

Embodied Access: Case Studies and Reflections for Disability-Centric Museum Spaces

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[Ingenium – Canada’s Museums of Science and Innovation](#) consists of three national museums: the Canada Science and Technology Museum, the Canada Aviation and Space Museum, and the Canada Agriculture and Food Museum. In accordance with the [Museums Act](#), Ingenium’s mandate is to foster scientific and technological literacy throughout Canada by establishing, maintaining, and developing a collection of scientific and technological objects, with special but not exclusive reference to Canada, and by demonstrating the products and processes of science and technology and their economic, social, and cultural relationships with society. By bringing together the social and historical contexts of technological change, the museums present a unique, and often times unexpected, approach to the history of science and technology to its visitors.

For Ingenium, focusing on access, anti-ableism and accessibility has informed our approaches to a number of operational, governance, collection, research and staff-support efforts and initiatives. In the following section, we will provide a few examples that highlight these types of engagements and critical rethinking.

[The Accessible Canada Act](#) informs organizational governance which includes, but is not limited to, the delivery and implementation of [Ingenium’s 2022-2025 accessibility plan](#). The 3-year plan mandated under the legislation describes Ingenium's accomplishments in the accessibility and anti-ableism realms as well as a road map to achieve the greatest levels of access possible for years to come. Goals across various

pillars of accessibility are outlined in the plan and must be monitored, implemented and reported on every year. The pillars mandated under *the Act* are: Employment, built-environment, design and delivery of programs and services, information and communication technology, communication (other than ITC), procurement of goods, services and facilities, and transportation. An additional pillar—Awareness, Knowledge and Culture: Fostering a Sense of Belonging—was added to the accessibility plan by Ingenium in order to bridge the legislative and knowledge gap around attitudinal barriers that people with disabilities disproportionately experience in society. The goals in the additional section of the plan focus on providing staff educational opportunities to reinforce critical thinking skills around accessibility and the ways in which access politics are approached in the workplace and in the delivery of internal and external experiences. In the last two years, Ingenium has put in place the TREDIA (Truth, Reconciliation, Equity, Diversity, Inclusion and Accessibility) office which assists in the implementation of such learning opportunities and support for staff members. The TREDIA office brings an intentionally intersectional approach to matters of access and anti-ableism. Two staff members make up the office and report directly to the Chief Executive Officer of Ingenium.

From a collection perspective, questions of access and accessibility can be considered in a number of ways, from physical and digital access to the collection (what we might consider open access), to interpretations that engage different senses through different mediums, like sound, sight, and touch, as well as different story-telling techniques, such as Ideas People Objects Physical, (what we can refer to as multisensory engagement and interpretive flexibility). Insights into accessibility can also

deeply inform our approaches to collection research and development through the types of questions we ask of the collection and the types of artifacts we acquire as part of the collection. There is a growing body of scholarship that is building around museum access and senses, interpretation, and storytelling. In order to contribute to this conversation, the rest of this paper will focus on how Ingenium is rethinking its existing technological collection in order to better consider access, lived experiences, and the relationship between people/society and technology.

Ingenium's collection includes two large collections of aviation technologies and land transportation technologies. Historically, the collection has been developed in order to represent innovation and different types or models. Interpretation has historically focused on examining histories of how things worked and exhibitions highlighted operating artifacts. The renewal of the Canada Science and Technology Museum in 2017 was an opportunity to refocus our museological practices in order to share both the broader and more nuanced histories of science, technology, and society in Canada. As such, over the last few years, Ingenium's curatorial team has been working to better understanding the histories of accessibility, disability, and the use of technology that are connected to the objects in the collection.

One such example is the work completed in 2022 by the Garth Wilson Fellow, Cassandra McKenny, who began researching the history of accessible air travel regulations in Canada. She published an article on Ingenium Channel that explored how accessibility legislation and aircraft design have determined who is able to access air travel and the resulting interactions between passengers with disabilities and airlines. Her research period focused on the early 1980s, and the rise of disability rights

legislations, until the present, as Canada implemented the *Accessible Transportation for Persons with Disabilities Regulations* in 2019.

