



International Association of Transport and Communications Museums

Terry Slobodian

**President & CEO, Royal Aviation Museum of Western
Canada, Winnipeg, Canada**

An Aviation Museum for the Community



**ROYAL
AVIATION MUSEUM**
OF WESTERN CANADA



IATM Conference

London, England

September 24-26, 2023





**ROYAL
AVIATION MUSEUM**
OF WESTERN CANADA



Introduction

**three significant components for a sustainable museum
in the post-pandemic world;**

**relevance to the society around us, maintaining strong
corporate and funding relationships...”**



Introduction

1. Relevance to the Society Around Us

Extensive market research helped to identify our **target audiences** which, in turn, informed our rebranding, marketing strategy, business planning, exhibits development, programming etc.in order to diversify our audiences and make our programs relevant to new visitors.

2. Community Engagement / Centre of Excellence

It was our belief from the start that relevance to the community would contribute to long-term viability and sustainability (since we are not funded by the government)

We were asked to play a significant role in addressing the labour shortage in the aviation and aerospace sector in our province (Manitoba is a global leader) by developing strategies to inspire the next generation

Hence, our mission statement (to educate and inspire) and the creation of the RAMWC Centre of Excellence





**ROYAL
AVIATION MUSEUM**
OF WESTERN CANADA



Background





Incorporated in 1974

Mission: *To preserve and promote the stories of aviation in western and northern Canada while **educating, entertaining and inspiring***



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New Museum Grand Opening – May 19, 2022



RAMWC was closed from October 2018 to May 2022

2023 Awards ... so far



Trip Advisor

Trip Advisor gives a Travellers' Choice award to accommodations, attractions and restaurants that consistently earn great reviews from travellers and are ranked within the top 10% of properties worldwide on Tripadvisor.





Why is relevance essential to us?

Without being relevant to society, we would not survive financially or achieve our mission.

Our revenue model

- Only 5% of our operational funding from the government
- 62% of our revenue comes from earned income from our visitors or “target markets”
- 38% of our revenue comes from fundraising from individuals, corporations and foundations
 - We have built our fundraising case for support to be compelling to our donors from the needs of our society around us

Therefore, we must be relevant to our visitors and to funders to thrive





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**Relevance to
society around us**



Aviation and Aerospace

By 2028, the Canadian Council for Aviation and Aerospace estimates that the aviation and aerospace industry will need an additional 58,000 workers in key skilled occupations



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Women and Ethnic Minorities

Of all commercial pilots in Canada, only 4.3 per cent are women, along with 15 per cent of air traffic controllers. Even recreational licenses are affected, with only 65 of 1,227 licenses in Canada being held by females and only 18.7 per cent of total personnel in the Royal Canadian Air Force (RCAF) were women

The study also found that females and ethnic minorities are still underrepresented, particularly in the areas of piloting, aircraft leasing, and roles related to STEM such as aircraft technical and mechanical support staff.



Women in Aviation

Nadia Bhuiyan, Vice-Provost, Partnerships and Experiential Learning, and Professor of Mechanical, Industrial and Aerospace Engineering at Concordia University's [Gina Cody School of Engineering and Computer Science](#), says

Most importantly, early exposure to technical fields, like the aviation industry, is key

The goal shouldn't be to get more women in aviation just for the sake of having women in aviation," Bhuiyan says. "To me the real issue is providing the exposure to girls at a young age so that they realize that it exists as a perfectly viable career option for both men and women, and that everyone can be equally successful."



Technicians and Technologists

As of fall 2022, Canadian employers were seeking to fill over 1 million job vacancies. A significant number of vacancies (243,400) are in the professional, scientific, technical, construction and manufacturing sectors, which were already seeing shortages before the pandemic



Child Poverty

107,000 Winnipeggers are living in poverty? We believe that all levels of government have a responsibility to work toward ending poverty and supporting social inclusion for all people. In our city, 35% of Indigenous Winnipeggers live in poverty, compared to 14% of non-Indigenous Winnipeggers.

Manitoba has the highest [child poverty](#) rate among all provinces, with more than one in five Manitoba children living in poverty, according to a new report.

Many of those same federal ridings continue to see high rates of child poverty, according to Tuesday's report, including Churchill-Keewatinook Aski in northern Manitoba at 39.2 per cent and Winnipeg Centre, where just over three out of 10 children live in poverty.





