Future Skills Centre | Centre des Compétences futures

Targeted call for FSC Project Partners

Instructions to complete the application form

Please refer to the Future Skills Centre's (FSC) **Targeted Call for FSC Project Partners Guidelines** document when preparing your application.

This application form is structured to help you address the selection criteria for this call and give reviewers easy access to your project information. This form is divided into the following sections:

- Part 1 - General information
- Part 2 - Project summary
- Part 3 - Project details
- Part 4 - Project work plan and budget
- Part 5 - Declaration

If you would like to request accommodations or other types of support, please contact Maysa Mourad by email at targetedcall@fsc-ccf.ca or by phone at 437-331-0613.

If you have any questions while compiling your application, you may contact our team at targetedcall@fsc-ccf.ca. We would be happy to answer any questions.

PART 1 - GENERAL INFORMATION

1. Lead organization

Name of lead organization

Trucking Human Resource Sector Council Atlantic

Name of project lead

Kelly Henderson

Project lead's preferred method of contact (email address and/or phone number)

Email or Phone

2. Proposed project

Project title

Removing Barriers to Employment for Entry-Level Professional Drivers

Project start and end dates

January 10, 2022 – August 31, 2023

Projects must end no later than September 30, 2023.

Amount requested from FSC (total)

$602358.00

Project partners and their location

Commercial Safety College, Nova Scotia
Breton Commercial Truck Training School, Nova Scotia
Maritime Employment Training Institute, Nova Scotia
Immigrant Settlement Association of Nova Scotia, Nova Scotia
Nova Scotia Works, Nova Scotia

PART 2 - PROJECT SUMMARY

1. Proposed project "one-liner"

How would you describe your new project in one sentence?

This project explores the effectiveness of using virtual reality software to remove barriers for entry level professional drivers in successfully completing training programs, increasing productivity, and improving retention.

(30 words maximum)

2. Proposed project summary

How would you describe your new project and how it builds on the testing and learning of your current project to date?

We suggest that this summary covers the main information about how your new project addresses all selection criteria of this targeted call.

The trucking industry is facing a critical shortage of skilled professional drivers. In the second quarter of this fiscal (July 2021 – September 2021) alone, across Canada 20,000 trucks were sitting empty because of lack of qualified operators. While many hold a Class 1 license, they do not have the required skills to be hired for an entry-level driving position. COVID also created a lot of challenges for the trucking sector, but even before the pandemic, there was a shortage of 24,000 jobs in the sector nationally that were unable to be filled. This translates into 1500 – 2000 jobs in Atlantic Canada. These barriers also impact the economic growth of companies as well as the supply chain movement of goods.

We know the skills-set of the entry-level professional driver means that advanced skills must be acquired in their initial training; they only have a short period of time to learn them, as most training courses are 12 weeks in length. They learn these skills in a short period of time. This project will provide a new learning tool – the virtual reality simulator – to help build muscle memory of the entry-level driver. The goal is to increase their skills productivity and growth for the hands on portion of training. This project will allow us to demonstrate the value of VR training at this phase of training. And will feed into the use of technology for advancing skills of the existing workforce.

(250 words maximum)

3. Additional scope

How does your new project go beyond the scope of your current FSC-funded project?

The additional scope may include expanding or extending a project model, its principles and/or components. For example, it may include expanding the project to new regions or jurisdictions, including new or larger target populations, and testing different delivery formats to understand what works to address demands. This would assume the potential for bringing additional partners to deliver the project at a broader scale. The additional scope must be grounded in new concrete learning questions to contribute to your work and of others in the skills ecosystem.

We are expanding the original initiative into the entry-level candidates coming into the sector. By first building and then enhancing new drivers' skills and learning experiences through the use of new technologies, there is the potential to improve productivity and retention among the sector. In addition individuals from traditionally under-represented backgrounds (i.e. Newcomers, Indigenous and African Canadians, etc.) tend to struggle somewhat in the skills training for a variety of reasons. We believe the VR simulator will remove barriers to success for under-represented and under-skilled candidates. Finally, while there are a few driving schools that can afford the $100 - $200K cost of a full-size training simulator, the innovative use of inexpensive ($20,000K per unit) VR personal training units will allow most schools to expand their ability to provide this leading edge learning experience to their students.

(150 words maximum)

4. Importance of the additional scope

Why is the additional scope of your project important to your organization, sector and target populations? Why is it timely?