As McKenney describes in her research, during this time, the Canadian Transportation Agency (CTA) was responsible for ensuring that persons with disabilities did not face any undue obstacles to their mobility in relation to federally regulated transportation. One way they sought to achieve this standard was by implementing personnel training regulations for air carriers in 1994, which require airlines to create and make publicly available a training program for all employees and contractors that interact with the public, provide physical assistance, or handle mobility aids and special equipment. The CTA provides a short list of elements to be covered in a carrier's training plan, but leaves space for airlines to interpret them without first consulting persons with disabilities or disability rights advocacy organizations.

The CTA also released accessibility guidelines for air travel carriers throughout the 1990s to the 2010s. These included guidelines on aircraft and terminal designs covering lighting, washrooms, wheelchair storage, and other elements of physically constructed spaces, and another on communicating with persons with disabilities through signage, interpersonal interactions, and various assistive technologies. The CTA did not establish strict regulations requiring air travel carriers to adhere to these guidelines which resulted in companies opting in to do this type of work instead of being obligated to do so. The 2019 CTA legislation is legally binding which provides protections for people and accountability on providers. From a collection and interpretation perspective, McKenney's work allows for a reconsideration of the histories and impacts of the commercial aviation collection at Ingenium at a high level. This type

of collection development work is not necessarily focused on acquiring anything new for the collection but listening to a broader community and considering their knowledge within our understanding and interpretation of the artifact.

Ingenium has also acquired new artifacts through community consultation in an effort to present broader user technology stories regarding access and disability. Unlike the example mentioned previously, which highlights regulated and manufactured technologies, as part of the renewal of the Canada Science and Technology Museum, a few of the curators began developing a collection focused on sport, recreation, and the experiences of individuals with disabilities. This collection began with Brad Zdanivsky's high-roller, and includes Christian Bagg's Park Explorer, a prototype SASKI kneeler sit-ski, a UNIQUE Rev 2X Ice Hockey Sledge, and a Pelican Sonic 80x kayak and adjustable seat insert. As a collection, these artifacts are material evidence of individual or community experiences and expand our more traditional transportation collection to include artifacts and stories of mobility and movement; of creativity and flexibility. Central to these acquisitions is a respect for the people who used them and a responsibility to effectively and ethically preserve and share their stories and experiences with current visitors, as well as for future Canadians. Ingenium regularly uses oral history and co-curation as methodologies that privilege individual knowledge and sharing authority. These are the approaches that museums have and can continue to use when working with people who are and have been more historically marginalized. Especially when they are stories that are not known within the exhibition or curatorial team. These types of methodologies must be approached as labour and contribution and must always be compensated.

Accessibility and anti-ableism are a journey, not a destination. There is a great amount of humility required to promote accessibility, representation and access as an act of liberation for so many individuals whether they are staff or visitors, disabled or temporarily able-bodied. Everyone will benefit from accessibility at some point in their life. It is a collective responsibility. The examples provided are some of Ingenium's contribution to dismantling misconceptions and improving accessibility through technological literacy, story-telling and various innovative museological practices.

To conclude, innovation has always been at the heart of access and it must continue to be so. A meaningful way to create impact is by increasing representation of people with disabilities in research (as subjects and as researchers). This will assist in producing data and content which is representative of the way in which society continues to shape and re-shape itself. Ingenium has committed to the diversification of its workforce which requires the proper reflection, systems and resources in place. This is necessary in order to further reflect the make up of the audiences Ingenium serves and the people who live in what we now know as Canada. Access and accessibility must be approached from the start, from within, through and across. Without such considerations, power dynamics between disabled and temporarily abled individuals are perpetuated. Disabled people exist in every sphere of our life, work, and communities and are an essential part of our social fabric.