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RAMWC's Response – relevance to society around us



RAMWC VISION

*We are a **center of excellence** for world-class preservation and storytelling of aviation history and the promotion of aviation and aerospace careers to the youth of Manitoba.*



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RAMWC Centre of Excellence

Impetus

Resulted from one-on-one meetings with around 70 stakeholders from all levels of education and the aviation and aerospace industry to discover the leadership role they were all asking us to play in addressing the critical skills shortage in the Canadian aviation and aerospace industry.

Vision

The museum, government, education, and industry working together to maintain Canada's global leadership in aviation and aerospace

Inspire the next generation, fill the pipeline, and enable youth to pursue STEM education and/or careers in aviation and aerospace





Inspire
Educate
Entertain





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STEM Education Academy at RAMWC



Take Flight – STEM Education

Focus on Grades 6 to 12



Curriculum-based STEM focused courses at the Royal Aviation Museum of Western Canada

**GRADE 2
STOPPING AND GOING**

Using building bricks, students will create a vehicle with wheels and axles. Exploring position and motion through a high energy demonstration and an engaging activity. While on tour, learning how airplanes go and stop, leaving with a thorough understanding of motion.

**GRADE 5
WHETHER THE WEATHER...**

Students will learn about the properties of air, Bernoulli's Principle, weather fronts, public weather reports and weather's affect on aircraft. In the classroom, we will have fun building a simple weather instrument.

**GRADE 6
SCIENCE OF FLIGHT**

Through exploration of our immersive 'Science of Flight' exhibit and our expert flight presentation, students will learn about the four forces of flight, Bernoulli's Principle, aircraft classification, and most importantly, how wings work.

**GRADES 4-6
TOYS IN SPACE**

In this investigation, students play the role of scientists and STEM engineers in examining the physics of popular toys on Earth and space. In a unique hands-on toy build, students will try to answer the question: Will this toy work in microgravity?

**GRADES 6-10
INVISIBLE FORCE**

Students will construct and test a gravity assist device in three challenges learning about Newton's three laws and the Design Engineering Process.

**GRADES 7-12
SAVE THE SUIT**

Student teams will design, construct, and test a model spacesuit through various challenges using Scientific Inquiry and the engineering design process to protect astronaut Mark Whatney's spacesuit from damage. Lesson inspired by the movie *The Martian*.

**GRADES 6-9
SHIP THE CHIP**

Students will be a team of manufacturing engineers who will be given the challenge of designing the smallest, lightest package possible using everyday materials.

**NEW! GRADES 6-12
ORION TOUCHDOWN**

Student teams will design, construct, and test a model Orion capsule design using scientific inquiry and the design engineering process. The team of junior engineers will design and construct a buoyant watertight capsule to protect the Artemis 2 astronaut crew.

**GRADES 8-12
GREEN FUEL ROCKETS**

Students will design an environmentally friendly "green" spacecraft propellant. Students will test their propellant using a variety of surface areas, solid fuel and temperatures of liquid fuel, measuring the thrust produced.

**NEW! GRADES 8-12
ROCKETRY - FINS & DISTANCE**

Students will learn how drag affects acceleration and distance through the construction and testing of a rocket using the design engineering process.

SPECIAL INTEREST PROGRAMS

**ALL AGES TO ADULT
DESIGNIACS**

Participants will build their own aircraft encouraging planning, collaboration, communication and creativity.

**NEW! YOUNG STUDENTS TO GRADE 4
HOOPS & GLIDERS**

Students will design, construct and test in a fun competition, a model Hoop Glider. Our junior STEMENGINEERS will learn about variables, concepts of gravity, force and motion.



BOOKING INFO

Each Programme is two hours: one-hour classroom/ activity and a one-hour tour.

Timeslots available:
10 am - 12pm, 12 - 2pm & 1 - 3pm
(Times may be adjusted by request)

Lunchroom is available before or after programming, by arrangement only.

A full day, 10:00am-2:00pm, with two programmes, includes lunchroom and scavenger hunt.

PRICE:
\$12.00 per student for one programme,
\$18.00 per student for full day with two programmes.

Staff no charge at 1/8 ratio, student rate for attending adults over that ratio.

Prices are in effect Sept 4, 2023 to June 28, 2024.



