



BETTER BATTERIES FOR POWER PERFORMANCE

Inventus Power has been manufacturing high-performance battery solutions since 1967. Medical Device Developments talks to Chris Turner, the company's vice-president for technology, about the company's work with medical device OEMs and the future of rechargeable power solutions in the sector.



How has Inventus Power's experience in the power solutions industry influenced your relationship with your customers?

Chris Turner: Our history has allowed us to acquire decades of expertise in specific applications that enable us to provide high-performance, reliable and safe solutions for our customers across the medical, military, industrial and commercial markets. As a result, we have maintained strong relationships with our customer base with some partnerships exceeding 25 years.

The medical device industry in particular has long been a focus of ours. Our proven experience in the power solutions sector is particularly important for our medical customers, given their concerns over performance and safety issues. They have taken advantage of our detailed knowledge of the

capabilities of all the components within a rechargeable solution to ensure the entire system works as expected and delivers power safely.

How have you overcome the engineering challenges that accompany the development of rechargeable power solutions for the medical community?

The medical device industry has an unsurprising sensitivity to safety issues due to patient interaction. In fact, due to the inherent safety concerns, the sector was behind other industries in transitioning to lithium-ion technology. We have helped many of our customers move from older battery technologies like lead acid to lithium-ion, and because our expertise stretches across rechargeable system design, cell technology, battery electronics and more, we are able to offer safer cell choices and safety protocols to help facilitate this transition. Of those customers whom we helped transition to lithium-ion years ago, we remain their go-to suppliers for new projects. Today, most medical devices have transitioned to lithium-ion, but performance and safety sensitivities persist with every product we develop for our medical OEMs.

What priority do you place on maintaining a healthy R&D department?

Our R&D efforts are critical to our ability to continue to provide innovative but well-vetted power solutions to our customers and, as a result, we have hundreds of patents and other pieces of intellectual property. In addition to medical, we support a wide range of applications within the military, government,

industrial and commercial markets, which gives us the opportunity to continually innovate and use technology we develop for one market and provide solutions to our others.

In addition to technology we develop in house, Inventus Power is recognised by its customers as a global expert in evaluating new technology and matching it to new applications. Our medical customers particularly benefit because new technology is often required but needs to be diligently vetted by experts due to the sensitivity for performance, reliability and safety particularly if it is going to be used in Class 2 and Class 3 medical devices.

What trends have you perceived in the area of power solutions for medical devices that are set to transform the sector over the next ten years?

One of the strongest trends we perceive is that rechargeable power systems are becoming more complex. Multiple power solutions are being incorporated into one product, particularly as products are migrating from old battery technology like lead acid instead - or also - cutting the cord to the AC main lines for the first time. Products like ultrasound carts or mobile X-rays are good examples of this trend. These are systems with battery and traditional BMS, but that also including charge control on the input (AC/DC conversion), and power conversion (DC/DC or DC/AC) on the output, all within a single 'solution' provided to the customer.

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