

NOBLE CONSULTING

AVIATION & AEROSPACE ROUNDTABLE INSIGHTS REPORT

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EXECUTIVE SUMMARY

Noble Consulting conducted a national Aviation & Aerospace Roundtable series to better understand workforce challenges across Canada's aviation and aerospace ecosystem. Insights were gathered from senior leaders representing airlines, maintenance, repair, and overhaul (MRO) organizations, cargo operators, flight training units, manufacturers, aviation associations, and regulators.

The findings reveal critical and interconnected challenges related to workforce shortages, regulatory readiness, skills gaps, and the sustainability of talent pipelines. Participants emphasized that without coordinated action across industry, training institutions, and government, workforce constraints will increasingly limit industry growth, safety, and competitiveness.

Insights from consultations with 45 aviation & aerospace leaders across Canada highlight critical structural challenges facing the industry's talent pipeline. Notably, 100% of participants identified the high cost

of entry—particularly for pilot training—as a major barrier limiting youth participation.

In addition, 85% indicated that demand for pilot training significantly exceeds current program capacity, while 83% emphasized the need for more entry-level, on-the-job exposure opportunities to reduce upfront training risks and improve early talent engagement.

Collaboration also emerged as a key priority, with 60% of leaders calling for stronger industry coordination and partnerships to address workforce gaps. Meanwhile, 10% pointed to the growing impact of emerging technologies, including AI and automation, highlighting the need to shift toward future-focused, competency-based hiring models.

Collectively, these findings underscore an urgent need for more accessible, integrated, and scalable workforce development strategies to ensure the long-term sustainability of Canada's aviation and aerospace sector.

INTRODUCTION

Noble Consulting is a talent and workforce development firm specializing in aviation and aerospace. The firm's expertise lies in designing workforce programs that improve employee retention, workforce pipeline development

strategies, and overall employee experience. With a head office in Calgary, Noble Consulting serves clients across Canada, supporting organizations through strategic workforce planning and talent development initiatives.



METHODOLOGY

The insights presented in this report are based on findings from two national roundtable discussions and a series of private interviews conducted with industry leaders. Participants included executives and senior leaders from airlines, MROs, cargo operators, flight training organizations, aviation & aerospace associations, manufacturers, airport authorities, government officials, and regulators.

In total, perspectives were gathered from 45 industry leaders.

1. Bottlenecks and talent shortages
2. Skills and readiness for a regulated environment

Discussions were structured around four core themes:

3. Solutions and workforce strategies
4. Workforce attraction and training pipeline development

AVIATION AND AEROSPACE INDUSTRY OVERVIEW

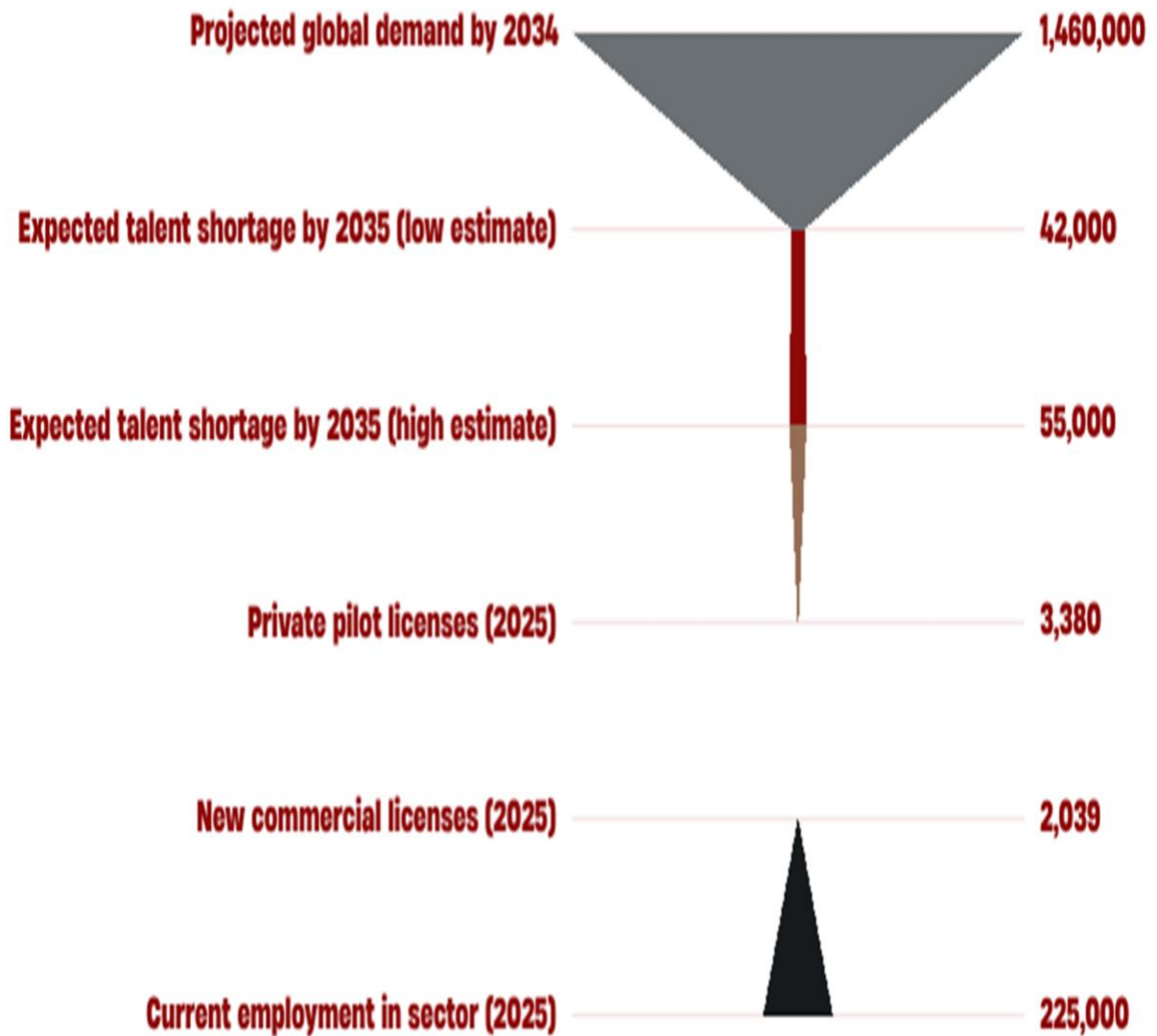
Canada's aerospace industry contributes \$34.2 billion to national GDP and employs approximately 225,000 Canadians across the country. In 2025, 2,039 new commercial pilot licences and 3,380 private pilot licences were issued; however, these figures have not kept pace with growing industry demand.