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**RESERVE YOUR
SPACE TODAY!**

programs@royalaviationmuseum.com
(204) 786-0409

ROYALAVIATIONMUSEUM.COM

2088 Wellington Avenue, Winnipeg, MB
(Winnipeg Richardson International Airport)



**ROYAL
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Explore Flight



ROYAL AVIATION MUSEUM OF WESTERN CANADA

EXPLORE FLIGHT

EDUCATIONAL PROGRAMS 2023/24

New Program to introduce our youngest students to the exciting world of Aviation and Aerospace

The setting for these programs will be our exciting new Learning Space on the hangar floor of the museum under the wings of vintage aircraft.

PROGRAM INFORMATION

The new Explore Flight program is designed for grades K-4 students.

Students in **Kindergarten-Grade 1** would experience our **Airports Away Program**. This is an opportunity to explore what happens at the airport through dramatic role play activities.

Grade 1-4 students would engage in our **Hoops & Gliders Program** to explore how various aircraft fly as an introduction to basic flight dynamics. Students will also be given an engineering task to create and test the flight of a hoop glider.

BOOKING INFO

These programs are two hours including a tour of the museum and a visit to the **Galaxy Play Zone** for the youngest students.

Class size is up to 25 students.

The time available is 10:00am-12:00pm only.

There are no lunchroom facilities available for this program.

The price is \$12.00 per student.

There is no charge for adult staff on a 1/8 ratio, with the student rate for attending adults over that ratio.

Prices are in effect Sept 4, 2023 to June 28, 2024.

RESERVE YOUR SPACE TODAY!

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2088 Wellington Avenue, Winnipeg, MB
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Focused on our “Early Years” students



ROYAL AVIATION MUSEUM
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STEM Education Academy @RAMWC – By the Numbers

8,200+

STUDENTS FROM JUNE 2022 TO MARCH 2023



14 available STEM-based learning courses

OVER

2,000

students from underserved communities were welcomed into the STEM programs

3 certified educational professionals

70

pre-selected high school students from 20 Winnipeg schools were embedded in the museum for our initial *Discovery Days*. Connecting students to both education and industry partners

3 weeks of WSD1 daily residence in a classroom, immersing the students in the museum and our programming



1000's

of 'flying' hours logged in our Musketeer in the *Science of Flight* zone

BY THE NUMBERS

Discovery Days – Career and Education Pathways Awareness in partnership with industry & higher education

Winnipeg - 11/04/2023

Page : B005



Aviation museum, Winnipeg School Division team up to help students plot flight plans in labour-challenged aerospace industry

St. John's High School students Catelyne Meliza (left), Danielle Gattwan and Aithya Majid take part in a scavenger hunt during Discovery Days at the Royal Aviation Museum of Western Canada.

PREPARING FOR TAKEOFF

GABRIELLE PICHE

WINNIPEG'S new aviation museum became Catelyne Meliza's hunting grounds Monday. The 17-year-old woman, armed with a list of aircraft, searched for a pilot, a company that makes rockets and a hero in Manitoba's aviation history.

Another 69 high school students combed about, playing a bingo scavenger hunt during Discovery Days, the Royal Aviation Museum of Western Canada and Winnipeg School Division's new initiative connecting youth to the aerospace and aviation industry. The two-day affair comes after seasons of turmoil in the aviation sector, largely due to labour shortages.

"For a career and job, I'm more interested in (being) an aircraft designer," said an enthusiastic Meliza. The Canadian Council for Aviation and Aerospace estimates the industry will need an additional 58,000 workers by 2028. "There's so many job openings coming up," said Jennifer Lavallee, Manitoba Aerospace's recruitment and training co-ordinator. "We need to fill that wide gap."

Pilots, aircraft maintenance engineers, information technology workers, airport ground crews — all corners of the industry need people, Lavallee said. Many of the sector's workers left or were laid off during the pandemic and haven't come back, she said. That, mixed with retirements, has left gaps. Meliza has applied to the University of Manitoba's mechanical engineering program. Companies such as Magellan Aerospace and Boeing interest her.

Boeing plans to hire 10,000 employees globally this year, company spokesman Connor Greenwood said, adding that in Winnipeg, hiring will focus primarily on manufacturing technicians.

Both Boeing and Magellan are set to host activities Tuesday — Magellan has a rocket challenge — and Meliza is preparing to meet company representatives.

"This is a dream come true," said Terry Shobedian, the Royal Aviation Museum's CEO. About four years ago, in an "a-ha moment," he took a marker and drew a picture of the yet-to-be-opened museum as a bridge between students and the aerospace and aviation industry.

