

# Cold Chain Integrity for Biologics

Powered by SAS Analytics for IoT

High-value biopharmaceuticals, vaccines and gene therapy products face increasing regulatory and security requirements. At the same time, demand is surging. Our Cold Chain Integrity solution for biologics leverages SAS Analytics for IoT, Azure IoT Services, Microsoft Healthcare Cloud, and Stress Engineering's drug supply chain and IoT device expertise all to maintain product quality, minimize loss, avoid potential violations and document chain of custody.



## Monitor

Create end-to-end transparency for key assets to drive data-enabled action across the supply chain



## Track

Ensure guidelines and protocols are followed for vaccine and biologic distribution / storage while maintaining the integrity of the supply chain for regulatory compliance and patient safety



## Optimize

Dynamically optimize the cold chain to manage risk, improve efficiency, and maximize value



*"A future state of drug distribution will leverage a personalized e-commerce distribution model. Pharmaceutical manufacturers will be required to "own" this supply chain and prove to the FDA that these new, diverse, largely uncontrolled individual distribution paths are safely delivering the drug product to the end-users."*

Clint Haynes, VP at Stress Engineering