



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

Anaconda Mining

Name of project lead

Tamara Vatcher/ Amanda Abballe

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

Tamara@training-works.ca 709-685-8209/ aabballe@anacondamining.com 416-995-5523

2. Proposed project

Project title

Neuromining and Microlearning - The Future of Behavioural Skills Development

Project start and end dates

January 15, 2022 – September 30, 2023

Projects must end no later than September 30, 2023.

Amount requested from FSC (total)

\$1,010,000

Project partners and their location

Anaconda Mining – Newfoundland and Labrador, Nova Scotia
Agnico Eagle Mining – Nunavut

PART 2 - PROJECT SUMMARY

1. Proposed project “one-liner”

How would you describe your new project in one sentence?

Through the alignment of personalized change readiness profiles and individualized microlearning supports, this project will support every unique individual in the way they need to implement safety behaviours.

(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.

This project assesses the impact that personalizing learning to match an individuals' readiness for change has on their capacity to transform academic knowledge into behaviour change.

Learning from our current project, we have designed this project to meet each individual where they are on the change continuum which helps to mitigate fear of the unknown. Through our current project, we have heard directly from participants that there is a varying level of readiness for change. Even though individuals recognize the need to change, they are not always prepared. This project builds upon our change management strategy in our current project to ensure each individual is prepared for their own pathway forward, preparing them for the future of work.

This project will allow or optimization of design and delivery of on-the-job microlearning in industrial settings. By refining the approach to include specific behaviour change techniques within each piece of microlearning training, there is an increased likelihood the knowledge learned within the program will result in positive behaviour change seen on the worksite.

This project brings together a diverse group of participants including Indigenous groups, individuals from rural and Northern areas, and individuals with lower levels of literacy and essential skills. The project's individualized nature will allow for participants to have an opportunity to learn and develop, no matter their level of formalized education or familiarity with digital learning.

(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.

This new project expands upon the design of the program to include a change readiness assessment to assess each individuals level of change readiness. Microlearning will be developed to extend the daily pace present in the current project and will incorporate behaviour change techniques into its design. This is the next iteration of learning on-the-job within a mining environment.

This project will also extend to participants at the Goldboro site in Nova Scotia which will include individuals from the Mi'kmaw First Nation. In Nunavut, the project will add approximately 2000 additional individuals, expanding to the scope to also include the Meadowbank mine.

(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 important as safety continues to be a top priority for our organizations. Through our current project we have found there is a combination of internal and external factors impacting an employees' ability to embrace change. This added scope will help to mitigate these factors.

The COVID-19 pandemic uncovered a need for increased agility in the workforce which we believe can be strengthened through this project. Coupled with large-scale digitization of industry, the way employees work will change at a rapid pace. Employees will require an added resilience as they move through their personalized career ladder. The tailored design of this project will provide them with exactly that – the ability to become more adaptable and resilient to change.

(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.

Relevance

How does your new project align with FSC's Strategic Priorities?

This project seeks to take the “what works” from our current Future Skills Project “microlearning in the Mining Industry and evolve it to a higher level which will include an additional 8 hours of microlearning. This new training however will be developed with a behavioural change overlay to optimize participant behaviour change. Organizational structures will also be aligned to facilitate success of the change.

As currently being demonstrated in our existing project, the purpose-built microlearning delivery model is beginning to take hold within the organizations. Expanding the audience reach by adding 2000+ participants and 8 new hours of learning, demonstrates the efficacy of the program and the buy in it is receiving from both participating organizations. The extension of the project will *enable the testing and evaluation of a full cycle career pathway* which includes a comprehensive innovative *microlearning skills development system*. The project will allow for the alignment of organizational structures (including but not limited to existing training, career laddering and rewards and recognition from both Anaconda Mining and Agnico Eagle Mining) in relation to the behavioural change techniques employed.

The resulting training program will be prescriptive and completely demand driven, which we believe is a unique positioner within the mining industry. Traditional workplace learning is usually event driven, meaning a single training event or short series of training events are held with little to no long-term follow-up. This project offers more than sporadic training event post-work, instead proposes daily learning, available based on the individuals need in their job role at that time for a long period. By adding a coaching program, individuals will have on-the-job support in order to ensure knowledge transfer and behaviour change.

