

Energy to Digital Growth Education and Upskilling Project (EDGE UP)

Evaluation Report – February 2022

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About the Future Skills Centre

[FSC](#) is a forward-thinking centre for research and collaboration dedicated to preparing Canadians for employment success. We believe Canadians should feel confident about the skills they have to succeed in a changing workforce.

As a pan-Canadian community, we are collaborating to rigorously identify, test, measure, and share innovative approaches to assessing and developing the skills Canadians need to thrive in the days and years ahead.

FSC was founded by a consortium whose members are Ryerson University, Blueprint and The Conference Board of Canada, and is funded by the [Government of Canada's Future Skills Program](#).

About Blueprint

[Blueprint](#) was founded based on the simple idea that evidence is a powerful tool for change. We work with policymakers and practitioners to create and use evidence to solve complex policy and program challenges. Our vision is a social policy ecosystem where evidence is used to improve lives, build better systems and policies and drive social change.

Our team brings together a multidisciplinary group of professionals with diverse capabilities in policy research, data analysis, design, evaluation, implementation and knowledge mobilization.

As a consortium partner of the Future Skills Centre, Blueprint works with partners and stakeholders to generate evidence to help solve pressing future skills challenges.

Edited by: Stacey Berquist, [Q Editing](#)

Executive Summary

The **Energy to Digital Growth Education and Upskilling Project** (EDGE UP) is an ICT training program developed by Calgary Economic Development (CED) with the goal of re-skilling displaced mid-career oil and gas professionals and helping them get reemployed in emerging technology opportunities across all industries in Calgary.

In the spring of 2019, CED received a grant from the **Future Skills Centre (FSC)**. The grant was used to support the design and initial pilot of this project.

As a consortium partner of the FSC, **Blueprint** works with partners and stakeholders to generate evidence to help solve pressing future skills challenges. Blueprint worked with CED to conduct an evaluation of the program from 2019–2021. This report summarizes the findings from that evaluation, with the objective of understanding the outcomes achieved by participants and the experiences of participants, program partners and employers with the program.

Key findings

The program is valuable and meets a clear need.

EDGE UP is appealing to displaced oil and gas professionals looking to transition to new careers. It also has the potential to meet the needs of businesses undergoing digital transformations.

The program was adapted based on continuous learning and in response to the COVID-19 pandemic.

Program delivery was transitioned online when COVID-19 hit. Learnings from the delivery of Cohort 1 also led to the addition of orientation sessions and the restructuring of post-ICTC training for Cohort 2.

The program successfully reached its target population, and completion rates were high.

The baseline survey data showed that the profiles of respondents were largely aligned with the socio-demographic characteristics of EDGE UP's target population. The administrative data showed 94% of all consenting participants completed the required program components and 88% completed the whole program.

Participants were generally satisfied with the program.

Interviewees indicated that EDGE UP helped them achieve their learning outcomes, gain more confidence and hope and have clearer career goals. Among the exit survey respondents, 88% were somewhat or very satisfied with the overall program.

Participant employment rate was low at program end but increased over time.

While under 10% of the survey respondents reported being employed at program exit, 50% reported being employed nine months after program exit.

The proportion of participants who reported enrolment in education slightly increased over time.

While 12% of the survey respondents reported enrolment in education at program exit, 17% reported enrolment in education nine months after program exit.

Participants reported some difficulties with the training.

Interviewees experienced some difficulties including challenges with online learning, adapting to the workload and understanding all of the course content.

Participants reported challenges with the job search.

Interviewees found it challenging to find a job right after the training. The challenges could have been due to the COVID-19 pandemic and the resulting drop in employment overall, or due to participants' lack of confidence in their technical skills or experiences.

Implications for program design and delivery

Provide work placement opportunities and wraparound employment support to increase participants' chances of being hired.

EDGE UP and other skills development programs that aim to transition displaced mid-career workers should focus on incorporating work placement opportunities as a specific program component.

Provide orientation sessions and pre-training materials to prepare participants for the training.

For programs like EDGE UP to be successful, it is important that participants have clear and realistic expectations about the training and its role in achieving desired employment outcomes. Additionally, pre-training materials could also help participants be better prepared for the training.

