ZEBRA CAPTURE YOUR EDGE

The Temperature Intelligence® Effect

Temperature Monitoring and Sensing Technology: Our One Shot to Create a Sustainable COVID-19 Vaccine Cold Chain

The beginning stages of COVID-19 vaccine distribution has signified a light at the end of the tunnel toward alleviating the most calamitous public health crisis in modern history. However, in order to effectively distribute the vaccine on a mass scale, we must work together with some of the most innovative companies in the pharmaceutical, transportation and technology sectors to simplify a series of complex product hand-offs while maintaining all aspects of the required temperature profiles of the different COVID-19 vaccines.

Given the urgency to immunize as much of the population as possible in order to curb the pandemic, coupled with limited supply and the financial/environmental ramifications of wasted vaccines, there is an exceedingly thin margin for temperature maintenance error when it comes to the distribution, storage, and administration of the COVID-19 vaccine.

Now more than ever, the vaccine cold chain needs to be sustainable to the very last mile.

Temperature Monitoring and Sensing Technology can serve as an invaluable resource for accomplishing just that. It's an equal balance of innovative temperature monitoring and proactive implementation that comes to life in the form of Electronic Temperature Sensors, Temperature Tracking Indicators, Vaccine Vial Monitors and more. The cold chain's entire ecosystem, spanning from large parcel carriers and mid-level distributors to healthcare workers and recipients, can leverage these Temperature Intelligence tools as assets for successfully navigating the most intricate nuances of the COVID-19 vaccine distribution and administration process to foster a sustainable cold chain that reduces the risk of widespread waste.

Rapid Detection From Actionable Data Insights

COVID-19 vaccine vials begin their journey down the cold chain in insulated containers with specialized coolant capable of maintaining the designated internal temperature required by the manufacturer. These insulated coolers are then loaded on to a large parcel carrier such as a truck or plane. With high volumes of vials inside, real-time temperature visibility of each container is a vital aspect of maintaining temperature compliance. The utilization of Electronic Temperature Sensors can provide the essential visibility standards by compiling advanced temperature data at predefined times, and then uploading it to the cloud so that reports and graphs can be

created. Those reports and graphs reveal the environmental temperature experience of that container during transport. In addition, they can also monitor refrigerators and freezers in warehouses and immediately alert an employee of potentially damaging temperature excursions before the vaccine vials are exposed for too long thereby elminating unnecessary waste.

Temperature Awareness and Cold Chain Transparency

Temperature Monitoring and Sensing Technology also benefits local communities, where logistics providers are responsible for delivering the vaccines to hospitals, retail pharmacies, and healthcare clinics. Single-use Temperature Indicator Cards can be placed inside shipping boxes containing COVID-19 vaccines to monitor the internal temperature ranges of the vaccines. In the event of a heat or freeze excursion, the chemical indicator technology will change color to alert recipients that the incoming vials have been exposed. By heightening the temperature awareness for all parties involved, the indicator acts as a safeguard ensuring compliance protocols are followed by each handler in the cold chain.

Flexible Temperature Monitoring Capability

Vaccine Vial Monitors (VVM) are the third foundational pillar of Temperature Intelligence. Applied to each individual vial during the manufacturing stage, the Vaccine Vial Monitor detects cumulative heat exposure while the vaccine is shipped and stored throughout its journey down the cold chain until administered. All heat exposure is irreversibly captured by the Vaccine Vial Monitor and provides a visual cue to the healthcare workers and recipients of potential damage prior to administration. Through the insight provided by this well-tested technology, distributors and vaccinators can maximize the number of doses administered while avoiding potentially damaged vaccines from being used. Over the next decade, it's estimated that Vaccine Vial Monitors will enable healthcare workers to recognize and replace more than 200 million doses of damaged vaccines.

Zebra's Temperature Monitoring and Sensing Technologies Foster a Sustainable Cold Chain

Zebra Technologies is supporting COVID-19 vaccine distribution and streamlining the temperature monitoring of the vaccine as distributors, storage warehouse operators, and frontline healthcare workers work around the clock to immunize the general population and move closer toward ending the pandemic. Our innovative product line of Electronic Temperature Sensors, TransTracker® Indicators, and HEATmarker® Vaccine Vial Monitors, which are manufactured by Temptime Corporation, are driving forces behind an efficient and effective COVID-19 vaccine cold chain.

Discover the benefits of Zebra's Temperature Monitoring and Sensing Technology today!

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