In addition, this program and delivery model will be built in consultation with industry and identified beneficiaries to ensure it meets the needs of the audience. The model will be designed to allow for frequent updates, adding a layer of agility not often found in workplace learning. This agility ensures that relevant training is provided even if industry requirements change. It also allows for changes depending on evaluation results throughout. The model will also take rural and remote locations into consideration. Understanding that many training programs are inaccessible in these locations due to bandwidth considerations or proximity to training centers, we aim to develop a model that provides utility to all individuals regardless of location.

How does your new project address recognized systemic challenges about future skills in Canada?

In the workplace, time is limited. Leaving work to travel to lengthy training disrupts the workflow and within rural and Northern areas, may not even be possible. Studies show that in a typical learning event, learning occurs quickly but is also forgotten quickly making the expenditure of sending employees to lengthy instructor led training inefficient. In fact, according to Deloitte¹, learners have only 1% of their typical work week to focus on learning. Considering time and money constraints within organizations, it is key that learning be quick, contextualized, continuous and designed to initiate behaviour change. Additionally, today's learners find themselves untethered to a single computer-based location, especially in a mining environment, making access on mobile devices increasingly important for learner uptake.

Nearly 50% jobs are at high risk of being affected by automation over the coming ten to twenty years². Technological disruption is predicted to most impact workers in disadvantaged groups. Workers in low-skill jobs are also most likely to be affected by automation. Rural and remote communities are at a high risk of being affected by job displacement due to training availability and proximity to city centers. It is important to ensure creation and retention of a skilled labour market to sustain the community and region.

Development programs must be continuous in nature to support ongoing skills development within an organization. It is no longer enough to offer single training events within the workplace and to assume knowledge transfer will occur. Most of the knowledge learned in single training events is forgotten shortly thereafter³. To best increase skills transfer to the job, learning and development must occur on a continuous basis and be adaptable to changes when in demand skills shift.

¹ <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/HumanCapital/gx-cons-hc-learning-solutions-placemat.pdf>

² <https://irpp.org/wp-content/uploads/2020/06/The-Demographics-of-Automation-in-Canada-Who-Is-at-Risk.pdf>

³ <https://www.mindtools.com/pages/article/forgetting-curve.htm>

To meet the needs of employers traditional training aims to move knowledge into behaviour however this also requires a complex system of interconnected supports within the organization. This project will align relevant organizational supports with Behavioral Change Theory. The microlearning program will be delivered specially geared towards where the individual is assessed on the change readiness scale, and behavioural change techniques will be woven throughout the microlearning program hence optimizing the transfer of knowledge into behaviour. This will be a revolutionary leap forward for skills development and as Daryl Plummer stated: (distinguished research vice-president and Gartner Fellow) – “The winners of the next decade will be experts at neuromining — applying behavioral intelligence and related technology to analyze, understand and influence human behavior at scale,”

Explain how your proposed project fulfills the demand for your service. Who is demanding this and how do you know? Why is it timely?

Working closely together as a project team, the need for comprehensive change readiness and subsequent agility has become abundantly clear. This project has brought together both strategic senior level leaders and operational leaders to discuss the challenges and potential opportunities to continue to move the workforce toward behaviour-based safety. The model being created within this project has been borne of industry and is heavily informed by the operational challenges and the reality of the sector itself.

The project team has seen firsthand the importance of change readiness, through various forms of engagement project participants have demonstrated their individual level of change readiness. Frontline workers at both organizations have shown this readiness for change is influenced by several distinct factors within the organizational safety culture as well as personal attitudes and beliefs.

As activity across Canada increases in the mining industry with the global demand for minerals safety of our workforce is essential. By developing a new approach to training, using Microlearning with Behavioural Change Techniques and coaching to ensure knowledge is transferred into behaviour this project will empower the individual worker with the skills and tools to remain safe on the job.

Innovation and Evidence

In what way is your project innovative by pursuing a new way of doing things? If applicable, how is your project model informed by evidence?

