Caelis
Transformer l'essai

# Retrofit of Walk-in Rooms

## Is your room still working?

## Your security, maybe more.



# The Observation: Your daily challenges








## Before the outage, there is obsolescence...

Your climatic chamber is 15 or 20 years old. **On the surface, it still works.** If the physical envelope of your installations (panels, insulation, shelving) often remains impeccable, **their technical core becomes a silent threat.**

Today, the situation is clear for many laboratories:

- Components become **obsolete**.
- Some parts are **no longer manufactured**.
- Refrigerants are evolving towards **new standards**.
- **Regulatory requirements**, on the other hand, are getting higher and higher.

**Should we completely replace the room... or simply give it a second life ?**

# The gains of Retrofit

## Controlling Non-Quality Costs: The ROI of Security

In the pharmaceutical industry, **the loss of a stability study** (e.g., ICH Q1A conditions) due to a refrigeration failure, quality deviation, equipment downtime, regulatory delay, or loss of communication results in a colossal financial impact, often much **higher than the price of the speaker itself.**

By modernizing the entire security chain (automation, HMI, predictive alarms), **Caelis eliminates the risk of batch loss and secures hundreds of thousands of euros in test products.**

By opting for the Caelis retrofit, you **immediately save €50,000** on your initial investment budget, while generating nearly **€8,000 in operating savings each year**.

Over the new extended lifetime of your equipment (10–15 years), these cumulative operational savings exceed **€80,000**, **offsetting almost all retrofit costs while significantly reducing your carbon footprint and laboratory downtime**.

**We carry out technical audits, energy audits, risk analyses, obsolescence assessments, parts availability, budget estimates, and modernization plans for enclosures of all brands.**



# Caelis Retrofit: Why replace when you can requalify your existing ?

**Why replace when you can requalify your existing one?**

Caelis not only modernizes your multi-brand walk-in rooms: **we secure your critical environments.** Instead of suffering the prolonged shutdown, heavy costs and risks of a complete decommissioning, **our retrofit renews the technical core of your facilities.** The objective is to **restore perfect climate homogeneity** and **ensure that your stability studies are strictly in line with industry requirements.**

**Our commitments:**

- **Securing your studies** : Return to optimal thermal and humidity stability.
- **Optimize your ROI:** An investment significantly lower than new, coupled with a radical reduction in your energy bill.
- **Acting for the planet:** Reduction of carbon footprint, reuse of structures (walls, insulation) and use of clean fluids (Green Rooster Label).

Instead of destroying to rebuild, we capitalize on what already exists. By modernizing only the technical core of your walk-in rooms, we offer you the performance of a new one, without the constraints of a heavy industrial installation.
Here are the 4 pillars of the Retrofit Walk-in:

1

## *Refrigerated production (The energy core)*

***Before: Your aging installations*** *often rely on compressors operating in "All or Nothing" mode, which generate high consumption, combined with a refrigerant that will soon be banned due to its strong environmental impact.*

***After:*** *Our retrofit modernizes this technical core by* ***integrating speed-varying inverter*** *technology and new generation fluids. This adaptive regulation adjusts the cooling capacity in real time according to the thermal load,* ***thus ensuring a drastic reduction in electrical consumption (OPEX) and minimizing your carbon footprint while strictly adhering to your CSR objectives.***

## *The regulation system (The brain of the installation)*

***Before: The obsolescence of your electronics*** often results in an **outdated regulation and a non-maintainable PLC** due to the shortage of spare parts. **This lack of supervision and connectivity poses a critical risk to the monitoring and integrity of your tests.**

After: Our retrofit replaces this aging electronics with **a state-of-the-art PLC controlled via a new touch-sensitive HMI.** This modern supervision allows a direct report of information on your GTC (Centralized Technical Management), the remote reporting of alerts in real time and **guarantees an absolute traceability of your climate data, thus securing the compliance of your stability programs.**

2

# Caelis Retrofit: Why replace when you can requalify your existing ?

3

## *Air treatment and hygrometry (the climate guarantee)*

**Front: The wear and tear of your air treatment systems** (scaled humidifiers, asymmetric ventilation) generates hot and cold spots. These failures, often aggravated by **outdated regulation**, create a critical risk of climate drift, **non-compliance** during your mapping, and lead to high consumption.

