Envirotainer°

# Changing lives around the world
The road ahead is data driven

Data and digitalization have already changed the world. For many of us, developments like the Internet and mobile connectivity have transformed not just how we access information and communicate but also how we live and work.

There are no signs of this transformation slowing down as digital technology spreads wider throughout the world and deeper into our societies and economies. Creating new business models, new ways of addressing our needs like healthcare and education, and new ways to connect and work together.

Inevitably, data and digitalization have become the driving force behind many industries looking to the future. Here, we take a look at the impact data and digitalization can have throughout the cold chain – and where we can become more reliable, efficient, profitable and sustainable on the path towards the vision of true global and local access to life-changing medicine.

Get Smart
Smart packaging solutions with integrated sensors helps us monitor and control crucial parameters like temperature, humidity, light exposure and shock during transportation and storage. All of which can be vital to secure successful delivery of high-quality, temperature-sensitive medicines all the way to the patients who rely on them.
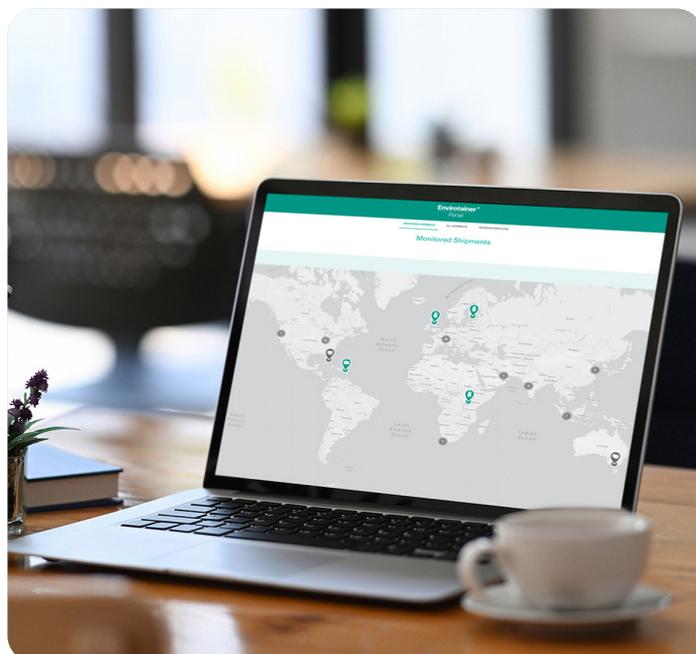
Get real

Traditionally, the cold chain industry has often relied on manual checks and periodic monitoring, which brings in the risk of human error and delays in detecting any deviations or equipment failures.

Sensors can gather a wealth of actionable information – all in real time – to instantly and reliably identify temperature excursions and other potential issues, ensure compliance with regulatory and quality standards, track shipment locations and initiate alerts to stakeholders. With real-time monitoring, stakeholders can respond swiftly and proactively to prevent potential spoilage or damage to the goods, as well as minimizing supply chain disruption and the financial and environmental costs.

Learn more and take action

As the volume and scope of data has increased, the tools to analyze data have become more advanced. Data analytics helps us identify patterns, trends and inefficiencies after each shipment, showing us where issues can most efficiently and profitably be resolved. While predictive analytics can reveal problems before they even occur, potentially identifying trends, forecasting demand and anticipating maintenance needs to reduce risk. Here are a couple of examples of how we use analytics at Envirotainer:

○ Trade lane risk assessment

We use analytics on years of shipment data so a shipper can easily see if they are any specific trade lanes where there have been process failures in the past. Based on this, shippers can adjust their planning to either re-route or update their standard operating procedures to minimize any risk.

○ Predictive maintenance

Based on historical data and AI, we can anticipate any maintenance that might be needed on a container, preventing issues before they can occur. For example, we can early-detect that a cooling system is in need of a service and can proactively take the unit out for maintenance. For us and our customers, this means more container availability as we can bring a container back for servicing at the best time to minimize shortages. And, most important of all, we mitigate the risk of container failure and product wastage during the shipment.

From cold chain to blockchain

Smart sensors, real-time monitoring and advanced analytics are already important tools for many in the cold chain and will form the new standard for

our industry. But that's perhaps just the tip of the iceberg. We can also see the increasing use of data and digitalization not only for securing shipments but across many other areas of our operations and partnerships.

○ Traceability

Blockchain technology can enhance traceability and transparency in the supply chain. Helping verify the authenticity of products, track the journey from manufacturing all the way to the patient and ensure compliance with regulatory standards.

○ Integration and interoperability

Seamless integration and interoperability of data across various systems will ensure more visibility and transparency throughout the supply chain as well as unlocking greater efficiency gains. Here, we can give partners the key by making APIs available for developers.

○ Automated systems

Processes in cold chain facilities can be streamlined and made more secure thanks to automation and robotics. Automated systems can safely and efficiently manage inventory, pick and pack products, and reduce the risk of errors handling sensitive pharma and biotech products.

○ Mobile applications

By developing mobile applications, personnel on the ground can monitor and manage cold chain conditions on the go – and respond even quicker to any issues.

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- Quality Management Systems

Similarly, digital quality management systems will be needed to maintain the quality of products throughout the supply chain. Helping us track and manage compliance with the highest industry standards and regulatory requirements.