Next steps

In 2021, CED received an additional grant from FSC through the [Scaling Up Skills Development](#) initiative. This grant is being used to expand the program model to new training streams to meet increased demand and generate additional evidence about the model. The objectives of this phase include:

Expanding the training model by designing and implementing new variations of it, including deeper employer engagement, enhanced work-integrated learning and five additional training streams.

Informing future scaling decisions by generating stronger evidence in the original delivery context, in particular, evidence on participant employment outcomes in a post-COVID-19 labour market.

Laying the groundwork for potential future scaling by identifying and systematically documenting core program components (i.e., those that contribute the most to program outcomes).

Introduction

The **Energy to Digital Growth Education and Upskilling Project (EDGE UP)** is an IT training program developed by Calgary Economic Development (CED) with the goal of re-skilling displaced mid-career oil and gas professionals and helping them get reemployed in emerging technology opportunities across all industries in Calgary.

The program, comprised of wraparound workplace readiness training, technical training and employment support and services, was delivered in two cohorts and included three training streams: IT Project Management, Data Analytics and Full-Stack Software Development.

This report summarizes the findings from an evaluation of the EDGE UP program, with the objective of understanding the outcomes achieved by participants and the experiences of participants, program partners and employers in interacting with the program.

Context

In the spring of 2019, CED received a grant from the **Future Skills Centre (FSC)**. The grant was used to support the design and initial pilot of this project that aimed to transition displaced oil and gas professionals in Calgary to in-demand IT jobs.

As a consortium partner of the FSC, **Blueprint** works with partners and stakeholders to generate evidence to help solve pressing future skills challenges. Blueprint worked with CED to conduct an evaluation of the program from 2019–2021. This report shares the results of that evaluation.

In the spring of 2021, CED received an additional grant from FSC as part of its investment in [Scaling Up Skills Development](#). This additional funding was awarded based on promising early implementation findings from the evaluation of EDGE UP and high levels of demand for the program. This additional funding is being used to expand delivery to a larger number of displaced oil and gas professionals and to introduce new training streams.

As part of this additional investment, Blueprint is leading ongoing activities to generate evidence about the expanded program, including (a) outcomes evaluation to explore program effectiveness, particularly participant employment outcomes; (b) process evaluation to examine program experience and satisfaction; and (c) implementation evaluation to identify and document program adaptations and core program components. Results from these additional evidence generation activities will be available in fall 2023.

Report structure

This report is organized as follows:

1

About EDGE UP:

Overview of the program

2

Evaluation Approach:

Description of our approach to the evaluation

3

Findings from the Outcomes Evaluation:

What employment and education outcomes were achieved by participants

4

Findings from the Process Evaluation:

How participants, program partners and employers experienced the program and its implementation

5

Conclusions:

Summary of key findings and implications

6

Next Steps:

What the scaling phase of EDGE UP will look like and what we hope to learn and share from this phase

1. About EDGE UP

EDGE UP was designed in response to the recent shifts in Calgary's economic landscape. On the one hand, the energy sector has experienced a significant downturn. This has led to a high unemployment rate among oil and gas workers, many of whom are highly educated and highly skilled mid-career professionals with a background in Science, Technology, Engineering and Math (STEM). On the other hand, digital transformation has been underway in all sectors and the demand for information and communications technology (ICT) talent has grown rapidly. During program design, the EDGE UP team created digital re-skilling pathways based on a skills mapping research study that highlighted the skillsets of the target population and the corresponding skills needs of the most in-demand digital occupations. Figure 1 illustrates the program logic model, including the key program activities and associated outcomes.

