



LSSU

# Revolutionizing temperature controlled storage

DOWN TO  
**-80°C**  
ULTRA LOW  
TEMPERATURE

**LOWENCO**

Creating a better world - one unit at a time

## The LOWENCO LSSU

(Large Scale Storage Unit) offers a transformative way to manage large-scale cold storage.



Scan the QR code and take a tour in a LSSU



Existing common setup with upright freezers



One **modular, customized** solution – with **low energy & physical footprint** – and **high technical reliability**

# Unique and sustainable large-scale ULT storage solutions protecting your biopharma products

The LSSU holds a storage capacity up to 3,200 kg fluid products in bottles, bags or vials per unit, in a temperature range from +10°C to -80°C. The capacity of a LSSU is approximately equal to 35 standard uprights freezers. Think about installation cost of electronical feeds, BMS connections, HVAC system, the footprint needed – and not to mention the yearly total cost of operation in terms of power consumption of freezers and HVAC system, validation of BMS probes etc. The LSSU enables a saving of almost 90% in yearly total cost of operation.

In addition to large scale storage, the LSSU holds the functionality of a blast freezer, making it relevant in the production of vaccines, drugs or any other biotech and pharmaceutical products.

With our modular building concept, you can easily increase your storage capacity by just adding more units, even when the existing units are in full operation. The installation of an LSSU does not require a purpose built cleanroom, and reduces complexity as it only requires a weather resistant building, as the LSSU is a complete cleanroom itself.

## Key features

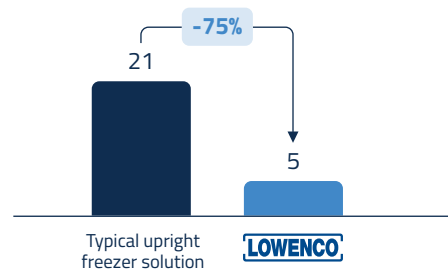
The LOWENCO LSSU has a small footprint, low energy and cost  
- combined with top reliability and service



> Scan the QR code to see our product video

### Smallest Footprint

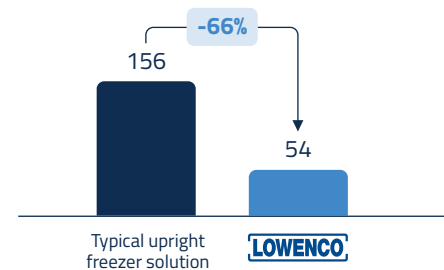
m<sup>2</sup>/tonne<sup>1</sup>



The LSSU can replace up to 35 upright freezers - reducing the physical footprint with 75%.

### Low Power Consumption

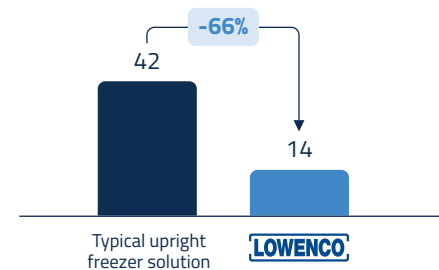
Wh/kg<sup>1</sup>/day



It requires up to 66% less power than incumbent solutions.

### Strong Sustainability Profile

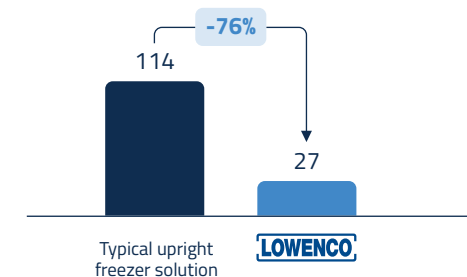
CO<sub>2</sub> emissions: kg CO<sub>2</sub>/kg<sup>1</sup>/year



Small footprint and low energy consumption means 66% lower CO<sub>2</sub> emissions. In addition, the LSSU has a 25-year lifecycle and fully recyclable components.

### Low Total Cost of Ownership

EUR/year/kg<sup>1</sup>



In sum total, the LSSU has up to 76% lower total cost of ownership.

The LOWENCO LSSU is a **high-quality** and **truly reliable** choice for cold storage. It offers a **safe** and **easy to manage solution with full redundancy, extensive monitoring** and **local service** provided by **dedicated Lowenco technicians**.



### Excellent Technical Reliability

Excellent reliability through full redundancy, extensive monitoring, and low temperature deviation.



### Reliable Service & After Sales

Internal and local service teams with customized SLAs.



# Creating a better world – one unit at a time



## 3. Good Health & Wellbeing

LOWENCO freezer solution provides **secure pharma storage** and provides **safe distribution and operations**.

## 7. Affordable & Clean Energy

Through **energy-efficient** freezer solutions and **renewable energy fit** LOWENCO contributes to more sustainable operations and lowered energy costs  
– may provide sustainable energy in some cases.

## 11. Sustainable Cities & Communities

With **low CO<sub>2</sub> emissions, low energy consumption**, and the **possibility to operate on solar power**, LOWENCO freezer solutions support the journey towards more sustainable cities and communities.

## 12. Responsible consumption & production

With **99% recyclables** freezer solutions and a **longer product lifetime**, LOWENCO promotes responsible consumption and production within the pharma industry.

## Human rights:

We commit to treating all people with respect, to working against discrimination in all its forms and to be an inclusive organization, which respects individual characteristics.

## Labor standards:

We commit to safeguarding and strengthening labor and human rights, to promoting safe working conditions, mental health and well-being, and to giving our employees good learning opportunities in their work.

## Environment:

We commit to taking action to combat climate change, promoting access to sustainable energy, and advancing energy efficiency. We commit to pursuing recycling and reuse to create more sustainable consumption and production.