Driving change throughout the cold chain

For the cold chain, it is already clear that the integration of data and digitalization will drive efficiency and quality gains in the storage and shipment of temperature-sensitive medicines. In addition, it will also drive other key improvements in the areas of sustainability, risk management and collaboration.

For example, shared data can promote greater collaboration and transparency by providing a common language and an objective understanding of issues for more informed and collaborative decision-making.

Perhaps even using a cloud-based data storage and

management platform that all stakeholders in the supply chain can access. Not to mention helping the cold chain manage risk, thanks to real-time monitoring and data logging to keep an eye on live status as well as provide valuable risk-mitigating insights.

Of course, there will be challenges and risks while undergoing this digital transformation. However, the biggest challenge and risk would be to resist this change and ignore the value of digital tools and how they help us to do things differently.

The cold chain of the future and the success of its stakeholders — not least the patients around the world relying on life-changing medicine — depends on us leading the way.

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How can we help?

At Envirotainer, we have already embraced the opportunities and demands of this increasingly digital future. We are fully committed to providing our cold chain partners with sensor data and a growing set of data points, real-time monitoring to stay in control of their operations with each shipment as well as APIs to help them connect more and dig deeper into potential efficiency gains and business value.

We are aware of the challenges and the opportunities the future brings – and we're here to help. Feel free to get in touch to discuss your data and digitalization challenges and get expert advice and support to help overcome them.
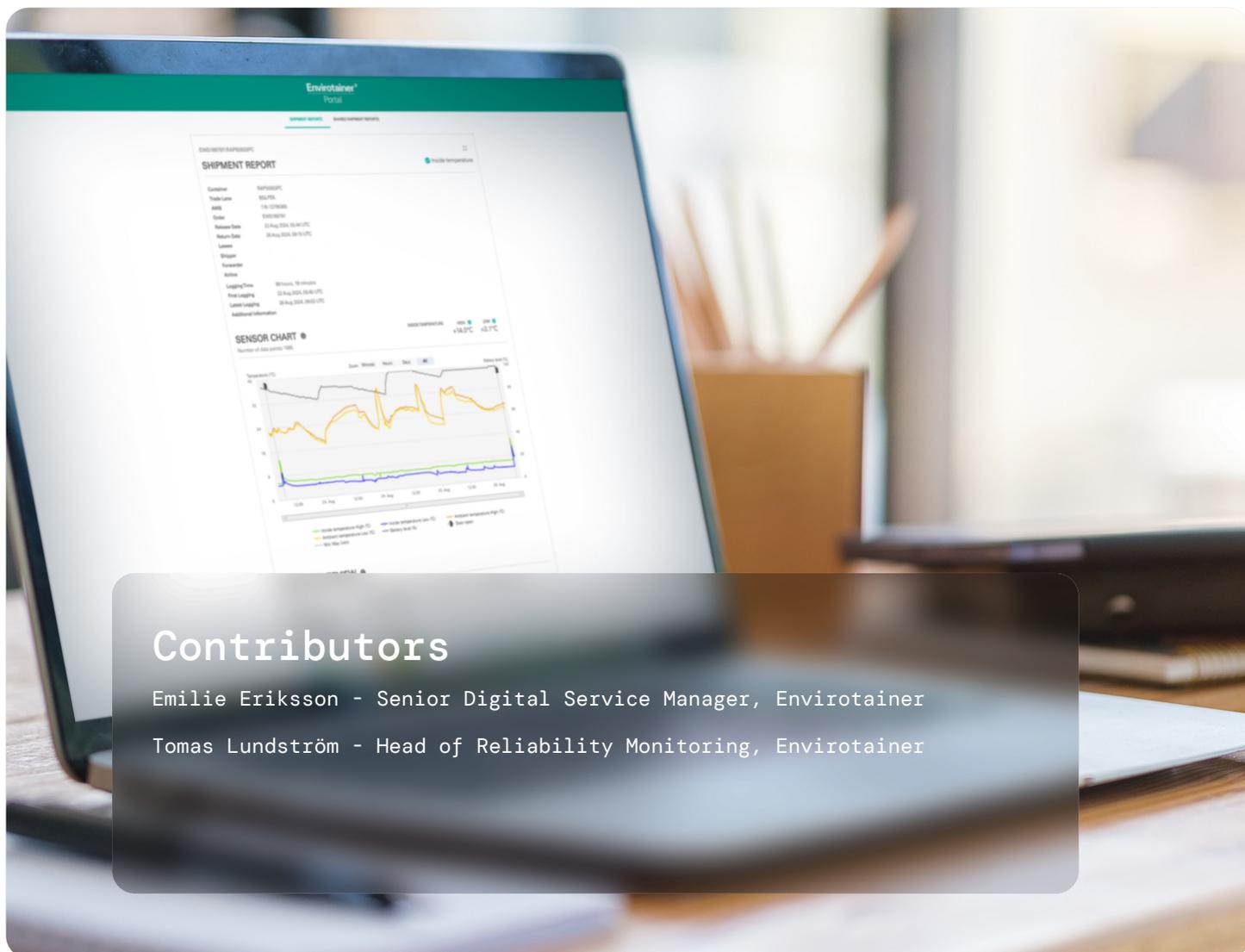
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