



*Capsule Technologies Recognized for*

**2021**

**New Product Innovation**

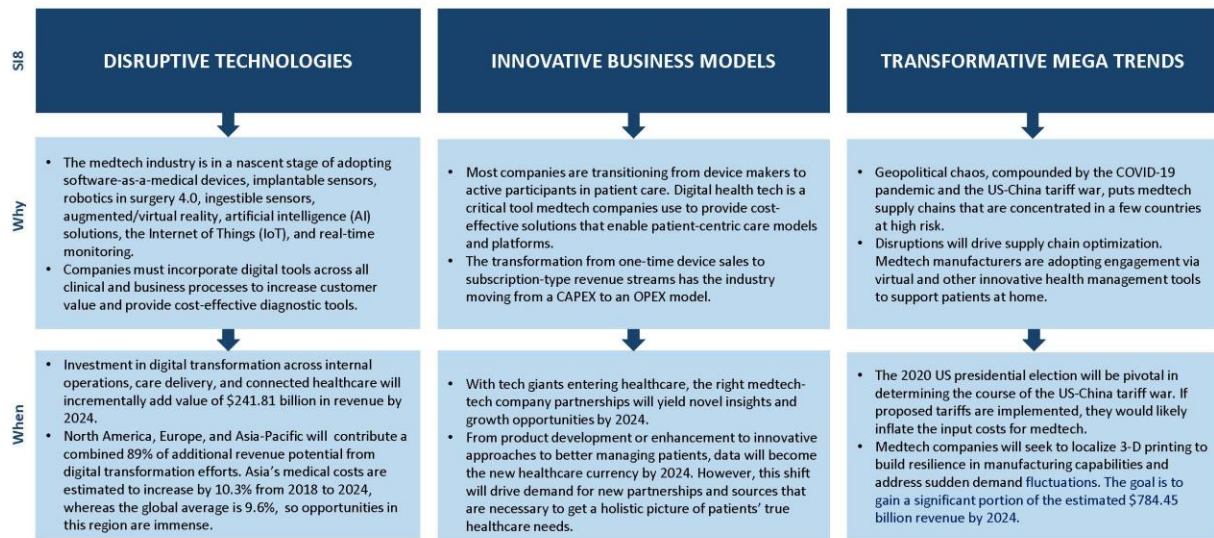
North American Remote  
Ventilator Surveillance Industry  
*Excellence in Best Practices*

## Strategic Imperatives

Frost & Sullivan identifies three key strategic imperatives that impact the medtech industry: disruptive technologies, innovative business models, and transformative Mega Trends. Every company that is competing in the medtech space is obligated to address these imperatives proactively; failing to do so will almost certainly lead to stagnation or decline. Successful companies overcome the challenges posed by these imperatives and leverage them to drive innovation and growth. Frost & Sullivan’s recognition of Capsule Technologies is a reflection of how well it is performing against the backdrop of these imperatives.

### THE IMPACT OF STRATEGIC IMPERATIVE 8™ ON THE MEDTECH INDUSTRY

The following 3 strategic imperatives will ensure growth in the medtech industry.



Source: Frost & Sullivan

## Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each award category before determining the final award recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated companies. Capsule Technologies excels in many of the criteria in the North American remote ventilator surveillance space.

AWARD CRITERIA	
<i>New Product Attributes</i>	<i>Customer Impact</i>
Match to Needs	Price/Performance Value
Reliability	Customer Purchase Experience
Quality	Customer Ownership Experience
Positioning	Customer Service Experience
Design	Brand Equity

***Pioneering Remote Ventilator Surveillance for Acute Care***

At the end of October 2020, about 48 million COVID-19 cases had been reported worldwide. COVID-19 is primarily a respiratory disease that causes mild-to-critical breathing problems. On average, about 5% of the total patients have required critical care, including a ventilator, depending on the severity of the breathing condition, thus creating a huge demand for ventilation support. Additionally, because of the highly communicable nature of the virus and the lack of proper treatment, healthcare providers need to take the utmost precaution to avoid the spread of infection while delivering care. Healthcare workers in critical care wards are at a high risk for exposure, even with personal protective equipment (PPE), because of frequent patient visits. In addition, even before COVID-19, the ICU staff shortage had been a major problem, and with the pandemic, the need to manage a larger patient pool is putting more stress on healthcare workers. Shortages in healthcare staff and ventilators are affecting the continuous patient monitoring and proactive care delivery for patients.

