INTERNAL COLD CHAIN ACCELERATOR

ENSURING PRODUCT INTEGRITY, PROTECTING YOUR BRAND

WHAT IS IT?

The NTT DATA **Internal Cold Chain Accelerator** helps life sciences companies protect the integrity of temperature-sensitive products by ensuring that freezing and thawing times are optimized and strictly enforced in the internal cold chain by means of scanners or RFID tags that identify and track movements of batches.

The accelerator, based on the SAP platform, provides pharma companies with an internal cold chain management solution that offers important benefits, such as better compliance with manufacturing quality regulations, reduced spoilage of APIs and end products, less returns and recalls, and improved yields.

THE BUSINESS CASE

Pharmaceutical companies are bound to strict temperature regulations covering vaccines, drugs and Active Pharmaceutical Ingredients (APIs). As the pharma industry has globalized, APIs and finished products may have long transit cycles that involve multiple carriers. To ensure that the external cold chain is not compromised, shipments are transported within environmentally managed conditions and temperature logging devices are included in containers.

But it is not just in the external supply chain that the temperature of APIs and products needs to be controlled. Inside the company's premises, the integrity of the internal cold chain also needs to be maintained to comply with manufacturing quality regulations and minimize ingredient spoilage and the associated costs.

Pharma companies that manufacture or use temperature-sensitive ingredients or products need to ensure that the products are not stored too long outside the freezer or cold storage while on their premises.

If the Time Out of Refrigeration (TOR) exceeds the recommended limit, not only may the efficacy and quality of the end products be affected but the manufacturer risks financial claims or product recalls in the downstream supply chain, and damage to the brand's reputation.

Auditors are also increasingly focusing on the cold chain, obliging manufacturers to review, standardize and document these processes.

NTT DATA has developed world-class expertise in technologies and industries.

ADDRESSING THE CHALLENGE

The challenge for manufacturers of temperature-sensitive APIs and pharma products is to ensure that the products are correctly acclimated before being used in manufacturing processes. In many companies, this is still done using manual procedures that are tedious and err on the side of safety, which may mean a product spends more time acclimating than is strictly necessary, which leads to a longer TOR and causes inefficiency and extra cost.

Conversely, there will be cases where, because of the lack of systematic monitoring, it is not possible to guarantee internal cold chain integrity – perhaps a case has been sitting in the ambient location but no one knows for how long. In the presence of any doubt, manufacturers will opt to reject the box or pallet rather than risk using the suspect ingredient in their manufacturing process.

An additional challenge is that when ingredients have been out of cold storage for too long, they cannot be used immediately and must recover in cold storage for a minimum period of time.

What is needed, then, is a solution that systematically captures all stock movements. This enables the manufacturer to easily check that a given lot has not exceeded the maximum TOR and that the correct acclimation procedure has been followed before and after storage.

While SAP is a popular enterprise software platform in the pharma sector, it lacks a solution for the internal cold chain and the standard functionality has weaknesses for this use case: it cannot handle complex freezing or thawing processes, the available staging processes are insufficient, and it cannot handle sensor values and dynamic models.

For this reason, NTT DATA has developed the Internal Cold Chain Accelerator, to allow life sciences companies to exercise better control over their internal cold chain within their existing SAP ecosystem.

THE NTT DATA INTERNAL COLD CHAIN ACCELERATOR

Main features

- User interface permits the operator to set cold chain parameters – acclimation time, recovery time and maximum TOR - at both material and warehouse level.

- Automated recording of cold chain-related movements simplifies audit trail creation. In the event of an incident, this data helps determine what caused the problem and when it happened, so ensuring the same failure does not occur in the future.

- A dashboard provides a graphical overview of location, TOR times and acclimation status.

- To eliminate errors due to manual data entry, RF scanners are used to enter and verify cold chain-related movements.

- Movement blocks on handling units which are in a critical phase such as 'acclimating' or 'recovering'.

How it works

- Operators use RF scanners to register and confirm movements of products or ingredients when they are moved out of the freezer.

- When the item arrives at the ambient location, the registered movement is updated and the acclimation timer starts.

- The confirmation times of these movements are used by the internal cold chain solution as input for the internal cold chain dashboard.

- The dashboard allows supervisors to get clear insights about handling units that are nearing the maximum amount of acclimation cycles, maximum TOR, or which are almost acclimated and ready to move to the next process step.

- To ensure that the products are fully acclimated before processed, the cold chain solution is able to apply movement blocks on handling units until the release time has been reached.

NTT DATA is a trusted advisor in our customers' SAP decisions.

Dashboard shows details of cold chain movements and status of each unit.

BENEFITS

- Automates temperature monitoring procedures so reducing human error and ensuring compliance.

- Helps to comply with strict quality regulations and minimize spoilage of active pharmaceutical ingredients and the associated costs.

- Shortens thawing times and so improves inventory turnover.

- Eliminates the need to dispose of products because cold chain integrity cannot be guaranteed.

