, with several segments in the medical device space far outpacing that growth rate. These increases in patent filings vary significantly among technology segments in the medical device space, with higher-tech segments experiencing significantly higher growth rates, while growth in patent filings in many traditional medical device segments has stagnated. For example, patent filings in consumables/ disposable and drug delivery devices have stagnated at less than 10 percent growth in filings since 2007, while patent filings for surgical devices are up almost 180 percent, and filings for wearable medical devices are up 360 percent. These trends shown in the chart below.

> Patent filings ... for high-tech segments has accelerated, and specifically, patent filings for telehealth equipment, a subset of assistive care devices, are up approximately **250 percent**, patent filings for wearable medical devices are up approximately **360 percent**, and patent filings for next-generation surgical devices, a subset of surgical devices, are up approximately **580 percent**.

This shift towards high-tech medical device development becomes further apparent upon deeper examination of patent filings in these technology segments. For example, patent filings for implantable drug delivery devices, a subset of the drug delivery device segment, are down approximately 25 percent since 2007. In contrast, patent filings over the same time period for high-tech segments has accelerated, and specifically, patent filings for telehealth equipment, a subset of assistive care devices, are up approximately 250 percent, patent filings for wearable medical devices are up approximately 360 percent, and patent filings for next-generation surgical devices, a subset of surgical devices, are up approximately 580 percent.

As with all change, this shift towards higher tech in the medical device space creates both opportunities and risks for companies and products in that space. In contrast to more traditional medical device technology segments that very developed and crowded, these high-tech segments provide open space that will allow for broader patent protection.

However, while these high-tech areas of medical devices may allow for broader patent protection, they present new challenges at both the patent office and in bringing products to market. For example, while medical device has traditionally been the realm of mechanical engineers and natural scientists, the current shift toward high tech in the medical device space will require an increase in software and electrical competence in medical device practitioners in addition to the traditional mechanical and natural science competencies. Further, this shift to higher tech has led to the entrance of high-tech giants such as Samsung, Nokia, Microsoft, etc. into the medical device space. The entrance of the high-tech giants into the medical device space creates instant funding gaps which may lead to anticompetitive behavior and may complicate future product development due to the massive patent portfolios brought into play with these new entrants to the medical device space.

To address these risks, medical device players will need to evaluate technical competency of counsel to ensure alignment between their counsel technical competency and their future core technologies. Further, medical device players should emphasize defensive strength of their patent portfolio and remain vigilant of aggressive behavior of the high-tech giants in the medical device space.

Based on the expansion of patent filings, the medical device segment remains a strong space for investment and development. The shift towards high tech creates both opportunities for broad patent protection, but increased risk. This increased risk will increase the value of patents in the medical device space as these broader protection will be possible.

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