Founded in 1997, Massachusetts-based Capsule Technologies is a leading global provider of medical data technologies for healthcare providers and has addressed the industry challenges through its Ventilated Patient Surveillance (VPS) system. The VPS system is one of the first solutions to address the problem of remote ventilator monitoring and has seen strong early success, compared to competing solutions, in terms of adoption.

The VPS is launched in close collaboration with hospitals and is well validated to meet the clinical requirement for remote monitoring and clinical surveillance of ventilated patients.



Source: [www.capsuletech.com](http://www.capsuletech.com)

Capsule Technologies' solution has gained US Food and Drug Administration (FDA) clearance for secondary remote surveillance in the United States. For VPS system deployment, the hospital must deploy its ventilators through the Capsule Medical Device Information Platform (MDIP). The system acts as a second set of eyes during critical care and allows clinicians to monitor patients remotely. Moreover, if a patient's condition deteriorates, then advanced algorithms alert the clinician to take timely action. In addition, the system can filter out non-actionable alarms and allows clinicians to monitor up to 60 beds at a time. The product has been of great value during the COVID-19 pandemic, where clinicians must care for a larger patient pool and keep their exposure at a minimum to prevent the spread of infection.

Capsule Technologies' VPS system features an innovative design that enhances both the visual appeal and ease of use. For ease of use, the system offers the ability to visualize data from any ventilator regardless of brand or model. The system provides both a centralized overall review and management of patients and an individual detailed patient snapshot. In addition, the system provides a centralized view

*"Capsule Technologies' best-in-class VPS system empowers healthcare providers to monitor ventilated patients remotely, offering advanced, actionable, and predictive insights/customized alerts and at-a-glance intuitive dashboard options."*

*- Kaustubh Savant, Senior Industry Analyst*

of ventilator data, such as fraction of inspired oxygen (FiO<sub>2</sub>), set tidal volume, exhaled tidal volume, set respiratory rate (RR), total RR, peak inspiratory pressure, and positive end expiratory pressure for each patient, and provides a visual snapshot that includes alarm alerts, date stamps, and the status of other relevant health vitals. The solution notifies clinicians on emergent events, such as patient disconnect/lack of airway (low

pressure and low volume), decreased lung compliance (high and low volume), low-pressure RR, and apnea, and is pre-configured to provide alerts on emergent patient conditions. The VPS system adheres to the World Health Organization's clinical management of Severe Acute Respiratory Infection (SARI) guidance for suspected COVID-19 cases.

According to Hemant Goel, CEO of Capsule Technologies, "For our existing clients, adding ventilated patient surveillance is a simple, yet impactful, way to extend the utility of their Capsule installations. Technology is a key enabler, and we are directing all resources to support our clients' urgent needs to reduce risks, increase efficiencies, and extend the reach and availability of resources. Our Ventilated Patient Surveillance workstation offers remote, continuous visibility on critical, respiratory-compromised COVID-19 patients while supporting clinical decisions and helping staff limit their exposure."

### ***Bringing Exceptional Value to Customers***

Capsule Technologies' VPS system has been a valuable tool to support both patient and staff safety during the COVID-19 pandemic. While providing care, healthcare workers must take the necessary steps to prevent infection. The company's VPS system efficiently provides alerts for clinically actionable emergent events so that clinicians can better manage their exposure, and hospitals can resourcefully manage the staff and the use of PPE.

Compared to competitors, Capsule Technologies has capitalized on its first-mover advantage for its VPS

system by achieving commercial success to on-board a number of its existing MDIP hospital partners for

*“Capsule Technologies’ medical data technology expertise and pioneering efforts have led to the launch of the VPS system during the COVID-19 pandemic. This system has been instrumental in helping healthcare providers manage the three most pressing needs: healthcare staff availability, capacity expansion, and infection control.”*

**- Kaustubh Savant, Senior Industry Analyst**

this extended technology capability. To add additional value by providing quick implementation and lowering the on-site tech resource burden for hospitals, Capsule Technologies recently collaborated with Microsoft on its Azure solution to launch a cloud deployment and management version of its VPS system. This version provides hospitals with greater flexibility and is the easiest way for hospitals with a cloud IT strategy to start using the platform.

