

2023
MEDICAL DEVICE INDUSTRY
TRENDS

The medical device industry will continue to display rapid development in 2023 with an average [growth rate of 5.6%](#). This comes as emerging technologies like AI and 5G extend the speed and complexity of medical care. This allows for exciting new developments such as telemedicine and remote surgeries, both of which can expand access to underserved patients.

In this report, we dive into five medical device industry trends for 2023:



WIDESPREAD 5G IS A TECHNOLOGICAL GAME CHANGER



HARNESSING THE POTENTIAL OF ARTIFICIAL INTELLIGENCE (AI)



IMPROVING DE+I IN THE MEDTECH SPACE



AN EMPHASIS ON SUPPLY CHAIN RE-ASSESSMENT



APPLICATIONS OF 3D PRINTING FOR MEDTECH



WIDESPREAD 5G IS A TECHNOLOGICAL GAME CHANGER

[5G technology](#) allows the medical industry to increase data transfer rates by [nearly 100x](#). This means that patient information can be processed and analyzed far faster, especially in the context of the Internet of Medical Things (IoMT). For example, a sponsor in the healthcare industry can reliably connect patients' [wearable devices](#) to machine learning software, which may detect and prevent complications far faster than a human. One such use is [utilizing IoT-connected inhalers](#) to track and analyze attack triggers or correlations.

Another potential use of 5G connectivity is for remote surgeries. As 5G reduces [latency](#), or the delay between data's origination and destination, surgeries performed by a surgeon across the world become more feasible. It also opens doors for new forms of learning such as medical students watching surgeries via a remote livestream.

Ultimately, faster and more reliable connections allow healthcare firms to develop complementary technologies that were previously unrealistic.

5G technology allows the medical industry to increase data transfer rates by nearly 100x.

[SOURCE](#)



HARNESSING THE POTENTIAL OF ARTIFICIAL INTELLIGENCE (AI)

[Artificial intelligence](#) (AI) is immensely valuable for performing repetitive and time-intensive tasks more accurately. For example, the use of AI to predict treatment outcomes has been found to increase accuracy from [30% to 68% in men and 35% to 72% in women](#). AI is also revolutionary in that the more it performs the task, the faster and more accurate it becomes because of machine learning.

There are devices currently being developed and implemented that utilize AI to assist with surgeries. One such machine is HUGO by Medtronic, which is able to process data in real time to help surgeons make more reliable decisions. For example, HUGO senses tissue [over 400,000 times per second](#) to make operations smoother and safer.

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[SOURCE](#)

It must be noted, however, that AI can quickly develop [implicit biases](#). This may stem from processing historical data which has been skewed

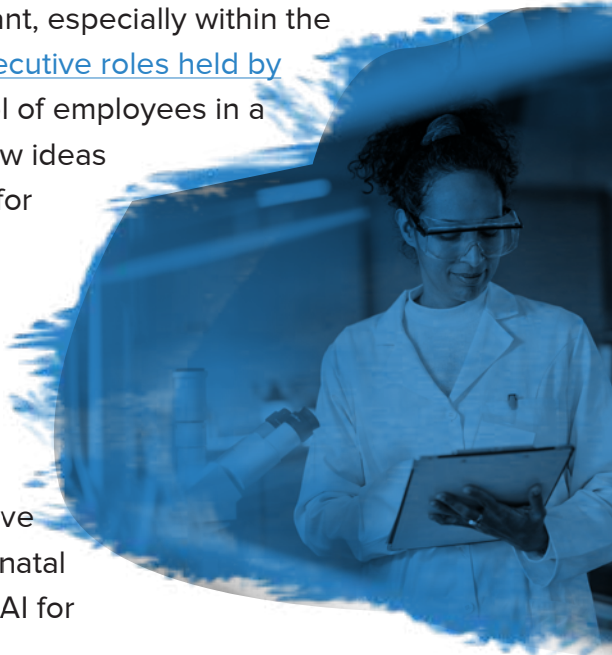
or biased against certain groups. As AI continues to grow, sponsors should be aware of these biases so as to ensure the best treatment outcomes.

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IMPROVING DE+I IN THE MEDTECH SPACE

Diversity, equity, and inclusion (DE+I) are extremely important, especially within the MedTech space. Currently, the industry [only has 21% of executive roles held by women and only 3.2% by African Americans](#). A diverse pool of employees in a medical device company, however, is key to generating new ideas that address a more holistic client base. It's also important for avoiding implicit biases and assumptions that may exclude segments of the population.

Companies are also making larger investments into DE+I-related projects. Many, for example, are developing technologies that prioritize women's health. As such, the women's health diagnostics market is projected to rise above [\\$50 billion by 2026](#). Much of this tech revolves around prenatal care, including more affordable [pregnancy monitoring](#) and AI for prenatal treatment.



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AN EMPHASIS ON SUPPLY CHAIN RE-ASSESSMENT

[Supply chains](#) have been a hot topic over the course of the pandemic due to major shutdowns, disruptions, and delays. As such, companies in the medical device space have been placing [greater emphasis on the factors](#) that contribute to a smooth and cost-effective strategy for their supply chains.

Sponsors should consider whether it's worth the effort of buying and subsequently shipping in various components or devices. Instead, increasing costs and delays may make it worthwhile for a company to simply produce them in-house. It may also be important to source from multiple manufacturers to ensure that a delay in one area does not completely disrupt business production.

Additionally, the location of manufacturing hubs is no longer just about cost effectiveness. Historically, firms have moved production to regions like Asia or South America, but firms must now contend with the risk of supply chain disruptions from more remote regions. Finally, companies must be cognizant of proper planning for inventory to ensure that manufacturing can continue even if another exogenous shock like COVID occurs.



APPLICATIONS OF 3D PRINTING FOR MEDTECH

[3D printing technology](#) has been around for a number of years, but as it continues to become cheaper and more precise, its applicability to medical technology grows. The industry is expected to grow to [\\$522 million by 2030](#), helped in part by its unique ability to lower the cost of historically expensive products.

One such use of 3D printing is in the creation of prosthetics. 3D-printed limbs can be created in as few as [12 hours and cost as low as \\$50](#). This has allowed demand to rise, and many companies are even choosing to invest in large-scale 3D printers to create many devices in-house.

The 3D-printed drugs market is estimated to reach \$522 million by 2030.

SOURCE

3D printing also allows firms to more easily manage production levels because input materials are cheap and relatively easy to store. This provides flexibility in an economy that has been drastically impacted by unforeseen events.

CONCLUSION

Ultimately, the MedTech industry will continue to become better connected, capable, and accessible in 2023. Sponsors will continue to demonstrate wariness after the pandemic and recent economic uncertainty. As innovations like AI become more prevalent, their cost will inevitably decrease and become commonplace even in smaller companies. Finally, the recent rise of telemedicine will be bolstered as devices are better able to connect providers and patients remotely.

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