**After**: Our retrofit corrects these structural failures by **replacing the heating and humidification systems, coupled with an optimized distribution of air flows.** This intervention restores absolute homogeneity to secure your stability studies in full compliance with the ICH guidelines. As a bonus, this new and more efficient equipment ensures **reduced consumption and easier maintenance.**







# Caelis Retrofit: Why replace when you can requalify your existing ?

### *The electrical cabinet & the safeguards (the protective shield)*

***Before: Old wiring, worn contactors and lack of redundancy make your electrical installation vulnerable.*** *Often associated with a non-maintainable automaton and a lack of proactive supervision, this fragility exposes your equipment to prolonged breakdowns that would irretrievably jeopardize years of stability studies.*

***After**: Our retrofit neutralizes this critical risk by **a complete overhaul of the electrical cabinet, integrating standard and modern industrial components.** This hardware security **guarantees reliability 24/7**. Combined with the configuration of remote alerts, it ensures absolute service continuity and offers easy maintenance for your technical teams.*

4









**Our expertise is entirely dedicated to pharmaceutical stability.** At Caelis, we exclusively develop solutions for the pharmaceutical industry. This is what makes our strength against generalist actors. Replacing refrigerated components is within the reach of a good integrator. But **ensuring the integrity of a stability study requires real pharmaceutical expertise**. Our retrofits are designed to **ensure absolute climate homogeneity** and **secure your critical environments**:

- **Total compliance**: Compliance with ICH guidelines and FDA requirements.
- **Complete validation**: We support you in the requalification of your enclosure with IQ/OQ/PQ protocols and rigorous climate mapping.
- **Equipment availability**: An engineering designed for maximum service continuity.

**“Preserve your stability studies before obsolescence puts them at risk.”**

# Beyond the investment: The real ROI of the Caelis Retrofit

In the pharmaceutical industry, **the loss of a stability study following a refrigeration failure has a colossal financial impact.**
Why continue to take this risk when an expert solution exists ?

**Your 6 immediate key benefits** (Section to be highlighted visually)**:**

- **Significant reduction in initial investment** (net gain of ~€50,000)**.**
- **Conservation of existing infrastructure** (no heavy dismantling)**.**
- **Drastic reduction of the downtime of your laboratory.**
- **Improved performance** (35% decrease in electricity consumption).
- **Significant extension of the lifetime of the installation** (10 to 15 years).
- **Reduction of the environmental footprint** (Green Rooster label, reuse of structures).

## Initial Investment Balance

The first advantage of retrofitting is an **immediate preservation of your capital.**

**Complete replacement**
**130 000€**

**Caelis retrofit**
**80 000€**

**Immediate savings**
**~ 50 000€**

*This net gain does not include the hidden costs avoided by the retrofit (heavy dismantling costs, removal of old panels, destruction of infrastructure and reintegration into the laboratory).*

## Reducing Operating Costs

The replacement of your old "Tout ou Rien" compressors by variable speed technology (Inverter), coupled with a latest generation control system, drastically reduces your energy footprint.

| Performance indicators | Before Retrofit | After Retrofit Caelis |
|---|---|---|
| **Annual electricity consumption** | ~ 85 000 kWh | ~ 55 250 kWh (35% decrease) |
| **Annual energy cost** (€0.18/kWh) | ~ €15, 300 | ~ €9, 945 |
| **Maintenance cost** | High (common curative) | Estimated decrease of €1,000 per year (fewer breakdowns, modern fluids) |
| **Total Operational Economy** | - | ~ €8,855 in savings per year |

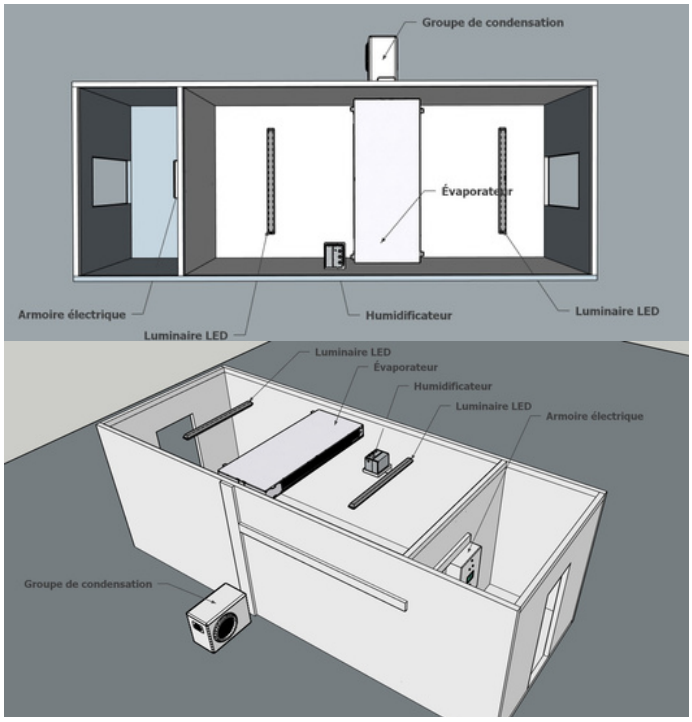
# Complete replacement vs Caelis retrofit: The evidence in a blink of an eye

| Complete replacement | Caelis Retrofit |
|---|---|
| Demolition of the facility | Preservation of the existing room |
| Heavy works | Limited work |
| Very important investment | Optimized budget |
| Longer immobilization | Faster response |
| Complete reconstruction | Modernization of the existing one |
| New chamber | Performance of a new bedroom |