- Avoids the cost of product recalls, financial claims and reputational damage due to products being sold when the cold chain has been compromised.

SYSTEM REQUIREMENTS

- S/4HANA core; Stock Room Management / EWM

- SAP ECC core; WM / EWM

- Hardware: RF scanners

Cold chain related event is scanned on RF device

WHY CHOOSE NTT DATA FOR YOUR SAP LIFE SCIENCES PROJECT

We Are Experts in Life Sciences

NTT DATA has worked with the life sciences industry for 25 years. Alongside our global delivery capabilities, we have a proven track record in the sector and an end-to-end approach to integration that helps pharma companies overcome the challenges created by increasingly complex systems and disaggregated value chains in life sciences.
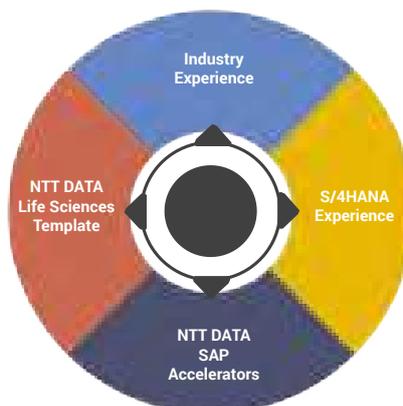
To accompany life sciences companies on their SAP S/4HANA journey, NTT DATA has a team dedicated to S/4HANA transformation and an S/4HANA Center of Excellence that establishes the most appropriate evolution strategy for companies that want to evolve to S/4HANA and other SAP solutions, platforms and technologies.

NTT DATA has developed a SAP Life Sciences template for S/4HANA and accelerators to help life sciences companies overcome specific challenges and reduce time to value.

- NTT DATA is a formidable force in SAP services with more than 20,000 SAP professionals, 2,700 SAP clients worldwide, 21 delivery centers and operations in 41 countries.

- NTT DATA has achieved the highest accolade from SAP, Global Strategic Services Partner, which recognizes its ability to offer a wide range of best-in-class business consulting and solution implementation services in support of SAP technology.

- NTT DATA is one of the Top Ten providers of SAP services worldwide according to Gartner.

- Our solutions leverage our business-specific expertise and skillsets in SAP technologies but also in other digital technologies, such as AI and IoT, for example.

Fully customized SAP S/4HANA system including all core-areas such as finance, procurement, sales, logistics, production. New SAP modules such as eWM, IBP, TM, VMS etc. are included.
SAP Business Technology Platform and Cloud Integration.

NTT DATA has been serving the life sciences industry for more than 25 years.
We offer proven experience and an end-to-end approach to integration that is particularly important in a disaggregated life sciences value chain.

Industry Experience

NTT DATA Life Sciences Template

S/4HANA Experience

NTT DATA SAP Accelerators

Specialized accelerators reduce time to market and the cost of developing solutions:
- Internal Cold Chain Solution;
- CMO Cockpit & Integration Framework;
- Analytics Framework for Operational Excellence;
- EWM ATTP Integration;
- GxP Data Lake.

- 29-year partnership with SAP.
- Over 5,000 active SAP clients.
- Leading SAP partner with over 300 S/4HANA projects.
- Resource coverage in over 58 countries.

THE NTT DATA DIFFERENCE

NTT DATA SAP Life Sciences Template

- Fully customized SAP S/4HANA system including all core areas such as finance, procurement, sales, logistics and production.

- Includes new SAP modules such as EWM, IBP, TM, VMS, etc.

- SAP Business Technology Platform and Cloud Integrations.

NTT DATA SAP Life Sciences Accelerators

- *Internal Cold Chain* helps life sciences companies better manage their internal cold chain by ensuring the right freezing and thawing times for temperature-sensitive products are strictly enforced using scanners or RFID to identify and track batches.

- *CMO Cockpit & Integration Framework* has been developed to help pharmaceutical companies support the SAP processes for contract manufacturing in an integrated way. It includes a model CMO plant, data governance to simplify the onboarding of CMOs, and role-based apps to support manufacturing and supply chain processes.

- *Analytics Framework for Operational Excellence* allows pharmaceutical companies to easily monitor the KPIs necessary to achieve operational excellence. It includes a data model, a set of KPIs and extractors/views for data acquisition using S/4HANA.

- *EWM ATTP Integration* helps life sciences companies comply with serialization and Supply Chain Integration (SCI) regulations.

- *GxP Data Lake* has been developed to help life science companies ensure trust and adopt a controlled approach to setting up a data lake to be ready for innovation.

ABOUT NTT DATA

NTT DATA – a part of NTT Group – is a trusted global innovator of IT and business services headquartered in Tokyo. We help clients transform through consulting, industry solutions, business process services, IT modernization and managed services. NTT DATA enables clients, as well as society, to move confidently into the digital future. We are committed to our clients' long-term success and combine global reach with local client attention to serve them in over 50 countries. Visit us at nttdata.com.

JOIN US!

2022