Cohort 1 of EDGE UP was delivered to 49 participants from February to July 2020, and Cohort 2 was delivered to 49 participants from May to October 2020. In the **application and screening** phase of each cohort, participants applied on the [EDGE UP website](#) and were screened based on an assessment and interview. Those selected were enrolled in the program and received the following training components:

- **Transitioning to ICT work training.** This was a four-week workplace readiness training delivered by the Information and Communications Technology Council (ICTC). It provided a framework for identifying and developing participants' career potential for in-demand ICT roles in Calgary. It also provided tools to help participants move from education to employment and eventually make a career transition. This wraparound training included two-week mandatory **pre-ICTC training** at the program start and two-week optional **post-ICTC training** at the end of the program.
- **Digital technology training.** This was a three- to four-month ICT training scheduled in between pre- and post-ICTC training. Participants took this training in one of the three streams at one of the following participating post-secondary institutions (PSIs):
 - University of Calgary (UofC) - [IT Project Management](#)
 - Southern Alberta Institute of Technology (SAIT) - [Data Analytics](#)
 - Bow Valley College (BVC) - [Full-Stack Software Development](#)

At the end of the digital technology training there was a three-week **work-integrated learning** delivered through a capstone project in coordination with Riipen.

After participants finished the program, they continued to receive ongoing **employment support and job search assistance** from the EDGE UP team, including notifications about employment opportunities, check-in calls from the program coordinator, and featured graduates' profiles on the EDGE UP website. Figure 2 provides an overview of the participant journey and timeline in the program.

Figure 1: Program Logic Model

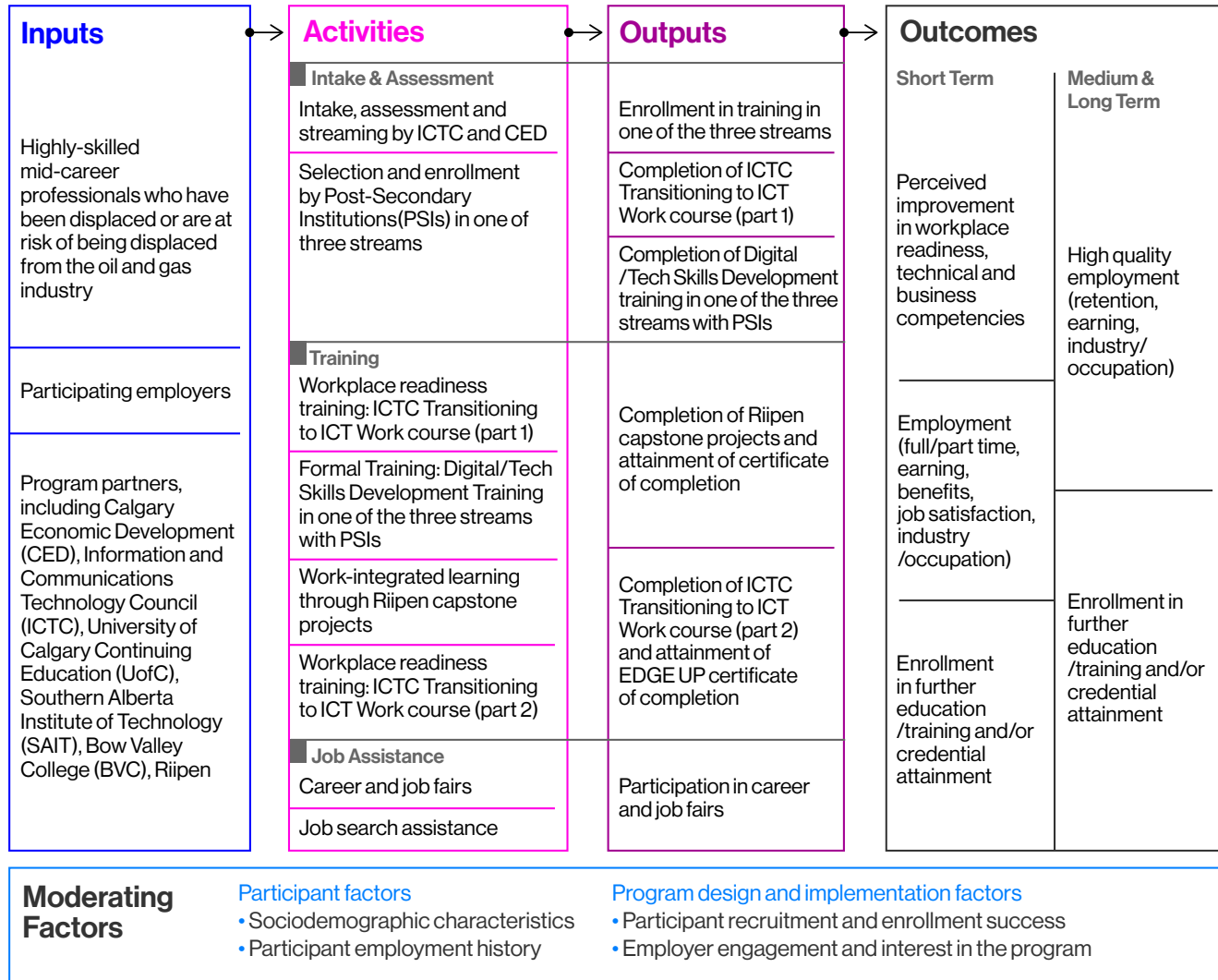
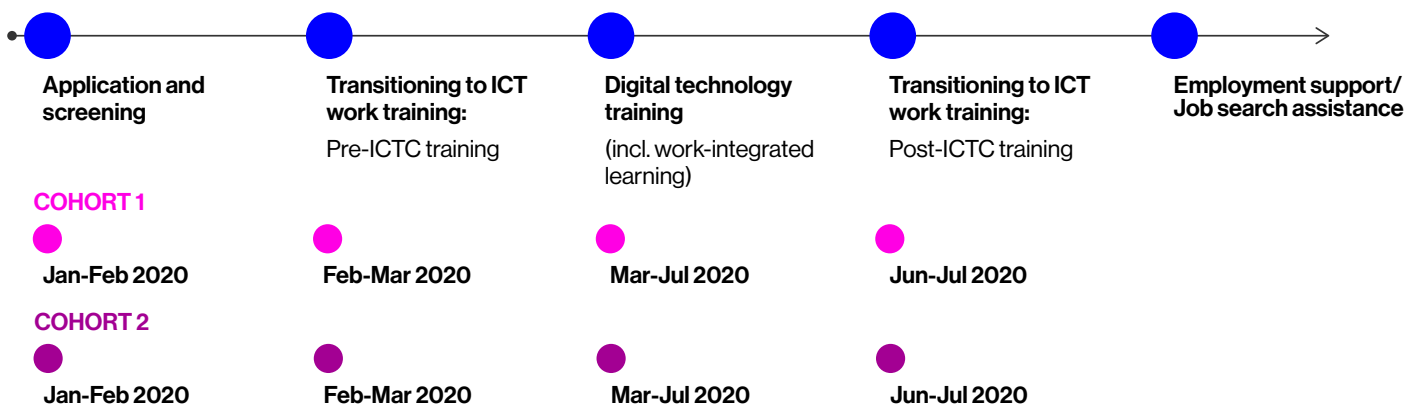