Discovery Days is a fulfillment of the picture, which covers the side of a file box, Shobedian said. "That we have in common (with Winnipeg School Division) is ad-



Meliza attends Discovery Days at the Royal Aviation Museum of Western Canada, an event to teach high school students more about aviation and aerospace careers.

ressing the skills shortage," he said. "But even if there wasn't a skills shortage, there's the opportunity to connect great minds, great students with the industry." Many of the students participating in Discovery Days came from inner-city high schools. It was the first visit to the museum for many, he said. Both Kim Ballantyne, Opaskwiyak Cree Nation's first female pilot, and Luke Perrier, a Manitoba flight instructor, are speakers at the event. Some Grades 6-12 students in the

division have studied the museum's Take Flight courses, which focus on science, engineering, technology and mathematics.

"The aerospace industry is integral to Manitoba and the economy," Martin said. "We want to... use the past to inspire current students about the future."

Manitoba's aerospace sector generated \$1.6 billion in revenues in 2017 and contributed \$1.1 billion to the province's gross domestic product in 2018.

ELMWOOD High School student Austin Dixon made a hand-held plane from pieces of balsa wood Monday. "It's other aerospace or (automotive)," the Grade 11 student said of his future plans.

He lined up with peers during a University of Manitoba zero team workshop, throwing his plane to see how far it would travel.

Across the hall, Matthew Johnson guided students as they navigated a drone through yellow caution tape.

"Almost every industry that does anything outdoors is starting to use drones," noted Johnson. Volatus Aerospace's vice-president, education and digital agriculture.

He expects the industry will need filling, meaning more jobs will need filling.

gabrielle.piche@winnipegpost.com
Powered by TECNAVA

What else does our STEM Education Academy offer to be relevant to society around us?

STEM Education Programming

- Embedded Programs – one week
- Virtual Programming to rural, underserved communities

Increasing Career Awareness

- Career Education Summer Camps

Access for all

- No child left behind





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**Maintaining strong
corporate and funding
relationships**

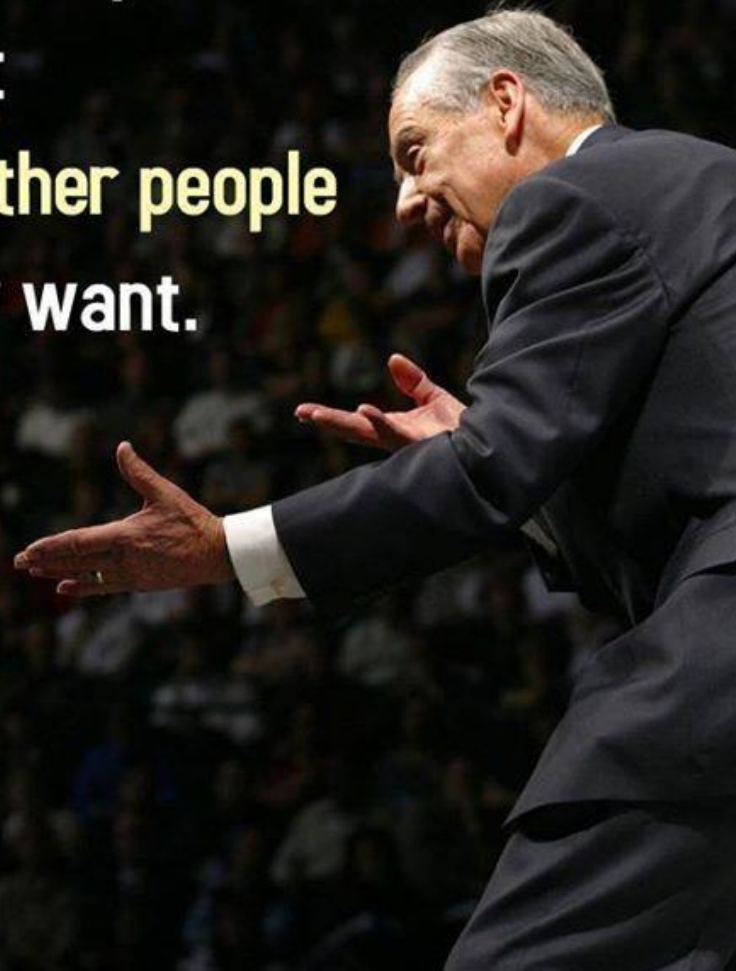


Premise for our partnerships

You can have
everything in life you want
if you will just
help enough other people
get what they want.

