

Good day, ladies and gentlemen,

My name is Christian Nielsen, and I am the Operations Manager at Bev/Art, a Norwegian company specializing in monitoring museum objects and cultural heritage sites. I am honored to be invited here today to discuss the transportation of museum objects on loan—particularly the environmental and practical challenges we face when objects move temporarily from one institution to another.

In this talk, I aim to demystify some of the technicalities behind climate monitoring and indoor climate requirements, which can sometimes feel daunting or overly restrictive. By addressing these complexities openly, I hope to encourage greater honesty and transparency around climate requirements, helping us all work toward standards that are both protective of our objects and achievable in practice. *

Introduction to Museum Loans

In the context of museum operations, a "loan" refers to the temporary transfer of objects between institutions, often for exhibitions or research collaborations. Loans are invaluable in enhancing public access and fostering cultural exchange, yet they also require us to meet rigorous environmental standards, often at a high operational and environmental cost. *

These demands are created and enforced by multiple stakeholders:

It usually starts with the Curators and Directors (often at a late night nachspiel):

Selecting and requesting an object with future exhibitions in mind.

It's then up to the Conservators and potentially also security staff: Define the environmental conditions necessary to protect objects on loan, often specifying strict requirements for relative humidity (RH), temperature, light exposure and other factors such as the risk for theft and vandalism.

Insurance Companies: Provide coverage for loaned items, and want to minimize their own risk. Their insurance policies mainly revolve around fire and theft. They don't understand conservation science, but they understand numbers. If a conservator tells them that +/- 1% RH is the golden standard, that might become the best practice. The problem is that they don't understand the impact of these standards, and that the numbers can become a goal in and of themselves. After the requirements has been formalized, it's up to the poor registrars to enforce the requirements. *

Power Dynamics Between Institutions

In addition, a significant power dynamic exists between the lending and borrowing institutions themselves. As Joel Taylor from NIKU explained to us in Bergen last year, the lending institution typically holds more control over the loan's conditions. Lenders are often risk-averse, with little to gain in the short term from relaxing standards, as their most pressing focus is the object's preservation. However, if both institutions trust each other, we all stand to benefit collectively in the long term.

Despite this, stringent conditions still prevail, often placing burdensome expectations on borrowing institutions. *

Challenges of Meeting Strict Loan Requirements

One of the most challenging aspects of museum loans is the demand to meet very tight environmental conditions. For instance, I've recently seen a case where an object could only be borrowed if kept at exactly 53% RH, $\pm 1\%$.

While I won't question the conservation rationale behind such requirements—that's for the professionals in this audience—I want to focus on the technical difficulty of achieving this and the impact it has on the borrowing institutions' resources. Unnecessarily strict requirements can result in considerable effort and expense for the borrowing institution, which often ends up “playing along” without the tools to question the feasibility.*

Let me share a specific example to illustrate these challenges:

Museum X was asked to maintain a precise RH level to borrow an object. First, they had to deal with microclimates in a large exhibition space. The only viable solution was a tailored showcase with an active humidity control element, such as preconditioned silica gel. So they got that.

Second, I have to address the accuracy of measurement instruments. Most commonly available museum data loggers have an accuracy of $\pm 3\%$ RH, which is considered the industry standard. Some have more advanced systems achieving $\pm 2\%$ RH. However, achieving $\pm 1\%$ accuracy is almost unheard of in typical museum settings, and requires a regular calibration schedule, which is both costly and complex to maintain. Fortunately for Museum X, they could access these things, in addition to a relatively new HVAC system.

Finally, after complying to the lender's demands, we observed that the RH inside the showcase gradually increased once the object was installed. The HVAC system was set

to increase the temperature, but only to such a degree that it wouldn't affect other objects on exhibition. They also made new silica gel, to bring down the RH further. But to no avail, the RH kept increasing. *

After analyzing the climate data together with our client, we believe the object on loan itself was releasing moisture, likely because it was accustomed to a higher humidity than specified by the lender. This discrepancy highlights how difficult it is to meet exacting standards even if you have the resources—and suggests that even the lender may not be meeting these conditions themselves as consistently as they demand from borrowers.

After seeing the trouble our client experienced first hand, I hope that the institution will not agree to these standards in the future and instead will question their necessity next time they're facing them. This will take both technical argumentations and courage, we're more than happy to help you with the arguments - the courage you need to find in yourself and your colleagues. *

The Need for More Flexible Standards

Cases like this show how rigid standards can lead to impractical demands on borrowing institutions. There is a clear need for flexibility that considers both object preservation and the technical and economic limitations of each institution. Addressing this imbalance is difficult, especially when institutions fear questioning such requirements. However, some institutions have set an example by committing to more realistic and sustainable standards, providing a framework for others to follow.

Introducing the Bizot Green Protocol

This is where the Bizot Green Protocol (BGP) comes into play. Updated in 2023, the protocol encourages museums to align their practices with sustainable principles, providing a structured approach to rethink environmental standards in museum loans. It promotes standards that are not only protective of objects but also achievable and environmentally responsible. *

The Bizot Green Protocol offers several guiding principles that can help shift the museum community toward a balanced, sustainable approach:

Environmental Standards: BGP suggests that museums adopt more tailored environmental conditions, allowing for ranges (e.g., 40-60% RH) instead of rigid levels. This flexibility accommodates energy efficiency and other practicalities, making environmental control more realistic.

Transport Emissions: The protocol also emphasizes reducing carbon emissions from transportation. It advocates for the “greener option first” principle—prioritizing sea, road, or rail transport over air—and promotes virtual couriering where possible, thus reducing the need for physical couriers and supporting remote monitoring.

Practical and Economic Viability: BGP encourages low-energy solutions wherever possible, advising against high-cost climate control methods. This can greatly reduce operational expenses and aligns well with the practical challenges we’ve discussed. *

Bev/Art’s Sustainable Monitoring Solutions

At Bev/Art, we offer solutions that directly support the Bizot Green Protocol’s sustainable goals. Beyond meeting climate requirements, our comprehensive suite of monitoring solutions includes sensors that track conditions during transport, such as vibration, shock, and other factors that can affect object safety. This way, museums can monitor their loaned objects’ well-being live from the moment they leave, throughout the journey, and until they return safely. *

Our remote monitoring technology allows for reduced reliance on physical couriers, thereby minimizing both costs and environmental impact without compromising object safety. *

Here are some good resources, if you want the arguments to argue for more reasonable loan requirements. *

If you’re interested in learning more about how our technology can support your institution’s loan process, please feel free to talk with me during the break. *

Closing

Thank you again for the opportunity to share these insights. I hope that together, we can continue to improve how we manage museum loans, making them both more sustainable and practical. Please don’t hesitate to reach out with any questions or ideas on this important topic.