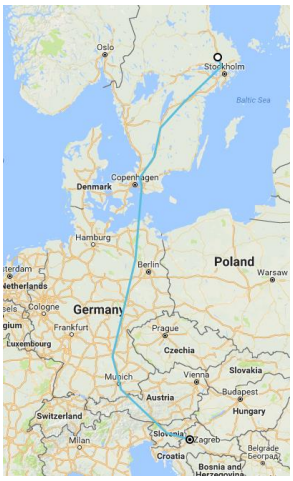
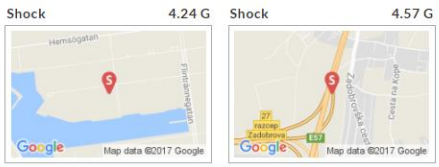
Case Study: Improving Delivered Quality through Tracking

Biotage
www.biotage.com

This shipment was done in collaboration with Biotage, a global Life Science company that develops innovative and effective solutions for separation within organic and analytical chemistry, as well as for industrial applications.





Excursion 001
Start: 2017-09-29 08:32
Stop: 2017-09-29 08:32

Excursion 002
Start: 2017-10-03 05:56
Stop: 2017-10-03 05:56

Shipment tracking through Europe, highlighting two locations with shock exceeding 4.0 G

It is relatively easy to have control over the state of a product while in production. It becomes more of a challenge to ensure that the product remains in the same state when reaching the end customer.

Transportation companies offer services to monitor when the product passes through pre-defined checkpoints. However they offer no information on the state of the product. When shipping sensitive products there is a risk that the end customer is the first to detect a defect product. This raises two issues, first and foremost a disappointed customer, secondly an issue with determining whose insurance that shall cover the cost of replacing or repair the product.

Expensive sensitive products are often equipped with shock indicators – informing that: at some point during the transportation the product has been exposed to a shock exceeding a set value. This information can be useful to prevent using a product that is likely to be defect. However, better methods exist.

If continuously measuring the shock (acceleration) using a connected tracker, the supplier will be able to follow the state of the product all the way to the end customer. If exposed to a shock, the supplier will know where and when. This will provide the possibility to take preventive measures before the product reaches the customer. For example, directly ship a new product, order out a technician, but most importantly communicate with the customer. It will also be easy to determine who shall cover for the cost. In addition, the data will make it possible to correct for any re-occurring problems in the supply chain.

Challenge

Scientific instruments sensitive to shocks are distributed from Sweden to global destinations using different modes of transport. The instruments are packed inside wooden crates equipped with shock indicators. The shock indicators will show if the crates have been exposed to shocks over a set threshold. To check for indication, the crate must be opened by someone. If the indication was triggered, it is not possible to know at which location the shocks have occurred, or the magnitude of the shock.

Tracking device mounted in a wooden transportation crate.

OnAsset Sentry 500 device.

Solution

In this pilot test, a connected tracking device was placed inside the wooden crate. The tracker measures; position (GPS, GSM), temperature, light, motion, shock, and pressure. It reports the measured data to a web portal (BRiGHTiNTEL). This set-up was configured to report all sensory readings directly if a shock exceeding 4.0 g occurred or the wooden crate was opened, otherwise the device reported once every 8 hours.

Results

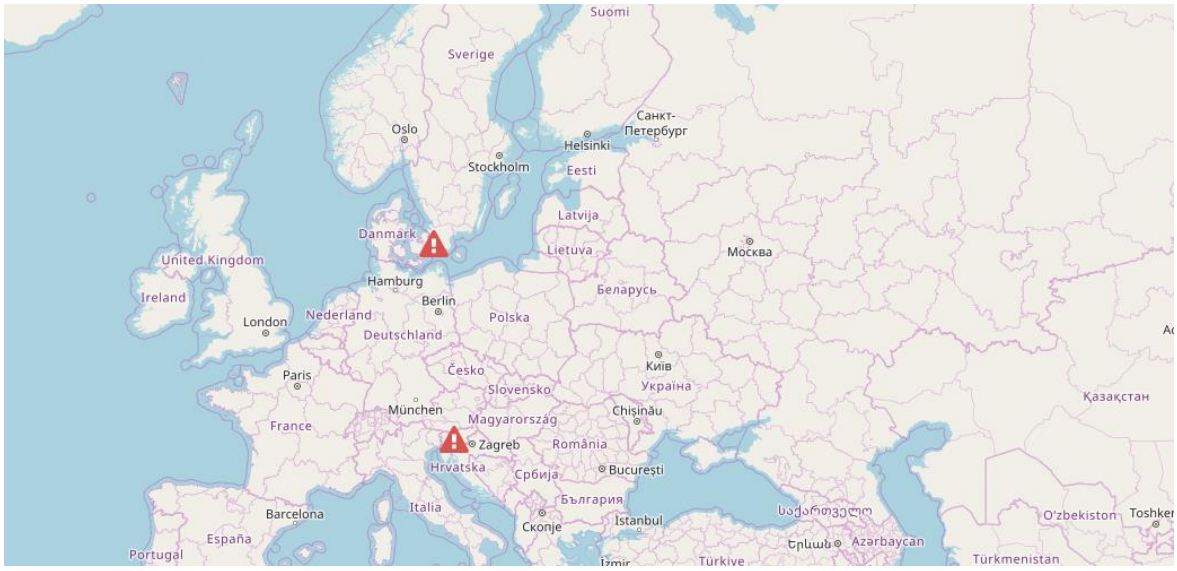
The products were loaded onto a contracted truck in Sweden, after which the transport continued through central Europe by truck and ferry until it was delivered at its destination 7 days later.

Key findings

- Two shocks were above 4.0g, the first one is in the Malmö harbor (Sweden), and the second in central Europe. The shocks were too small to cause any defects on the instrument.
- The wooden crate was not opened during the transportation leg, hence it is intact.

Summary:

Using shock monitoring gives the advantage of knowing that the product arriving to the customer has the expected quality.



Dashboard overview of the shocks over 4.0 g.

BRiGHTiNTEL helps shippers to meet supply chain-related demands and to understand how products and assets are being handled during transportation by automatically monitoring, structuring and analyzing data from products and assets in transit.

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