- Zig Ziglar

Ziglar.com



AVIATION AND AEROSPACE DISCOVERY DAYS

April 10 and 11, 2023



babcock™



Partners – partial list

Industry

- Manitoba Aerospace, Boeing, Magellan Aerospace, Standard Aero
- Members of Manitoba Aerospace and the Manitoba Aviation Council
- EnviroTREK and WestCard (Engine test facilities for GE, Rolls Royce and Pratt & Whitney)

Higher Education

University of Manitoba, Red River College Polytechnic, Providence College

School Divisions

- Winnipeg School Division
- Frontier School Division

Other (Career Awareness)

- Career Trek
- Certified Technicians and Technologists of Manitoba



What do our partners provide?

Our partners assist us to achieve our mission by providing;

Financial Support

- Operational Funding
- Preservation Ball Gala Sponsorships and Donations
- \$48 Million Capital Campaign
- Gifts in Kind

Other

- Expertise
- Aircraft and Artefacts for the museum
- Visiting Aircraft and Temporary Exhibits
- Volunteers



**Water Bomber Cockpit being
added to our museum**



From Babcock Canada



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Standard Aero Mechanics' Workshop

Standard Aero contributed \$500,000CDN to create the Mechanics' Workshop zone in the museum.

The Museum is working with our industrial and research partners to sponsor and mentor University of Manitoba Engineering IDEAS projects that will design interactive "hands-on" STEM exhibits to add to our "SAL Mechanics Workshop Zone". These will focus on the key elements of propulsion technologies, and inspire students and visitors to learn more about future green aviation technologies.



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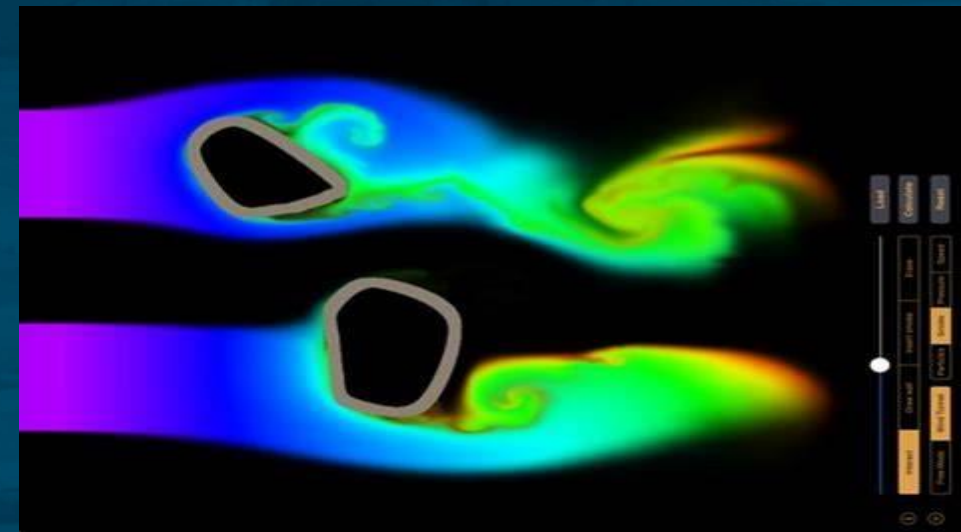
Focus: Aerodynamics

Science of Flight Zone Upgrade: Wind Tunnel

- RAMWC / Manitoba Institute of Trades and Technologies (MITT) collaboration
- Student design and fabrication project
- RAMWC is mentoring student team
 - Learning Outcomes defined
 - Design Requirements and Objectives
 - Project steps emulate industry practice
 - RAMWC providing oversight and mentorship
- RAMWC will acquire MITT Wind Tunnel and install it in the Science of Flight Zone
- Display to include student team, STEM courses involved and links to careers
- Installation planned December 2023



Prototype table-top demonstrator



Fluid Flow Simulator App



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Market Research

62% of our revenue comes from our visitors, so we must be continually relevant to them!



What we did and how it informed us

To grow our revenue four-fold, we would have to diversify our audiences and make our programs relevant to new visitors.