Many hospitals currently have systems in place to monitor a patient’s vital signs centrally, but they lack the technology to monitor ventilator data remotely. Capsule Technologies can set up ventilator data integration and surveillance for its hospital partners through its VPS system in only a few days, thus providing the much needed visibility on the patient’s respiratory condition remotely in near real time. In addition, the VPS system allows hospitals to improve their resources, in terms of staff and workspace, thus achieving efficient capacity expansion.

Yale New Haven Health System (YNHHS) was an early adopter of Capsule Technologies’ VPS system. During the pandemic, YNHHS has transformed many of its non-ICU rooms into temporary ICU facilities. Some of these temporary ICU rooms are isolated and do not have windows into access ways, making it difficult to view the bedside monitoring device and hear any critical alarms. The VPS system has helped YNHHS overcome this problem by allowing the clinical staff to see and hear ventilator signals remotely in non-traditional ICU settings.

According to Chris Gutmann, System Director, Information Technology and Clinical Engineering at YNHHS, “Our collaboration with Capsule Technologies is an extension of our existing partnership and our long-held vision for using technology to manage critically ill patients through remote access, analytics, and smart notifications. This ventilated patient surveillance solution is not only helping our care teams confront the COVID-19 pandemic today, but I expect it will continue to serve the needs of our clinicians and patients well into the future, becoming a standard of care.”

Other health systems that have successfully implemented the company’s VPS system include Massachusetts General Hospital, University of Miami Health System, Nebraska Medicine, Virginia Hospital Center, and Middlesex Health. Capsule Technologies’ customer support does not stop at installation because the company offers extensive post-installation, high-quality professional service through the following solutions:

- Capsule Support Access: Direct link between hospitals and Capsule Technologies’ professional service team to resolve/troubleshoot any issues post installation at no additional cost to customers
- Training and Advisory: Additional specialized service and training offered apart from the standard offerings

- Application Upgrade Assistance: Timely upgrade support to ensure optimal implementation and minimal downtime

Capsule Technologies' VPS system leverages the ventilator connectivity of its MDIP, which is used in more than 2,000 hospitals across the United States. To reduce the financial burden on already strained hospitals, Capsule Technologies provides a no-charge license of its VPS system for eligible hospitals for an initial period of at least six months and potentially longer, as the pandemic continues to persist.

## Conclusion

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Capsule Technologies' VPS system addresses the key clinical white space of efficiently monitoring crucial ventilator data remotely. This VPS system is a well-validated, FDA-cleared solution that allows hospitals to address the current challenges of the acute care staff shortage and infection control, especially during the COVID-19 pandemic by enabling data from any medical device to be viewed remotely and used to more effectively provide patient care. Within a few months, Capsule Technologies has successfully implemented its solution for a number of its major hospital partners.

With its strong overall performance, Capsule Technologies has earned Frost & Sullivan's 2021 New Product Innovation Award in the North American remote ventilator surveillance industry.

## What You Need to Know about the New Product Innovation Recognition

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Frost & Sullivan's New Product Innovation Award recognizes the company that offers a new product or solution that uniquely addresses key customer challenges.

### Best Practices Award Analysis

For the New Product Innovation Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

#### *New Product Attributes*

**Match to Needs:** Customer needs directly influence and inspire product design and positioning

**Reliability:** Product consistently meets or exceeds customer performance expectations

**Quality:** Product offers best-in-class quality with a full complement of features and functionality

**Positioning:** Product serves a unique, unmet need that competitors cannot easily replicate

**Design:** Product features an innovative design that enhances both visual appeal and ease of use

#### *Customer Impact*

**Price/Performance Value:** Products or services provide the best value for the price compared to similar market offerings

**Customer Purchase Experience:** Quality of the purchase experience assures customers that they are buying the optimal solution for addressing their unique needs and constraints

**Customer Ownership Experience:** Customers proudly own the company's product or service and have a positive experience throughout the life of the product or service

**Customer Service Experience:** Customer service is accessible, fast, stress-free, and high quality

**Brand Equity:** Customers perceive the brand positively and exhibit high brand loyalty