Rooted in the Transtheoretical Model of Change⁴ developed by Prochaska and DiClemente, this project brings new methodology to skills development within the

⁴ <https://sphweb.bumc.bu.edu/otlt/mph-modules/sb/behavioralchangetheories/behavioralchangetheories6.html>

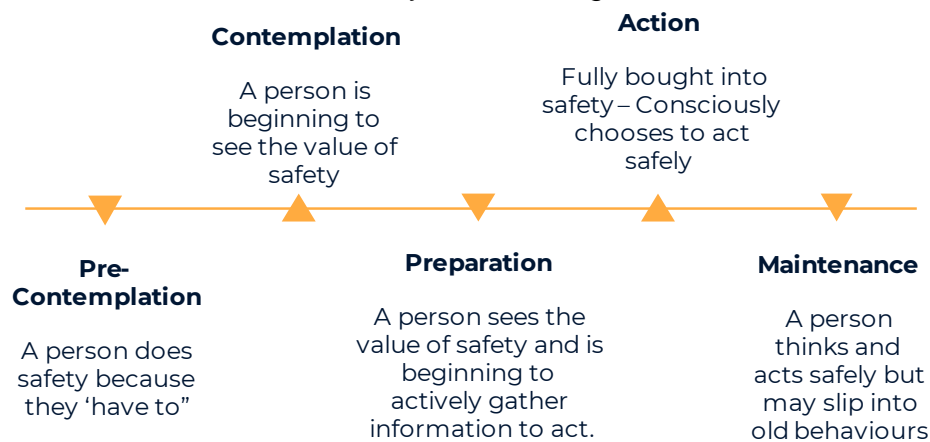
mining sector. The model proposes adding a behaviour change overlay to the competency based microlearning. This method will allow for learners to understand where they fall on the change continuum and to receive appropriate learning pathways based on their specific change readiness profile.

This project intends to build upon existing research completed on change models and mitigating identified risks by factoring in⁵:

1. Cultural considerations - Safety climate and culture will be assessed within the worksite to help understand and mitigate any cultural nuances which may impact change readiness.
2. Commitment readiness - This project has support from senior levels at both Anaconda Mining and Agnico Eagle Mining. This will allow for support from the top-down, empowering employees to participate in the program and implement subsequent behaviour change.
3. Capacity readiness – By assembling a team of subject matter experts to help drive and reinforce the change within each worksite, the capacity for change is increased for Anaconda Mining and Agnico Eagle mining, helping to mitigate this risk.

This approach is both industry driven and individually tailored to optimize behaviour change. Using cognitive psychology to design and deliver personally driven microlearning is groundbreaking and could revolutionize skills development. By overlaying the change readiness framework onto behaviour-based safety within a mining environment, this project can help individual learners become more adaptable and resilient to change, moving safety from something they are “told” to do to an inherent desire to think and act safely.

The following diagram adapted from the Transtheoretical Model of Change, outlines how an individual thinks and acts safely in each stage.



⁵ <https://www.pmi.org/learning/library/change-readiness-11126>

Once the behavioural change assessment has been completed by learners, the microlearning will be designed using behavioural change techniques to further enforce transfer of learning and subsequent behaviour change. The specific behaviour change techniques will be designed based on the audience and their change readiness profiles. This project will take into consideration organizational structures currently in place, allowing for alignment to promote and support ongoing safe behaviours within the organization.

Change readiness is required as the mining industry moves toward “Industry 4.0”⁶ or the Fourth Industrial Revolution. This next era is expected to focus on complete digitization through the creation of a complete digital ecosystem. As part of this transition, change readiness will become increasingly important at both an organizational and individual level. Through this project, bottom-up change readiness will be achieved, allowing for employees who would be disproportionately impacted by Industry 4.0 to change their mindset toward change and enhance their agility, thus helping to future-proof the workforce.

This will be a revolutionary leap forward for skills development and as Daryl Plummer stated: (distinguished research vice-president and Gartner Fellow) – “The winners of the next decade will be experts at neuromining — applying behavioral intelligence and related technology to analyze, understand and influence human behavior at scale,”⁷

b. How do you plan to generate evidence and insights during your project? What new knowledge will it generate and what are the potential implications of your approach for the broader skills ecosystem?

This project will generate evidence through robust change readiness assessments and subsequent microlearning remediations to increase the level of knowledge commuted into safety behaviour. The findings of this project will highlight how using appropriate behavioural change techniques based on an individuals’ change profile will enhance their receptibility to novel concepts or reinvention of familiar concepts.