To start, we needed to understand our market. We engaged a research company who surveyed 1,212 people from our province (1,000 from Winnipeg and 212 from rural and northern Manitoba) in the autumn of 2020. The research report was rich with insights, including information on the following:

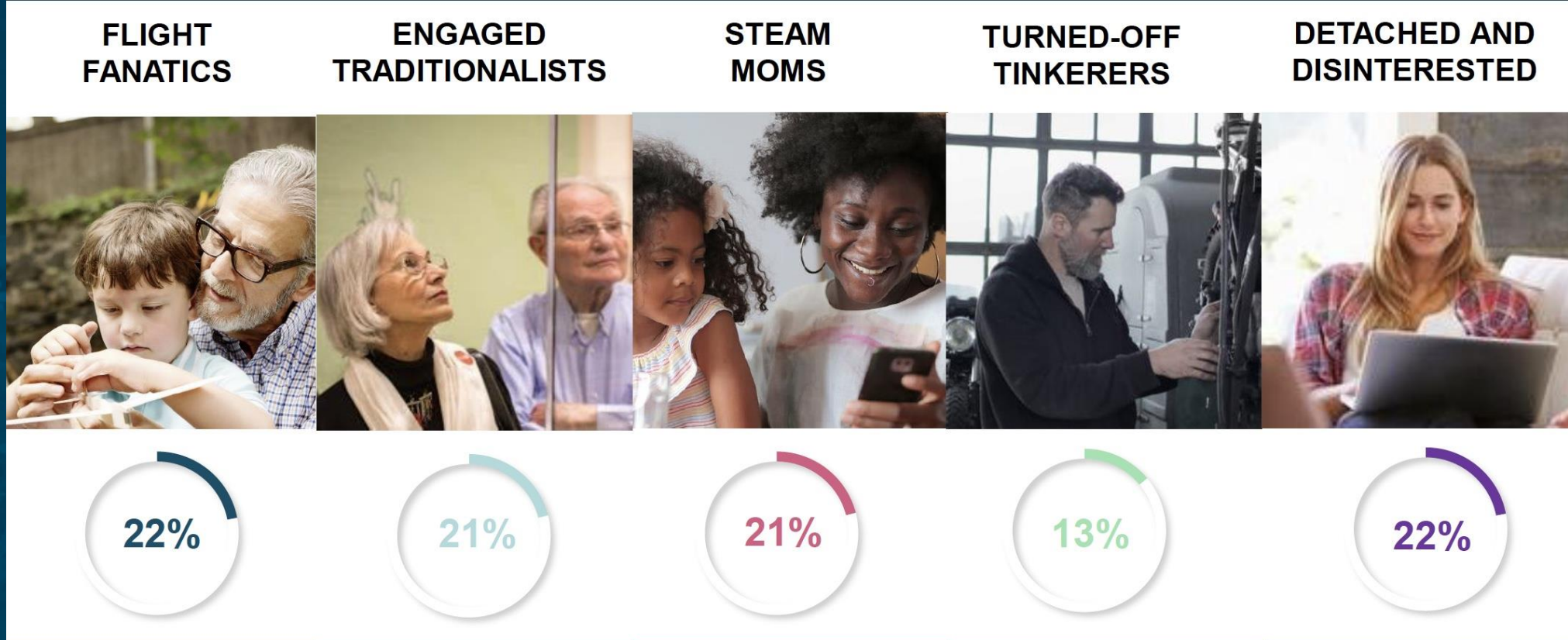
- **Awareness of RAMWC**
- **Perspective on museums in Manitoba**
- **Visitor expectations and engagement**
- **Two core target market segments and one opportunity group**
- **Etc.**

These insights informed our:

- **Rebranding and Marketing strategy**
- **Business plan and revenue model**
- **Exhibits interpretive plan**
- **Gift shop development**



RAMWC Market Segments



Diverse and enthusiastic, Flight Fanatics are most keen to attend the new museum and take in a wide range of new features and activities.

Engaged Traditionalists includes older Manitobans who share a strong interest in history and are eager to share their museum experiences with the next generation.

Savvy when it comes to social media and technology, those in the STEAM Moms segment may consider visiting the museum if it provides a cutting-edge experience.

Somewhat disengaged from the museum experience, Turned-Off Tinkerers may come to the RAM if the offering aligns with their interest in how things work.

Members of the Detached and Disinterested segment are not oriented towards visiting museums and are unlikely to be interested in what the RAM has to offer.



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IMMERSIVE & INTERACTIVE EXHIBITS

- Science of Flight
- Mechanics' Workshop
- Ghost of Charron Lake





Remaining relevant to families – a major target audience for us

OPEN COCKPIT DAY



SEPTEMBER 17TH

VISITING AIRCRAFT
EDITION



In partnership with the Commonwealth Air Training Plan Museum





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Thank you!

