

monitoring **change**
for better living



LIVE REMOTE TEMPERATURE SENSING
AND ALERT SYSTEM

A SMALL CHANGE CAN MAKE A HUGE DIFFERENCE

WHAT IF THE CHANGE ISN'T GOOD?

Introducing an affordable solution to temperature monitoring from remote, on a 'live' basis.

THE WHY

An alarming 795 million people in the world suffer from chronic undernourishment. This translates to one in every nine people on the planet. The vast majority of the world's hungry people (about 98%) live in developing countries, where 12.9% of the population is undernourished.

The other side of this equation is that a massive 33% of all food produced around the world is either lost or wasted – estimating the annual global food loss to be around \$750 billion. Losses due to breaks in the cold chain is also widespread in the perishables industry.

For highly perishable food items, which should be stored under 5° Celsius, a variance in temperature would affect not only the nutrition and freshness, but would mean a financial loss as well.

Global losses from breakdowns in the cold chain during the transportation and storage of medicine are estimated at over 35 billion dollars. Studies show that the death toll due to deficits in access to medicines is estimated at 10 million people a year.

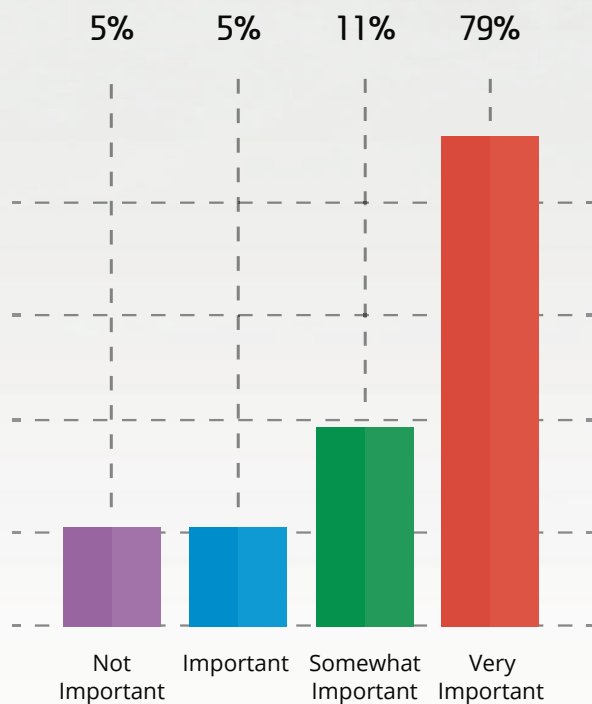
The quality of vaccines being compromised is another prevalent problem in the developing countries. Almost 40% of the drugs are to be stored and transported in controlled temperatures. Any deviation from the prescribed parameters during storage or logistics makes them ineffectual and can be, in worst cases, fatal. This is a problem that affects 33% of all vaccines administered, and statistics show that 17 million people die every year globally due to ineffective vaccines.

The current size of the global pharma industry is estimated at \$ 1.3 trillion, and is expected to touch 1.4 trillion by 2020. In 2018, one out of every two products will be sensitive to temperature excursions.

Sources: PR Newswire, WHO factsheets

*Innovations in cold chain market survey was conducted in July 2016 and the results are based on 19 responses.

Technology in cold chain logistics*



THE WHAT

Today, driven by the growing need to monitor and track items at a real-time basis, new solutions are being developed to ensure better risk management, quick response in case of temperature excursions, and traceability that adheres to the strictest standards.

Internet of Things (IoT) has made a global impact and its easy connectivity with sensors, computing devices and remotes has been a game-changer in a number of industries like medicine, consumer appliances security, healthcare, transportation and the supply chain.

Degree M Labs has leveraged IoT to tackle breaks in the cold chain logistics market to improve the effectiveness of pharmaceutical products, life-science products and perishables – with focus on the “last mile delivery”.

At high level, this product is about monitoring temperature of cold chain consignments like pharmaceutical life sciences and perishables during storage and transportation. The capability to track the temperature of the shipment is highly helpful for analytics and also extremely useful for proactive management when it comes to temperature-sensitive cargo. The alerts system will also ensure that proper measures are taken for maintenance of the recommended product temperature.



The global population is expected to increase at a rapid pace in the future – leading to increased demand of food and pharmaceuticals. Keeping in mind the market dynamics, as well as the growing shift from chemical entities to biological entities, Degree M Labs is keen on increasing the quantity of effective medication and safe consumables reaching healthcare providers and food distributors respectively.

THE HOW

“ AN AFFORDABLE SOLUTION FOR TEMPERATURE



Our product, using telematics, serves the dual purpose of sending out temperature readings at regular intervals and also alerting concerned parties if the temperature of the consignment crosses the set threshold.

This remote monitoring on live basis and alert system helps in not only preventing the huge losses incurred by the pharma and perishable industries due to cold chain disruptions, but also goes a long way in saving lives.

MONITORING FROM REMOTE - ON A LIVE BASIS

PERISHABLES SUPPLY CHAIN



FOOD PRODUCTION



DISTRIBUTION &
AGGREGATION



FOOD PROCESSING



The device has a SIM card, which is used for transmitting the temperature along with the date and time stamp.

The increase in temperature of the cargo would cause the system to send immediate warning alerts to supply chain managers through multiple channels (text message, email and push notifications) so that the necessary preventive measures, like re-icing or refrigeration, can be taken.

Our product is designed to facilitate proactive intervention in cold chain supply management, ensuring highest effectiveness and quality standards.



MOBILE ALERT



MARKETS &
PURCHASING



MONITORING
AGENCY

FREIGHT TO PLATE

SMART DEVICES AND PERISHABLES

The cold chain market is estimated to be valued at USD 167.24 billion in 2015, and is projected to reach USD 234.49 billion by 2020. It is projected to grow at a CAGR of 7.0% from 2015 to 2020.

The need for high quality and enhanced consumer experience has increased greatly over the past few years – leading to the growing demand for globalization of cold chains.

This also means quick shipping over extended distances - which increases the risk of perishables having short shelf life and poor quality.

To eliminate this possibility of incurring financial loss or worse, distribution of sub-standard food and other perishables, Degree M Labs will enable quality of delivery is at its highest with no material losses and health risks.

Sources: Postharvest Education Foundation White Paper - 13-03, International Trade Administration



CLEAN MEDICINES

SMART SENSORS AND PHARMACEUTICALS

Imagine a mother who has just come back from the doctor's clinic, happy that her child has been vaccinated and safe from the chickenpox. Now, what if there was a chance her child could suffer from the chicken pox or worse? On a global scale, pharmaceutical and life sciences products have deteriorated from ineffective vaccines, blood, and medicine, and 17 million deaths could have been avoided if global vaccination was improved.

Global vaccine market is estimated to grow from current size of \$ 32 Bn to \$ 48 Bn by 2021. Over \$260 billion of annual biopharma sales are dependent on cold chain logistics, according to Pharmaceuticals Commerce. According to the World Health Organization, all vaccines must be maintained at a temperature between 2°C and 8°C during storage and transportation.

Sources: Packaging digest, WHO factsheets, ResearchGate

Degree M Labs helps the pharmaceutical supply chain management on a global front by ensuring that pharmaceutical consignments reach doctors at their highest potency and effectiveness.





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