This approach is expected to create a blueprint for future learning opportunities which can be scaled across industrial sectors in Canada. This new approach meets learners where they are on their personalized continuum of change and helps them to learn and develop at their pace, leaving no learner behind.

Learning

What learning has your current project with FSC generated and how has this learning informed the scope of your new project?

Our current project included primary research with frontline workers. We engaged workers in interviews, informal conversations and focus groups to identify skills required

⁶ <https://www.pwc.com/ca/en/industries/industry-4-0.html>

⁷ <https://www.gartner.com/en/newsroom/press-releases/2021-10-19-gartner-unveils-top-predictions-for-it-organizations-and-users-in-2022-and-beyond>

in their jobs and to understand their learning preferences. Through this process we have realized there is resistance and anxiety around technology, testing and change itself. Many individuals have indicated they are ready for change and look forward to learning new skills to stay safe on the job, however there are some who have identified they do not want to change or learn new skills. People have also demonstrated a fear of testing and using new technology. By looking into an individual's readiness for change the project can determine how to design the learning for that level of readiness.

Through the document review and environmental scan of our current project we have seen a difference between the organizational structures and supports in place and the operational reality of implementation. Both companies have extensive safety programs but there is an apparent gap in acceptance and practice. By investigating the safety climate and culture of the organizations the project can identify where the gap lays between the organizational support and the applicability of it on the floor and in the field.

Frontline workers in our project have the knowledge to stay safe on the job, their organizations have provided extensive safety training and have policies in place to keep them safe. Through our current project we have learned that knowing something academically and being able to use this knowledge to stay safe on the job are two very different things. Our current project provides learning and the additional support of a coach to help workers apply their new skills on the job. By applying behavioural change theory to the learning in the proposed expansion we can also adapt the learning to the individual and their position on the change readiness scale to further enhance their ability to learn and apply the knowledge.

What are additional learning questions that your new project will address?

How can we fully optimize the transfer of knowledge into behaviour using behavioural change techniques?

What organizational supports (existing training, succession plans, rewards and recognitions, etc.) need to be aligned / created to ensure the creation of future organizations that support continuous skills development?

Equity, Diversity, and Inclusion

Does your project incorporate in its design and execution the perspectives of end-users and other stakeholders, particularly groups facing barriers? If so, how? If not, why not?

Through key informant interviews, conversations and focus groups our project will engage with the frontline workers including those facing barriers in the workplace such as indigenous workers, women, those who have a language barrier as well as workers low levels of education. This project will include participation from all frontline workers and supervisors, during the activities discussed above the project team will seek an equal and diverse representation of the workforce to participate and engage at this level. Collaborating with the frontline workers allows the team to identify the learning

preferences of each group and provide alternative learning opportunities to ensure everyone has equal access and can overcome barriers to learning in the workplace.

What are the practices and activities of your project that directly support and are grounded in principles of equity, diversity and inclusion?

Our microlearning is created using a diversity lens to ensure cultural sensitivity. Subject matter experts with experience working in Indigenous communities are consulted to ensure there are no inherent biases included within the learning.

In addition, our transcripts are written with literacy levels top of mind. The microlearning videos have both auditory and visual cues to help those who may have literacy challenges. The transcript writing process includes a team member who is a certified workplace educator and level 5 literacy educator. Our team works diligently to ensure the project design and subsequent outputs are inclusive of all participants, giving everyone an equal opportunity to learn.

Will your project further equity, diversity and inclusion in the field or sector of your project? If so, how? If not, why not?

By working with a diverse population of workers our project will provide insight into learning preferences, skills gaps as well as change readiness of our project participants.

Capacity

What are the skills, experience and resources available within the lead organization (and partners, if applicable)? How will these elements support the successful execution of the project?

This project brings together Anaconda Mining, Agnico Eagle Mining, Training Works and MiHR, a team with a proven track record of successfully working together. The experience of this project lies with a carefully assembled team of subject matter experts including:

- Behaviour based safety specialist
- Behavioural psychologist
- Industrial anthropologist
- Industrial psychologist
- Change manager
- Project liaison – health and safety/training

In addition, the project will bring together team members from each organization who have played a pivotal role in the execution of the current project.

