

Creating Competitive Advantage with the Industrial Internet of Things

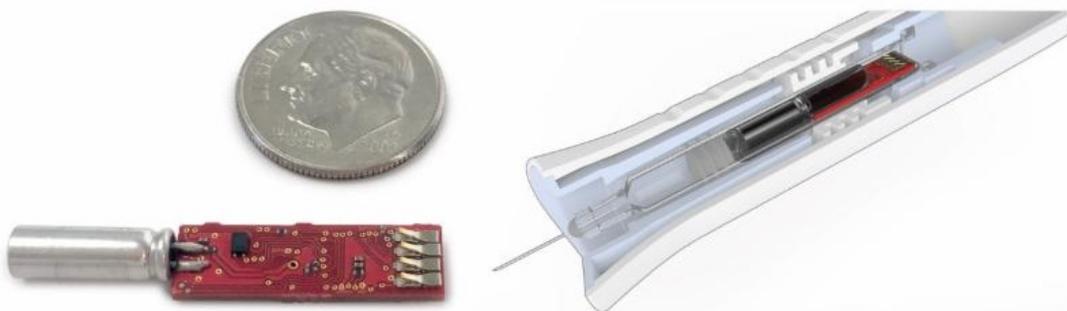
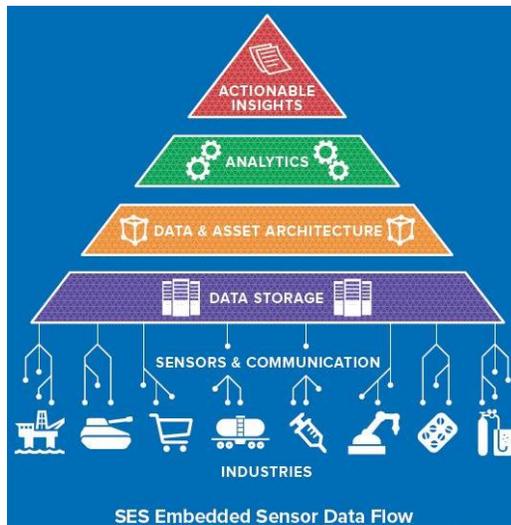
The Stress Engineering IoT Applications Development Laboratory™

The Industrial Internet of Things (IIoT) connects machines, people and complex analytics to leverage data in ways that can revolutionize the way people and companies operate. By collecting, monitoring and analyzing millions of data points, Stress Engineering is able to uncover insights that were once hidden. We can then use these insights to create unique solutions that not only overcome technical challenges, but change the game, increase speed-to-market, and improve the likelihood of success for products in-market.

Biologic Drugs in Combination Products

The molecules of biologic drugs can be fragile and sensitive to viscous shear caused by handling, transport vibration and temperature. If shipped improperly, these important medications can arrive at their destination ineffective or worse, unsafe. These drugs offer great promise, but it is crucial to ensure their efficacy by monitoring, logging, reporting and actively alerting manufacturers of conditions that may have resulted in degradation at a level of granularity that enables specific drug delivery devices to be isolated from use, if necessary.

Initially developed to help manufacturers understand how a manufacturing line interacted with the drug during filling and conveying, Stress Engineering developed a custom sensor that is carried by the product as it is transported along the manufacturing line. The sensor is used to characterize the vibration produced by the line during production to determine if the manufacturing operation is functioning as intended.



Electronic circuit board developed to ride inside a small vial in the drug delivery system.

The big difference today is that the data is streamed from the sensors, either through edge or cloud computers, in real- or near real-time with the analytics and insights available on a continuous basis. This translates to your bottom line by providing accelerated responsiveness to situations that can impact your business. Read more [here](#).

Upcoming Events



**2018 PDA Universe
of Pre-Filled Syringes
and Injection Devices**
*Transforming Pre-Filled Systems
through Innovation*

October 8-9, 2018
Orlando, FL
Exhibition: October 8-9
#PDAPFS

PDA
PHARMACEUTICAL DELIVERY ASSOCIATION



Visit SES in Booth 215

October 8-9, 2018 | Orlando, FL

Want to set up a meeting at the show?
Contact us today!

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Missed our latest newsletter?

Click [here](#) to read about our experience in Computational Modeling of Medical Devices - ASME V&V 40 Guide.

Stress Engineering Services Inc. provides expert engineering consulting services for:

- **New Product Development**
- **Material Science & Engineering (Full Polymer & Metallurgical Labs)**
- **Systems Engineering**
- **Risk Assessment**
- **Human Factors**
- **Sustaining Engineering**
- **Failure Analysis**
- **Package Development**
- **Verification Testing**
- **Equipment Validation & Development**

Our services help clients achieve not only technical success in avoidance or remediation of failures, but also commercial success in removing costs, risk and time from their process and product designs.

PHARMACEUTICAL | SURGICAL DEVICES | DRUG DELIVERY | MEDICAL EQUIPMENT
OCULAR | IMPLANTS | DENTAL | DIAGNOSTIC DEVICES | ENT | VETERINARY | VASCULAR

To learn more about Stress Engineering Services Inc., visit our [website](#)
or contact us at 513-336-6701.

ISO 13485:2016 & ISO 9001:2015 Certified
ISO 17025:2005 Accredited for Several Test Methods
ISTA Certified Testing Laboratory Member

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