## Anti-corruption:

We pledge to uphold sound business practices and work against corruption and bribery in our organization as well as to promote such practices amongst our business partners.

## After Sales and Service

**LOWENCO is dedicated to offer the most Reliable Service & Aftersales**

### Customer-centered & Customized

**Local and dedicated service teams.** With deep knowledge of the product, LOWENCO can provide first-in class installation and service. LOWENCO's dedicated **service team follows the project from the cradle to grave** - fully managing the installation (through all hundreds of phases) and with the option to take full responsibility throughout the lifetime of the solution.

### Local & Reliable - with extensive experience

Remote support plus local service to allow for shorter response time  
Passionate end experienced technicians that know the industry and have extensive experience in installing and supporting the LSSU solution.  
Secure & Preventive  
Predictable diagnostics and LSSU optimization  
Training possibilities  
High product and people safety

### Service Level Agreements

Service level agreements (SLA's) adapted to specific customer needs:

**Basic:** annual inspections and technical support

**Assistance:** remote diagnostics and guaranteed onsite response time

**Total Safety & Security:** LOWENCO's Total Safety & Security SLA includes full warranty with local technicians, inspections, and all spare parts as required

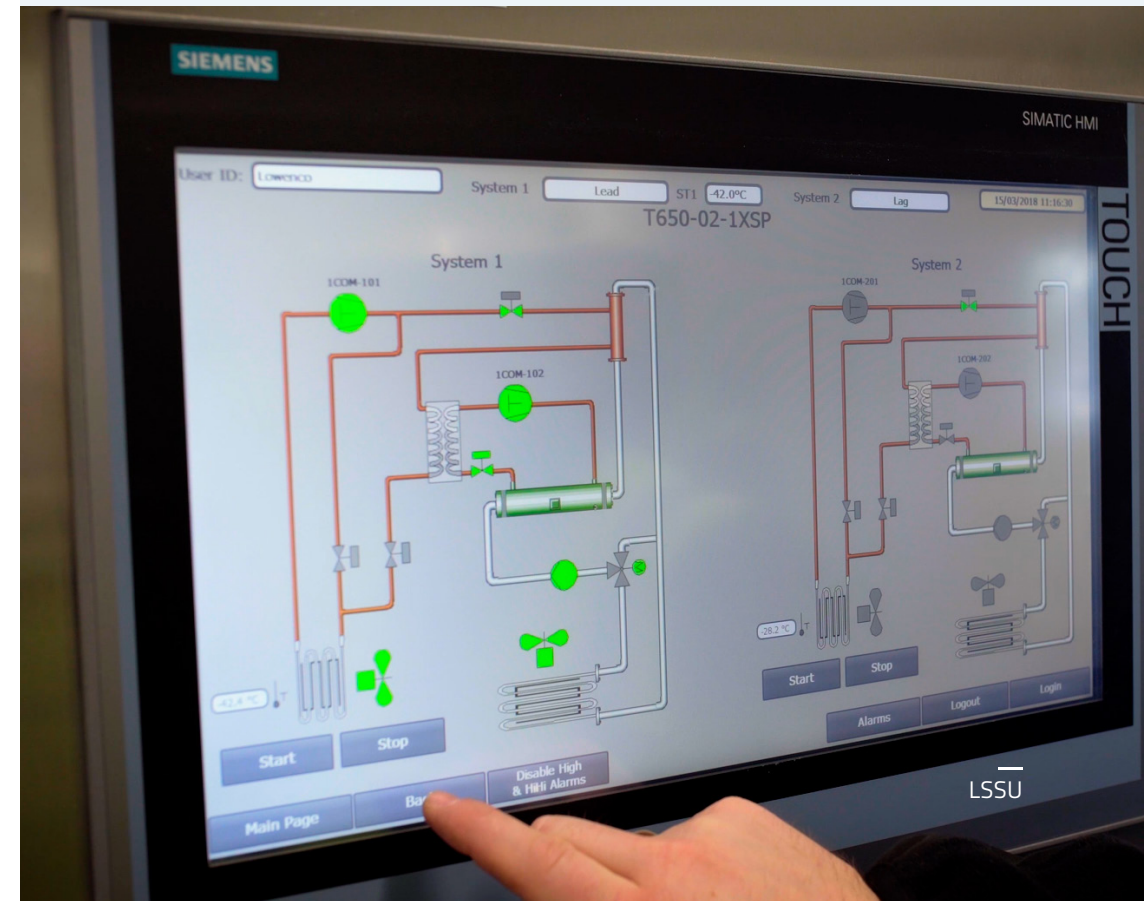


> Scan the QR code to access our Service Level Data Sheet



"LOWENCO personnel have been showing an **exceptional level of coordination** of their workforce, proactiveness, and a **very professional approach** when it comes to delivery of their package"

- Statement from a LOWENCO customer and IPS-Integrated Project Services





## About LOWENCO

**LOWENCO is the leading manufacturer of ultra-low temperature (-80°C) storage, with optimized solutions for large-scale storage used by biotech and pharmaceutical companies.**

LOWENCO is an acronym for LOW ENergy COoling and designs and produces ultra-low temperature (ULT) storage solutions (-80°C) for the biotech- and pharmaceutical industry. With the motto creating a better world – one unit at a time LOWENCO produces high-end refrigerated units and freezers from well-known quality components in the facilities in Denmark. The LSSU is a superior solution based on footprint, energy, CO<sub>2</sub>-emissions, and total cost. The company has experience with high demand.

### **LOWENCO A/S**

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