Anaconda Mining:

- Amanda Abballe: Vice President of Human Resources who has executive responsibility for driving Anaconda Mining's people and talent strategy globally. Amanda will serve as an executive sponsor for this project.

Training Works has been working in the mining industry for 6 years. They have completed comprehensive skills training need assessments on mining operations including but not limited to gold, barite, fluorspar mines within Ontario, Nunavut and Newfoundland and Labrador. For this project, the following team has been identified:

- Tamara Vatcher (Partner) who has 25+ years' experience in strategic planning, adult education, skills assessments, and essential skills. As a government consultant, Tamara identified and mapped required skills and competencies for large scale mining, hydroelectric, and oil resource projects. Tamara will serve as the Project Lead for this project.
- Jessica Philpott (Operations Manager) who has 10+ years' experience in adult learning methodologies supporting organizations preparing for digital disruption. Jessica is a certified Project Management Professional and will hold responsibility for the project management strategy.
- Jennifer Reddy (Project Specialist) who has 10+ years' experience working as a geologist in the oil and gas sector, allowing for extensive field-based experience. Jennifer's experience uniquely qualifies her to develop and adapt learning strategies for the mining sector. Jennifer will serve as project support for this project.
- Branden On (Multimedia Specialist) whose creative experience ranges from developing pedagogically sound microlearning moments to high quality marketing materials. Branden will serve as microlearning developer for this project.

Agnico Eagle Mining:

- Pierre Guimont is Corporate Director of training and employee development leading strategic initiatives associated with design/delivery of leadership development programs. Pierre will serve as an executive sponsor for this project.
- Benoit Massicotte is the Occupational Health and Safety Manager at Meliadine Mine. Benoit will serve as operational support and advisor for this project.

The Mining Industry Human Resource Council (MiHR) will act in an advisory capacity to assist with the design of the program.

Does your current project with FSC hold a good track record? Have you faced any challenges?

Our current project faced unforeseen challenges caused primarily by the COVID-19 pandemic. The project was initially designed to include a large amount of face-to-face contact to help build relationships and to understand the operational reality of each location. Given the pandemic and associated travel restrictions, the roll out of the project was delayed. In addition, the Inuit employees at Agnico Eagle Mining were in isolation outside of the mine environment to help prevent the spread of COVID-19 to their community. These employees began their return to work in September 2021.

To address these challenges, the project team developed a primarily digital

engagement strategy. With the assistance of key employees on the ground in each location, primary research was conducted to help move the project forward. While this reinvented strategy resulted in delays, the foundation for a successful project during a pandemic has been set and the project is moving along nicely.

Coherence

What are the main project activities that will enable you to meet the project objectives?

This project will be completed by developing and administering a change assessment to each employee. The findings of these assessments will allow for the development of personalized behavioural change techniques which will then be overlaid on microlearning moments for the employees to participate in. The employees will participate in one microlearning moment per day which could include video, audio, visual such as infographic, or short job aid. At the end of the project, the impacts will be evaluated to determine whether the change readiness level increased and if this technique allowed for safer behaviours.

Explain how your project presents good value for money. How is your budget reasonable, appropriate and aligned with your work plan?

This project presents a strategic opportunity for the mining industry to lead the way in preparing for the future of work. This project will be tailored from beginning to end to meet the individualized needs of more than 2000 mining employees in Canada. This group spans 2 provinces and 1 territory and includes representation from Inuit and First Nations groups and rural employees who may not typically be involved in these types of training initiatives due to location.

Our budget is aligned with the purposeful creation of microlearning which has behaviour change techniques included from inception to production. By leveraging a slate of specialists, the team is able to produce high quality learning materials with the overall goal of solidifying safety behaviours in participants, increasing the overall level of safety.

(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.
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.

This budget size is relative to 2000+ participants operating in three jurisdictions. The budget also considers the cost of a highly skilled team of subject matter experts assembled to complete the project, ensuring our objectives are met.

The workplan includes a high-level overview of key milestones which will ultimately allow for the successful completion of this project. The roll up activities were omitted per the project guidelines.

(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 Amanda Abballe

Date November 2, 2021

