

Chillventa Specialist Forums 2022
Chillventa Fachforen 2022

**CONNECTING
EXPERTS.**



CHILVENTA

CAREL

The evolution of refrigeration controlling solutions for scientific and medical applications



DRIVEN BY
THE FUTURE

Sustainability in action

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11.10.2022

WHY

Healthcare services market is continuously growing, with a big boost due to Covid-19.



Attention has grown in **product storage solutions** for scientific and medical purposes due to the **high economical and strategic value** of the treated products.



MISSION CRITICAL >> RELIABILITY

SUMMARY

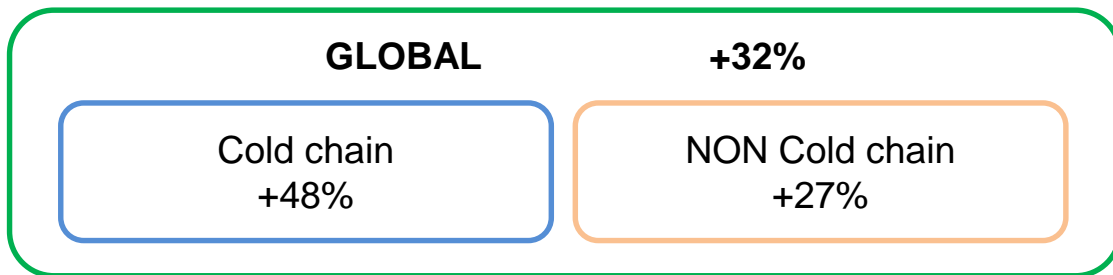
- Market values and trends
- Temperature's role
- Scientific applications
- Main scientific market needs
- IJS for scientific applications
- Business models and needs examples

MARKET VALUE

The **total market value** of pharmaceutical products is expected to be \$1.7 trillion by 2024, with 30% representing the cold chain portfolio.

In **2020**, the business of delivering cold chain pharmaceuticals reached **\$17.2 billion**

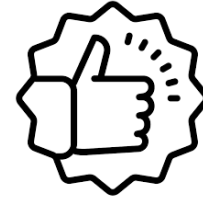
According to *Biopharma Cold Chain Sourcebook* published by Pharmaceutical Commerce, biopharma sales from 2018 to 2024:



3 KEY TRENDS

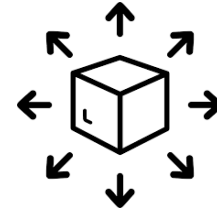
INCREASING QUALITY DEMANDS

- *Temperature excursions happen frequently*
- *Visibility is critical*



EXPANDING DISTRIBUTION RANGE

- *Business agility requires shipping flexibility*
- *Mode shift in freight transportation*



OPTIMIZING TOTAL COSTS

- *Total costs of ownership matters*
- *Reusable rental is growing*



TEMPERATURE'S ROLE

PROBLEMS / RISKS

Wrong temperature can cause:

- Acceleration of products degradation process
- The loss of therapeutic properties
- Potential toxic degradation-related products formation



SOLUTIONS / MITIGATIONS

IT'S IMPORTANT TO:

- Select the right storage solution
- Select the right monitoring system to acquire and manage data
- Define and respect preservation protocols (cold chain)



SCIENTIFIC APPLICATIONS

COOLER



From 2°C to 8°C

FREEZER



From -12°C to -30°C

ULTRA LOW FREEZER



From -50°C to -86°C

SCIENTIFIC APPLICATIONS

Pharmacy

Low risk medicines and vaccines



Hospital

Low and High risk medicines and vaccines



Laboratory

Samples for analysis and reagents



MAIN NEEDS

TRACEABILITY

- Keep storage conditions monitored
- Unit's operating data logs

PERFORMANCE

- Unit's energy efficiency
- Ultra low temperature cabinets for special medicines

RELIABILITY

- Safe solutions against power failure
- Mechanical and electrical protections against external conditions

IOT SERVICES

- Durable and safe data storage
- Easier regulations compliance
- Remote support for fast and effective interventions
- Predictive maintenance to extended unit's lifetime

Cost savings

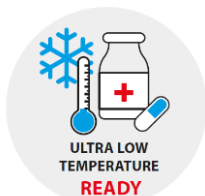
IJS for scientific applications



USER FRIENDLY
With dedicated Apps
to technical and end
users



ALWAYS ON
With battery backup
module



SMART
With specific alarms
and algorithms for
ultra low temperature
solutions



CONNECTED
With full RS485 Modbus
connection for better
system integration



INTUITIVE
With new touch interface
designed for the maximum
ease of use

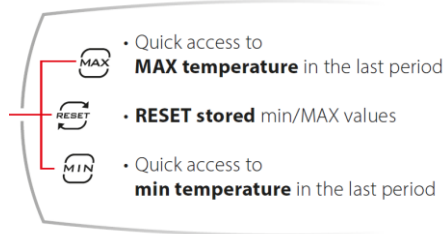
PHARMACIST

TRACEABILITY

What: Effective daily storage conditions check

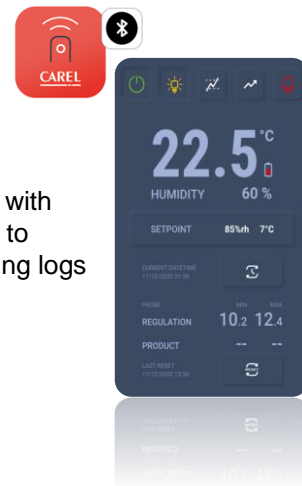
How: Dedicated interface and App

Dedicated keyboard
for maximum ease of
use



Dedicated App

To extend the interaction with
your unit and manage up to
5months of internal working logs



RELIABILITY

What: Monitoring storage conditions even during power failures

How: Battery backup module



- **Direct** connection to the battery
- **No external recharge** systems
- Compatibility with **wide range battery** capacity



PHARMA CHAIN

RELIABILITY

TRACEABILITY

What: Advanced monitoring

How: Embedded BMS port and supervisory system



Automatic **reports** to ensure compliance with international food safety regulations and the **product quality**.

PERFORMANCE

What: Performance analysis

How: Supervisory system analytics



Reduce **energy consumption** by analyzing working conditions and adopt the most virtuous consumption profiles.



Single or multi plant analysis

SERVICE COMPANY

RELIABILITY

What: High level service agreement

How: BMS + monitoring system



Retain the user thanks to the high quality perceived avoiding malfunctions and **maintaining performance over time** with reports on product quality



Make all of the system's technical capabilities available in an **easy and effective way**.

PERFORMANCE

What: Effective maintenance

How: Embedded BMS port and supervisory system



Save hours on alarm management and **reduce journeys on site** with in-depth, remote technical analysis



Monitor and **measure unit's reliability**, **predict the need of spare parts** to make unit's or plant's **overall lifetime longer**

KEY TAKEAWAYS



Preserving products quality with defined procedures and specific devices



Monitor storage conditions for the entire product's lifetime



Reliability is crucial in all working conditions

Contacts and useful resources

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