The aviation sector continues to face critical workforce shortages driven by the retirement of late-career professionals and increasing demand for pilots, Aircraft Maintenance Engineers (AMEs), and other highly skilled technical

workers. Transport Canada projects a shortage of 42,000 to 55,000 aviation professionals by 2035, while the CAE 2025 Aviation Talent Forecast estimates global demand for 1.46 million new aviation professionals by 2034, including 300,000 pilots and 416,000 maintenance technicians.

At the same time, the high cost of entry into aviation careers—particularly pilot training—remains a significant barrier for many young Canadians, further constraining the sustainability of future talent pipelines.

Key metrics in the aviation & Aerospace industry



Sources: CAE 2025 Aviation Talent Forecast & Transport Canada

KEY INSIGHTS FROM INDUSTRY ROUNDTABLES

To better understand workforce challenges and opportunities, consultations were conducted with 45 aviation and aerospace leaders across Canada. The findings reveal a high level of alignment on the structural barriers impacting talent pipeline development and long-term workforce sustainability.

KEY DATA INSIGHTS:

- **100%** of participants identified the high cost of entry—particularly for pilot training—as a major barrier limiting youth participation.
- **85%** reported that demand for pilot training significantly exceeds current program capacity.
- **83%** emphasized the need for more entry-level, on-the-job exposure opportunities prior to significant training investment.
- **60%** highlighted the need for increased industry networking, collaboration, and coordinated workforce strategies.
- **10%** indicated that emerging technologies, including AI and automation, will disrupt the industry within the next decade, reinforcing the need for competency-based, future-focused hiring models.

Key Data Insights

from Aviation Industry Roundtables



100%

High Cost of Entry
Barrier to Pilot Training

Major barrier limiting youth participation



85%

Training Capacity Shortfall
Demand Exceeds Programs



83%

Need for Early Exposure
Entry-Level Opportunities



60%

Call for Collaboration
Stronger Industry Partnerships



10%

Tech Disruption Ahead
AI & Automation Impact

Note: Insights based on discussions with 45 Canadian aviation leaders.

CURRENT CHALLENGES IN THE AVIATION & AEROSPACE WORKFORCE

The aviation workforce continues to face significant challenges in both attraction and retention. Demanding work schedules—including shift work, overnight duties, and remote postings—create barriers for new entrants and contribute to higher turnover rates. These challenges are categorized as follows:

- 1. *Work-life balance is driving attrition***
Shift work, night schedules, and remote postings continue to reduce retention—particularly among pilots and AMEs.

advancements reduce headcount per aircraft, but hands-on technical expertise remains critical, especially in regional and northern operations.
- 2. *Lifestyle considerations influence career decisions***
Predictable schedules and the ability to remain home-based strongly affect both entry into and long-term commitment to aviation careers.
- 3. *Operational complexity is increasing***
Technological
- 4. *Barriers to entry remain high***
Training costs, limited financial support, and low early-career awareness constrain workforce attraction.
- 5. *Compensation is less competitive***
Aviation salary growth continues to lag behind technology and other high-demand sectors.

