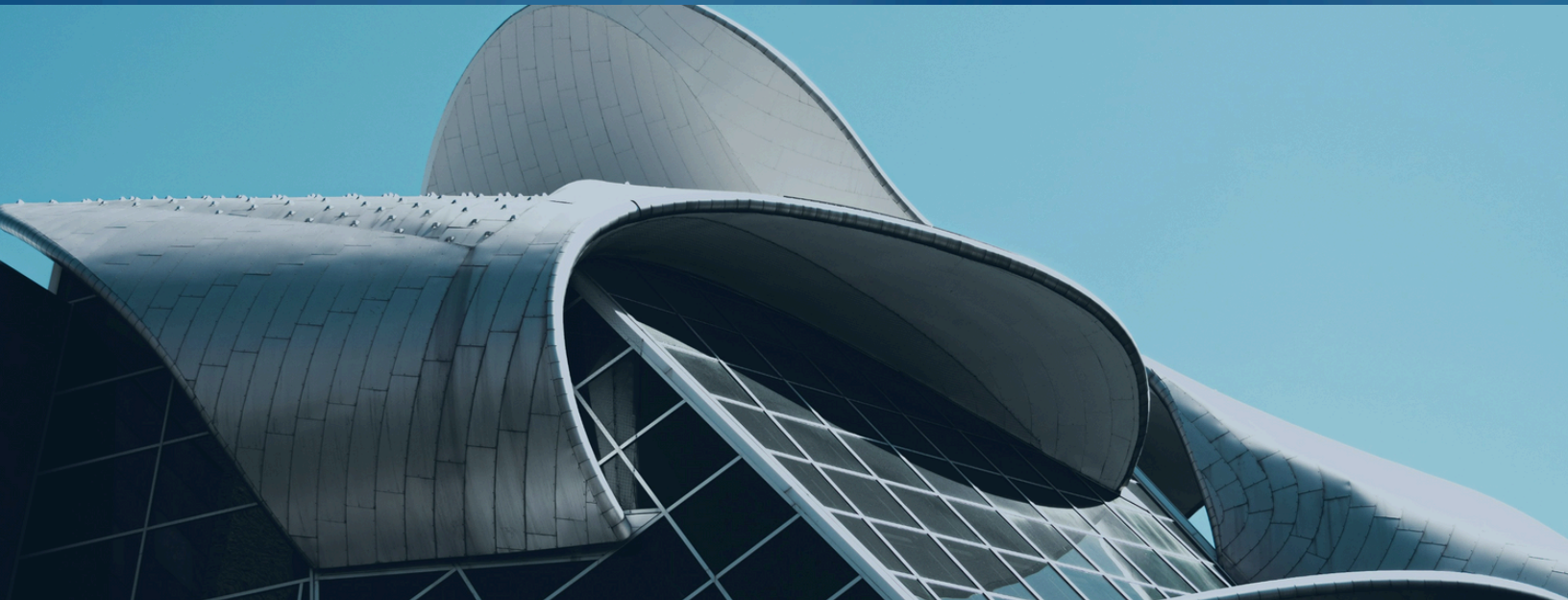


CASE STUDY

Setting the Standard in Environmental Control for Cultural Spaces

Inside GDI Ainsworth's precision-driven strategy that enables the Art Gallery of Alberta to safeguard priceless artwork year-round



Project Details

Location

Edmonton, Canada

Number of Buildings

1 - 85,000 ft² facility

System Implemented

Customized Building Management System (BMS) strategy enabling precise temperature and humidity control, leveraging existing HVAC and cooling systems for dehumidification

Project Goal

Maintain strict, stable temperature and relative humidity levels to protect artwork and meet lender requirements for hosting high-profile art exhibits

Project Duration

Ongoing preventive program with a field technician completing a four-hour site visit every two weeks

Impact at a Glance

- ✓ Achieved consistent, precise temperature and humidity conditions critical for conservation of sensitive art pieces
- ✓ Enabled the Art Gallery of Alberta to safely borrow high-profile art from lenders confident in environmental stability
- ✓ Optimized existing mechanical and cooling systems to serve dual functions, including effective dehumidification
- ✓ Realized ongoing energy and cost savings due to proactive BMS control strategies

Challenge

The Art Gallery of Alberta required exceptionally stable temperature and relative humidity conditions to protect its collection of over 6,000 pieces and to meet strict environmental requirements set by lenders of high-profile art.

Fluctuations in temperature or RH could accelerate deterioration of sensitive materials, making precision control essential.

Solution

- ✓ GDI Ainsworth leveraged the Art Gallery's existing equipment while reconfiguring its BMS for predictive control.
- ✓ By utilizing the cooling systems for both temperature regulation and dehumidification, GDI Ainsworth created a dual-function climate management approach tailored to museum-grade standards.
- ✓ The BMS automatically identifies and mitigates risks from hot or humid outdoor air before fluctuations can occur. To maintain consistency, a technician performs routine onsite inspections every two weeks to confirm environmental stability and adjust as needed.



Methodology

GDI Ainsworth assessed the existing HVAC and cooling systems and developed a customized controls strategy to optimize how these systems respond to environmental conditions.

Instead of reacting to high heat or humidity, the BMS was configured to anticipate outdoor conditions and automatically adjust to prevent deviations in temperature and RH.

A proactive maintenance program was also implemented, including biweekly four-hour site visits from a field technician to validate performance and protect exhibits.

The Ripple Effect

- ✓ Strengthened the Gallery's ability to participate in high-profile art exchanges and host sensitive, prestigious pieces
- ✓ Enhanced long-term preservation of the AGA's permanent collection
- ✓ Provided predictable, stable environmental conditions that reduce equipment strain and lower energy costs