Figure 2: Participant Journey and Timeline



2. Evaluation Approach

Overview of approach

During the summer of 2019, Blueprint held discovery workshops with the CED team to learn more about the EDGE UP program, understand CED's evidence needs and goals and collaboratively design the EDGE UP evaluation plan.

Based on our findings, we designed an evaluation plan that reflected the program's needs, the program model's maturity and the capacity of the partner organizations and the program team for data collection and evaluation. Since this program was being delivered for the first time, we decided to pursue a combination of outcomes and process evaluation to collect early data on the program's effectiveness and implementation with an eye towards improving the program model.

To support continuous learning and program ongoing improvement, we shared a learning report for each cohort with the EDGE UP team, summarizing preliminary findings from the survey and interview data we collected. Based on our recommendations and learnings from their own research, the EDGE UP team added orientation sessions to Cohort 2 and a work placement component to its scaling phase.

Our data collection was guided by our **Common Outcomes Framework**, which is a set of outcomes and participant socio-demographics that we are using to generate consistent, comparable evidence across FSC-funded projects.

Evaluation questions

Our evaluation sought to answer the following questions:

Outcomes evaluation

- 1. Program reach:** Who did the program reach? Was the program successful in recruiting participants from the target population? How did program reach vary across the training streams?
- 2. Program completion:** Did participants complete all aspects of the training? How did program completion vary across the training streams?
- 3. Employment and education outcomes:** What employment and education outcomes did participants achieve? How did these outcomes vary across the training streams?