All participants (100%) indicated that high entry costs and limited accessibility are major barriers to youth participation in the aviation and aerospace industry

FINDINGS AND RECOMMENDATIONS

Skills, Competencies, and Training Pathways

Hiring practices across the sector are increasingly credential-driven, replacing earlier models that emphasized attitude and provided on-the-job skills development. At the same time, employers report growing gaps in soft skills, including communication, customer service, and interpersonal capabilities, which are increasingly vital in modern aviation environments.

Current training pathways are heavily focused on formal education models, which do not always align with industry needs or support non-traditional talent sources, such as internationally trained engineers and pilots. Participants highlighted the need for competency-based

approaches and earlier hands-on exposure through internships, apprenticeships, and secondary-school programs to better align skills development with workforce demand.

Additional concerns were raised regarding international students occupying training program capacity primarily for immigration purposes, rather than entry into the aviation and aerospace workforce. Financial barriers—including high tuition fees and limited loan options—remain a significant obstacle compared to other professional career paths.

STRATEGIES AND PRIORITY ACTIONS

Participants emphasized the need to implement competency-based, demand-driven talent pipeline models to better align employer needs with training delivery. Stronger, coordinated advocacy at both national and provincial levels is required to address funding, credential recognition, and policy barriers.

Improving pathways for internationally trained professionals through clearer credential recognition and integration processes is critical to

addressing near-term labour shortages. Retention and attraction strategies must also address compensation competitiveness, work-life balance, and the overall employee value proposition relative to other high-growth sectors.

Sustained collaboration and industry-wide commitment were identified as essential to scaling solutions, with ongoing frustration expressed regarding limited tangible investment and follow-through.

SUGGESTED ACTION ITEMS

1. Expand early and continuous aviation career awareness initiatives, particularly before high school.
2. Develop and scale local, competency-based training and credential recognition programs, including pathways for internationally trained professionals.
3. Increase direct industry support—financial and in-kind—for school outreach and grassroots training initiatives.
4. Advocate for improved provincial and federal funding and loan mechanisms for pilot and AME training.
5. Strengthen multi-level collaboration between government, industry, and education to align regulatory frameworks with workforce needs.

6. Implement targeted retention strategies, including improved scheduling practices and work-life balance supports.

NOBLE CONSULTING – 5-YEAR OUTLOOK

Over the next five years, Noble Consulting will focus on building an integrated, intelligence-driven workforce ecosystem aligned with insights gathered from industry roundtables and directly addressing the sector’s most critical talent challenges. Central to this vision is the Aviation and Aerospace Competence Program (AACP) project.

Through AACP, a broad network of stakeholders—including industry employers, commercial and private airlines, Maintenance, Repair and Overhaul (MRO) providers, Flight Training Units (FTUs), Approved Training Organizations (ATOs), aircraft manufacturers, and regulatory bodies—will gain access to a structured, scalable, and data-enabled Canadian talent pipeline.

Beginning in 2026, Noble will establish a grassroots framework that enhances early career exposure and awareness. This will be

powered by advanced AI and immersive learning technologies to deliver competency-based assessments, personalized learning pathways, and real-time skills validation aligned with industry standards. AI-driven insights will enable predictive workforce planning, allowing employers to identify emerging skill gaps, forecast talent needs, and make more informed hiring decisions.

The program will bridge the gap between talent and industry by intelligently matching candidates with employer partners, enabling access to hands-on training, practical experience, and clearly defined pathways into aviation and aerospace careers. Through continuous data collection and feedback loops, the ecosystem will evolve dynamically, ensuring long-term workforce sustainability, improved retention, and stronger

alignment between training outcomes and industry demand.

The Aviation & Aerospace Competence Program (AACP), powered by our flagship Workplace Cognitive Competence Program (WCCP), is designed to strengthen and accelerate the workforce

pipeline across the aviation and aerospace ecosystem. Our goal is to prepare motivated early-career talent with the competencies, foundational knowledge, and industry readiness required to succeed in your workplace.

PROGRAM IMPACT

THE AACP WILL STRENGTHEN CANADA'S AVIATION WORKFORCE

PIPELINE BY:

1. Providing hands-on operational experience within the aviation ecosystem
2. Enabling participants to earn income to offset pilot or AME training costs
3. Preparing industry-ready candidates through competency-based training
4. Increasing readiness and competitiveness for admission into FTUs and ATOs
5. Reducing dropout risk by improving foundational knowledge and workplace exposure
6. Connecting talent directly with airlines, MROs, and aviation training institutions
7. Reducing the pilot hour-building bottleneck in Canada by facilitating connections between Private Pilot Licence (PPL) and Commercial Pilot Licence (CPL) holders and small or regional aviation operators, enabling early-career pilots to gain operational experience and accumulate the flight hours required for career progression.

JOIN THE AACP ECOSYSTEM

Noble Consulting invites airlines, MROs, training organizations, and regulatory bodies to become part of Canada's next-generation aviation talent pipeline. Collaborate with us to shape competency standards, provide meaningful training opportunities, and gain early access to emerging talent.

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