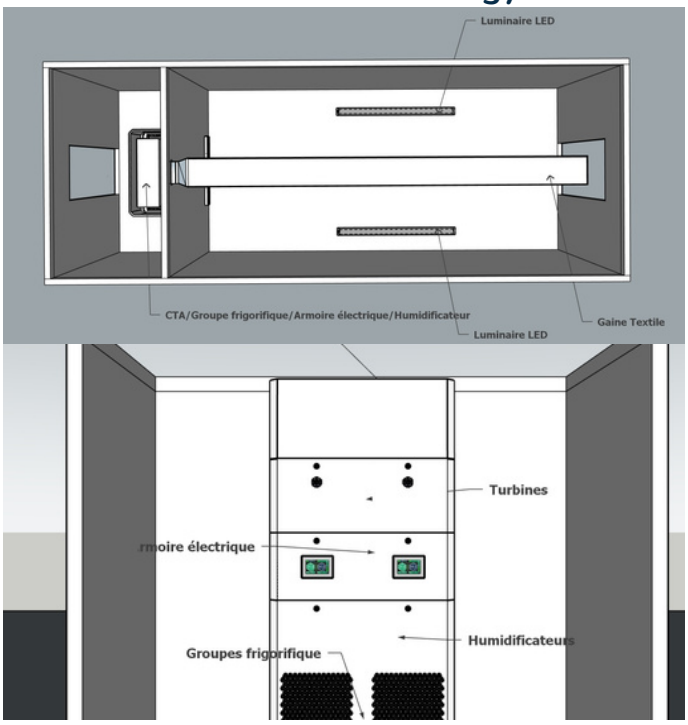
You keep the **physical envelope** of your climatic chamber. **We completely renew its technical core and intelligence.** By modernizing the refrigerated production, the regulation system, the aeraulics, and the electrical cabinet, we eliminate the risks associated with obsolescence. You get the performance and safety of new equipment, **without the constraints of a heavy industrial installation.**

**And if you want to go even further in securing your studies, Caelis is now able to integrate a complete redundancy system.**

**before**




**after Caelis technology**



# Our Back-up option

**Give your samples an unparalleled level of safety thanks to a backup system fully integrated into the climate chamber.**

**Each critical element of regulation and safety is doubled** and operates completely independently: sensors, regulators, displays, circuit breakers, automatons, hygrometry production, electrical resistors, cooling unit and ventilation. In the event of a failure, **switching between systems is automatic and instantaneous,** ensuring the continuity of environmental conditions without interruption.

For even more flexibility, **a manual switching mode is also available,** ideal for maintenance operations or test phases.

## Continuity ensured, even in the event of unforeseen events

In the event of a breakdown (gas leak, sensor defect, failed component, etc.), the secondary system immediately takes over and secures the enclosure in controlled fault mode. Your samples remain protected in an environment controlled in temperature and hygrometry, without requiring transfer to another equipment.

## An operational and administrative gain

Beyond technical safety, this option significantly reduces the administrative constraints related to temperature or humidity non-conformities. You gain peace of mind, traceability and operational efficiency.

**With retrofit, the real gain is not only measured in energy savings, but also in business continuity.** Failure on a stability chamber can lead to the interruption of critical studies, loss of batches and regulatory delays with considerable financial consequences.

For an additional investment estimated between 25,000 and 35,000 €, the option permanently secures your installation, guarantees the continuity of your environmental conditions and protects your most sensitive samples.

A high value-added solution that transforms a major risk into lasting serenity.



# Our affiliated services

## Manufacturing

**Manufactured in France:** All our climatic chambers are carefully designed and crafted in France, ensuring quality and expertise.

**Customized solutions:** each proposal is designed to address your unique needs.

**Sustainable performance:** outstanding stability and reduced energy consumption for maximum efficiency.

## Multi-brand maintenance

**Preventive:** comprehensive inspection (refrigeration, electrical, mechanical, hydraulic, safety) • replacement of deteriorated components • replacement of consumables (according to client agreement) • significant work within the budget.

**Curative:** Customer service callback within eight hours • Intervention within 24 to 72 hours in France • Remote troubleshooting option available.

**Contract:** prioritized intervention • document reductions • lowered rates.

## Metrology

**Metrology:** stable and precise instruments that ensure reliable measurements over a broad temperature range (from -80 °C to +400 °C).

## Location / Event

**Equipment:** a reliable climate control system, carefully maintained and customized to meet your testing needs.
**Climatic chamber rental:** economical, pre-purchase assessment, maintenance included.
**Sale of refurbished units:** economical, readily accessible, 3-month warranty, expert assistance.


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