Process evaluation

- 4. Program experience of participants:** Were participants satisfied with the program? How did satisfaction vary across the training streams and cohorts? What did they see as program strengths and areas for improvement?
- 5. Program experience of program partners and employers:** Was the program implemented as intended and what adaptations were made relative to the original design? What did program partners and employers see as program strengths and areas for improvement?

Data collection and analysis

We used a **mixed-methods approach** in the evaluation of EDGE UP, where we collected and analyzed both quantitative and qualitative data (See Table 1). The quantitative data includes participant administrative data and surveys. The qualitative data includes our interviews with selected participants, program partners and employers. More details about our approach and data sources can be found in Appendix A.

Table 1: Data Sources and Sample Sizes

Data Sources (Participants)	IT Project Management	Data Analytics	Full-Stack Software Development	Total
Administrative Data (# of consenting participants)	83% (30/36)	90% (27/30)	97% (31/32)	90% (88/98)
Baseline Survey (at program start)	93% (28/30)	89% (24/27)	94% (29/31)	92% (81/88)
Exit Survey (at program end)	100% (30/30)	85% (23/27)	77% (24/31)	88% (77/88)
3 Month Follow-Up Survey (3 months after program end)	67% (20/30)	74% (20/27)	61% (19/31)	67% (59/88)
9 Month Follow-Up Survey (9 months after program end)	60% (18/30)	59% (16/27)	65% (20/31)	61% (54/88)
Interviews (at program end)	7	7	6	20

Data Sources (Program Partners & Employers)	UofC	SAIT	BVC	CED	ICTC	Riipen	Employer	Total
Interviews (at program end)	2	2	2	2	2	2	1	13

3. Findings from Outcomes Evaluation

This section presents findings from our outcomes evaluation of EDGE UP.

Our outcomes evaluation sought to answer the following questions:

- 1. Program reach:** Who did the program reach? Was the program successful in recruiting participants from the target population? How did program reach vary across the training streams?
- 2. Program completion:** Did participants complete all aspects of the training? How did program completion vary across the training streams?
- 3. Employment and education outcomes:** What employment and education outcomes did participants achieve? How did these outcomes vary across the training streams?

We measured outcomes using survey and administrative data.

Program reach

The respondents' socio-demographic information reveals that **the program successfully reached its target population**, i.e., mid-career professionals displaced from the oil and gas sector. The respondents' profiles are also largely homogeneous across the training streams (See Table 2 and Figure 3).

Specifically, among the respondents in both cohorts:

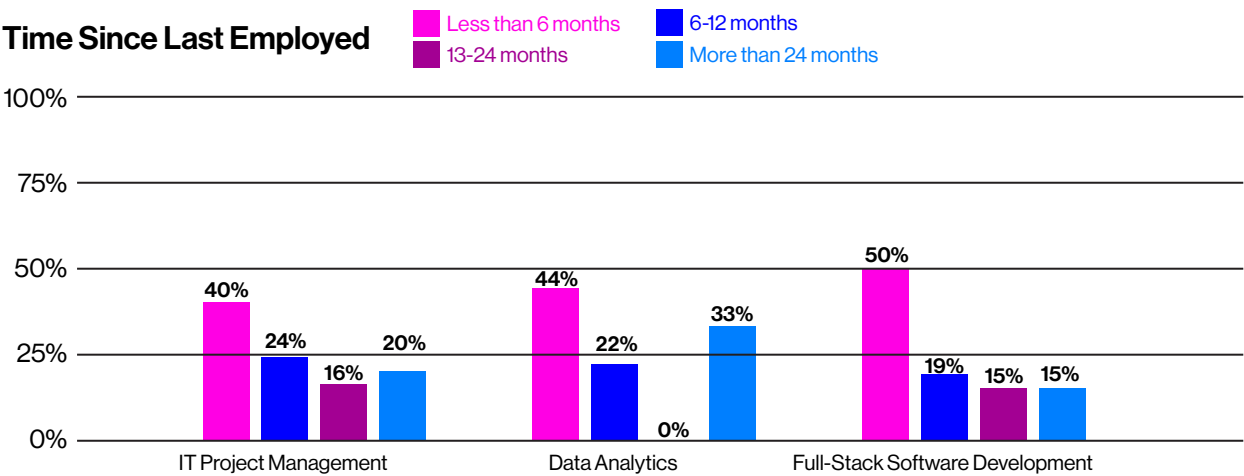
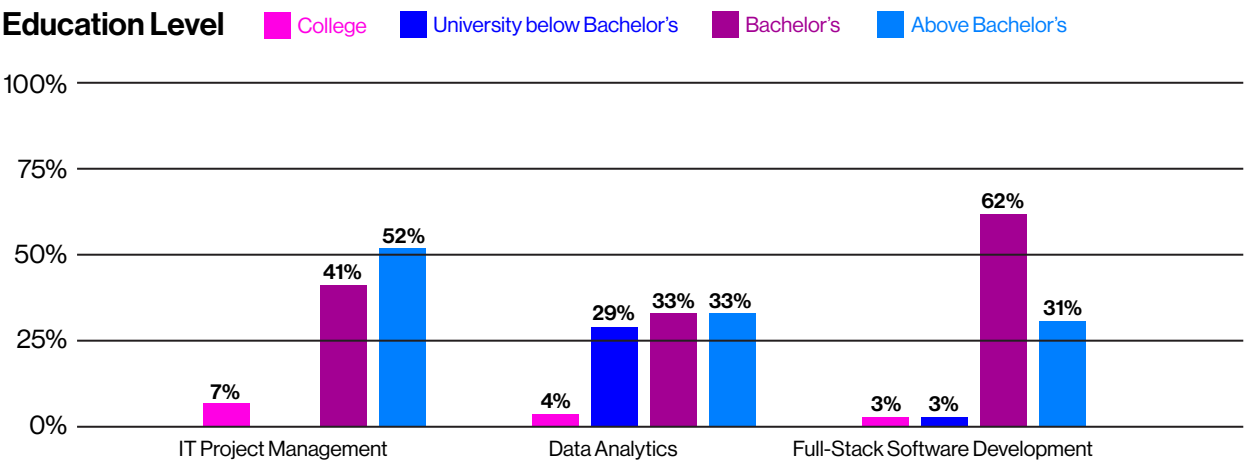
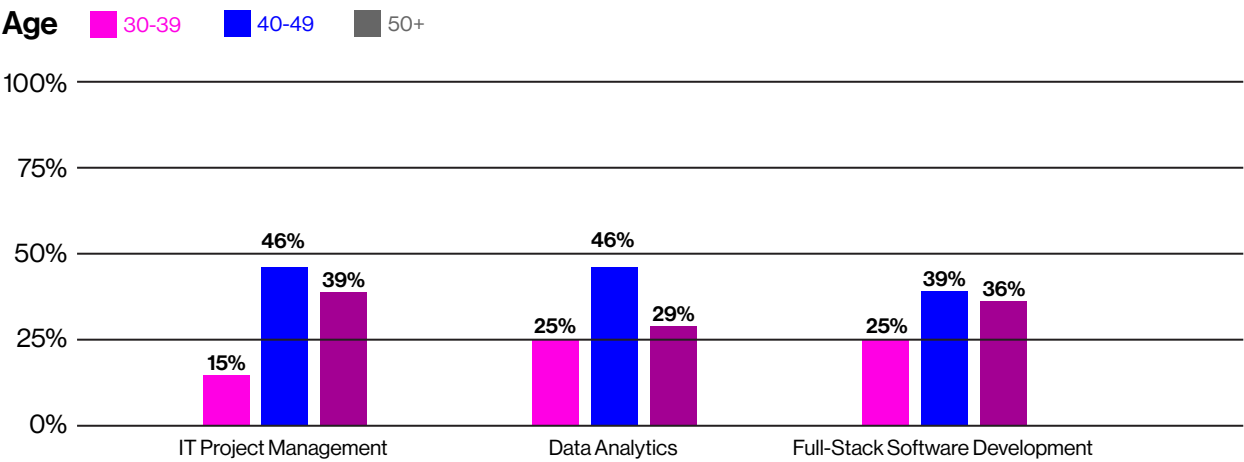
- The average age was **46.8**, with **44%** between the age of 40 and 49.
- A majority (**85%**) had an education degree at or above the Bachelor's level.
- Most (**89%**) were not employed at program intake and had been unemployed for an average of 15.6 months.
- Among the unemployed respondents, **64%** previously worked in the oil and gas industry.¹