The additional scope of this project is timely for us as we face an increasing skilled worker shortage, due in part to the retiring of many older, skilled drivers, while at the same time dealing with a shortage of qualified candidates for the entry-level positions. Entry-level drivers are facing a variety of barriers such as essential skills aptitudes for a professional driver, skills competencies and more. We know unemployment rates are high in Nova Scotia and particularly among youth and under-represented people in this sector. The use of the VR technology will allow us a new and innovative training tool to support the demands of the changing occupation. As we look forward to autonomous trucks, electronic logging devices and more, drivers will require even higher skills than initially expected even five years ago. This project has the potential to remove barriers to employment. We will also have a return on investment for the VR simulator units, which will demonstrate the dollar return value for the investment in a candidate for getting into the career as a professional truck driver.

(150 words maximum)

PART 3 - PROJECT DETAILS

In this section, please provide information about how your new project supports each of the selection criteria of this targeted call.

We provide prompting questions to help you address all criteria in the application guidelines. You may prepare this section following the prompting questions in sequence or using your own sections and narrative.

Although you have flexibility regarding the format for this section, please make sure that you address all criteria according to the prompting questions. Reviewers will assess your application by scoring each criterion individually.

This section should not exceed **seven** pages. We anticipate that most proposals will present this section in **five** pages.

The THRSC's current FSC project *Building the Skills of the Trucking Industry for the Future Using Innovative Technology*, is exploring the use of VR training with older, more experienced drivers to support retention of this cohort through increasing their comfort level with technology, as well as allowing them to address any loss in driving skills which come as the body changes in the aging process. In this phase of the project, drivers go through 6 – 8 VR training sessions, and are debriefed at the end of each session. Attitudinal shifts are tracked throughout the process, as well as observational findings of ease of use. Finally drivers are surveyed three months post-training to gather data on the longitudinal impacts of the training on their driving. Although Covid-19 has caused some delays in completing the data gathering for this project, early findings are showing some success with this attitudinal shift, and positive effects overall on drivers' skill retention.

Building on this, we would like to scale this project up in order to deepen our understanding of the uses and impacts of this virtual reality technology within the trucking industry. This will involve both an evaluation component, similar to Phase 1, but to that we will add a research component to explore the following questions:

1. We know the virtual reality simulator builds memory muscle for skills required of the driver from the first phase of the project. In this second phase, we propose to research the impact that using this technology in combination with the traditional training methods that entry-level professional drivers typically receive may have on the skill sets they graduate with.

2. The average age of those currently entering the trucking sector is the early 40's. A proposed second area of research for this second phase of the project is to see if it is possible to attract and retain youth into the sector by focusing on the gamification aspect of virtual reality training. This would further support the retention of the entry-level professional drivers and would also introduce them to industry specific technology to be used as they enter the career.

While the use of VR training simulators in driving schools is not unknown in Canada, typically the ones currently in use are large, static, very expensive models (in the $100-200K range), similar to those used by the military for training. Only one driving school in Atlantic Canada currently has such a simulator. The VR technology being used in this project is inexpensive (roughly $20,000 per unit), portable (using VR headsets instead of a full-size mock up of a truck cab), user friendly, and easy to learn. While most driving schools cannot afford the larger simulators, most would be able to purchase a number of this smaller, portable version for a relatively small outlay of capital. Thus it is possible, based on the findings of this second phase, that such training could become more widespread in Atlantic Canada, and across the country, and could go some way to addressing the huge labour shortage in the trucking industry.

For this phase of the project, we propose to partner with a number of the driving schools in Nova Scotia to pilot the training. We are again partnering with the Centre for Employment Innovation, St. Francis Xavier University in Antigonish, NS to conduct the evaluation and research for this phase as they are currently doing with the project's first phase.

A. Relevance

a. This project aligns with FSC's strategic priorities new and innovative skills approaches

b. The systemic challenges addressed are the barriers under-represented and marginalized populations (i.e. Newcomers, youth, Indigenous, African Canadian, Women, etc.) experience when entering the trucking sector.

c. With the driver shortage, the trucking sector needs a skilled workforce. The entry level drivers need to have the competencies required to be productive when they are hired. The trucking sector needs this initiative to support developing a skilled workforce.