¹ Respondents indicated that their previous industry belonged to a NAICS code in the "21 – Mining, quarrying, and oil and gas extraction" sector or through typing "Oil and Gas" in the open text field.

Table 2: Socio-demographics

Socio-demographics		IT Project Management	Data Analytics	Full-Stack Software Development	Total
No. Respondents		N=28	N=24	N=29	N=81
Gender	Female	30% (8/27)	38% (9/24)	31% (9/29)	32% (26/80)
	Male	63% (17/27)	63% (15/24)	69% (20/29)	65% (52/80)
	Other	4% (1/27)	0	0	1% (1/80)
Age	30-39	15% (4/26)	25% (6/24)	25% (7/28)	22% (17/78)
	40-49	46% (12/26)	46% (11/24)	39% (11/28)	44% (34/78)
	50+	39% (10/26)	29% (7/24)	36% (10/28)	35% (27/78)
	Average	48.1	45.4	47.0	46.8
Highest level of education	College level	7% (2/27)	4% (1/24)	3% (1/29)	5% (4/80)
	University below Bachelor's level	0% (0/27)	29% (7/24)	3% (1/29)	10% (8/80)
	Bachelor's level	41% (11/27)	33% (8/24)	62% (18/29)	46% (37/80)
	Above Bachelor's level	52% (14/27)	33% (8/24)	31% (9/29)	39% (31/80)
Racialized		39% (11/28)	22% (5/23)	31% (9/29)	31% (25/80)
Indigenous		0% (0/28)	4% (1/23)	0% (0/29)	1% (1/80)
New Immigrant (landed in the last 5 years)		40% (6/15)	25% (3/12)	16% (3/19)	26% (12/46)
Unemployed at intake		93% (26/28)	83% (20/24)	90% (26/29)	89% (72/81)
Unemployed at intake and previously worked in	Oil and gas	84% (21/25)	63% (12/19)	54% (14/26)	67% (47/70)
	Government, Education, Non-profit	4% (1/25)	10% (2/19)	4% (1/26)	6% (4/70)
	Engineering	4% (1/25)	5% (1/19)	15% (4/26)	9% (6/70)
	Other	8% (2/25)	21% (4/19)	27% (7/26)	19% (13/70)
Time since last employed	Less than 6 months	40% (10/25)	44% (8/18)	50% (13/26)	45% (31/69)
	6 – 12 months	24% (6/25)	22% (4/18)	19% (5/26)	22% (15/69)
	13 – 24 months	16% (4/25)	0% (0/18)	15% (4/26)	12% (8/69)
	More than 24 months	20% (5/25)	33% (6/18)	15% (4/26)	22% (15/69)
	Average months	15.5	19.2	14.1	15.9

Figure 3: Socio-demographics



Program completion

To understand program completion, we analyzed the administrative data collected and shared by ICTC and the PSIs. **Overall, the completion rates are high.** Out of the 88 participants in both cohorts who consented to our evaluation, 83 (**94%**) completed the required components of the program (including pre-ICTC and PSI training), and 77 (**88%**) completed the whole program (including the required components and the optional post-ICTC training). Additionally, the completion rates are similar across the training streams (See Table 3). The main reasons for participants' incompletion of certain program components included family or personal issues, late enrolment, and having found a job.