B. Innovation

a. This project is innovative in using virtual reality simulators for training. While simulators have been used for training in the past, these VR simulators are more cost effective and accessible than the system that is huge and stationary. These simulators are mobile. It is focusing on a challenge around removing systemic barriers to people wanting to be part of the trucking sector. It's an innovative approach to a challenge of learning a skills set that is specialized in nature.

b. Through research, we will use the project to assess the students in training. We will assess the students skills enhancements after using the VR simulators to build competencies in truck operation. To do this will result in strong recruitment and retention practices in the trucking sector. Having more people successful upon graduation, by removing barriers to employment such as the under-skilled, will yield a higher number of successful graduates.

C. Learning

a. So far we have learned that the existing workforce sees value in the VR training. They recommended that it would be good to see if it could help enhance the skills set

of the new drivers coming into the sector. We have also seen a higher number of under-represented groups face more challenges around skills training in the truck training schools than non-under-represented groups. Using innovative technology is intended to remove systemic barriers.
b. Additionally the project will help us learn whether VR simulator training produces safer drivers, improves recruitment and more importantly retention of new drivers in the trucking sector.

D. Equity, diversity and inclusion
a. Yes it does. We will consult with participants on their feedback about usage before and after. We will consult with trainers to determine the value of the VR simulator training to support learning. We will also work with under-represented groups to identify methods to remove barriers to learning.
b. We are focused on increasing the number of under-represented in the trucking sector. Our activities include recruitment of this group to careers in the trucking sector. Working with organizations who represent under-represented individuals.
c. Yes it will. Through the use of VR simulators, our expectation will be that we will see an increase in successful candidates completing truck driver training. A strong focus will be on promoting to under-represented organizations to increase representation ideally by removing barriers to success. Equity, diversity and inclusion is a priority for the trucking sector and for the Trucking Human Resource Sector Council.

E. Capacity
a. The lead organization is connected to the trucking sector directly. We work with the sector on human resource challenges and develop strategies, identify innovative best practices as well as labour market information and training to support the economic growth and productivity among the workforce. This will support the buy-in for the initiative among school owners in accessing a new and innovative tool to support their students in acquiring the skills needed to be successful professional truck drivers.
b. Yes, with exception of COVID challenges, for those participating in the project and commitments for those who will be participating in the project all is moving along as anticipated.

F. Coherence
a. The main project activities will be the virtual reality simulator training and the research around the successful completion of programs for the entry-level students. Identifying a return on investment will also demonstrate that we have met the value in investing in innovative technological advancements.
b. We have kept the costs to a minimum in all areas possible. We wanted to ensure quality for the dollar request. We also want to be sure we can demonstrate value with a good return on investment.

(3,500 words maximum)

PART 4 - PROJECT WORK PLAN AND BUDGET

1. Please submit a **one-page work plan** with key milestones and their timeline. **Do not** include detailed activities at this time. If your proposal is selected, we will work with you to develop a detailed work plan.

Workplan
January 10, 2022 – August 31, 2023

	Key Milestone	**Timeline**
1.	Working Committee Meeting / Contract Consultants	January 2022
2.	Research Data Collection documentation prepared	February 2022 – April 2022
3.	Data Collection - Focus groups with participants - Virtual reality training - Focus groups with trainers / owners	May 2022 – May 2023
4.	Data analysis	May 2022 – May 2023
5.	Industry consultation sessions showcasing findings	July 2023
6.	Final reports / project wrap up	August 2023

2. Please complete the project budget template provided to you as part of the application material.
    a. Include only **new funding** associated with your new project and its additional scope. Please do not include the existing funding that is already part of your current funding agreement with FSC.
    b. If applicable, identify new funding pending or confirmed for this project from other sources. **This funding should be included as in-kind contributions. (Please note that funding from other federal sources cannot be counted towards in-kind contributions)**

3. Please submit your work plan and budget by sending these files, along with this completed form, to targetedcall@fsc-ccf.ca.

4. You may use the space below to provide comments to accompany your work plan and/or budget.

We look forward to discussing this proposal further. Thank you for the opportunity.

(100 words maximum)

PART 5 - DECLARATION

By submitting an application, the lead organization and its partners agree to the requirements of the following sections, detailed in the guidelines outlined for this funding call, and they affirm that they comply with and/or commit to the following:

- Organization eligibility.
- Active support for co-creating and carrying out an evaluation with an FSC-approved evaluator, if FSC decides an evaluation is appropriate for this project.
- Active engagement in knowledge mobilization activities related to the project.
- Compliance with the Tri-Council Policy Statement on the Ethical Conduct of Research Involving Humans.
- Confidential due diligence inquiries from Future Skills Centre into the applicant.

Signature

Name of signing authority	**Date**
Kelly Henderson, Executive Director	**October 26, 2021**