Table 3: Program Completion

Program Completion	IT Project Management	Data Analytics	Full-Stack Software Development	Total
Transitioning to ICT work training: Pre-ICTC training (2 weeks at program start)	100% (30/30)	100% (27/27)	97% (30/31)	99% (87/88)
Digital technology training (3 to 4 months, incl. work-integrated learning)	97% (29/30)	93% (25/27)	94% (29/31)	94% (83/88)
Transitioning to ICT work training: Post-ICTC training (2 weeks at program end)	93% (28/30)	85% (23/27)	84% (26/31)	88% (77/88)

Participant employment and education outcomes

We analyzed participant outcomes data collected at (1) program end via an exit survey; and (2) at three- and nine-months following program exit via follow-up surveys. The key outcomes of interest included:

- **Employment outcomes:** Whether the respondent was employed
- **Education outcomes:** Whether the respondent was enrolled in further education or training

Employment outcomes

To present a full picture, we drew upon two data sources to look at employment outcomes of participants in Table 4: (a) survey data collected by Blueprint from evaluation-consenting participants who answered the employment questions; and (b) administrative data on all program participants, collected through the EDGE UP team's ongoing check-ins with them. The administrative data was tracked by the EDGE UP team and captures slightly more participants than the survey data, while the survey data was independently collected by Blueprint.

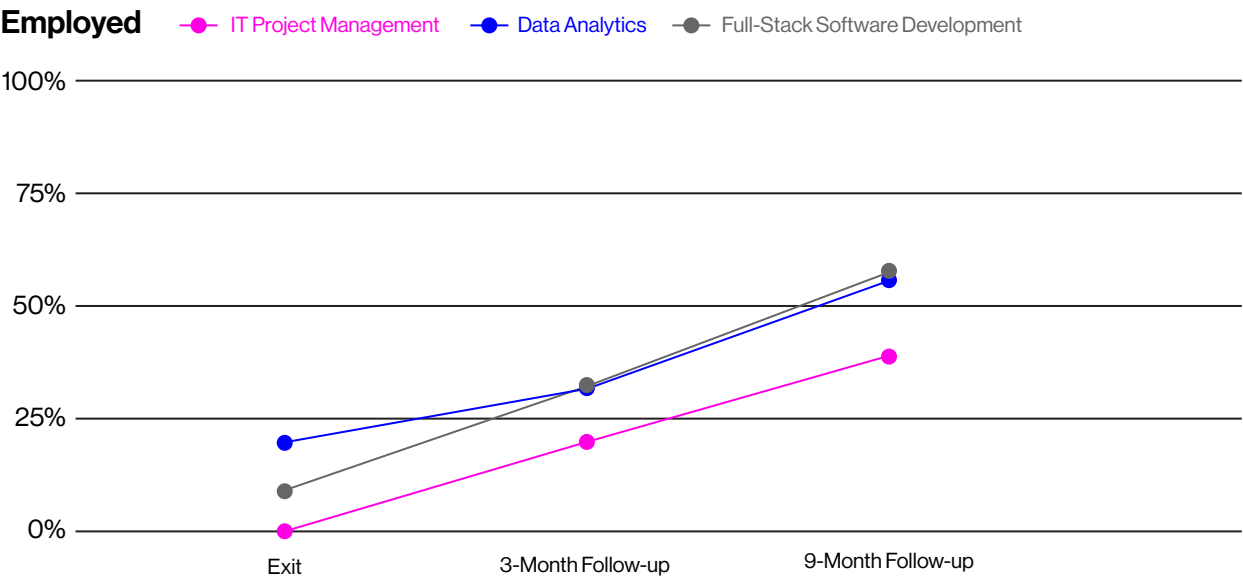
The survey data show that 4% of the respondents reported being employed upon completion of the program. However, this increased over time, with **27% of the survey respondents across the training streams in both cohorts reporting being employed after three months of finishing the program, and 50% after nine months.** This pattern (see Figure 4) can be seen from the administrative data (see Table 4), which also indicate that 60% of all program participants were employed as of writing this report.

Table 4: Program Completion

☐ Survey data
 ☐ Administrative data

Employed	IT Project Management	Data Analytics	Full-Stack Software Development	Total
Exit (at program end)	0% (0/29)	9% (2/23)	4% (1/23)	4% (3/75)
	17% (6/36)	3% (1/30)	9% (3/32)	10% (10/98)
3- Month Follow-Up (3 months after program end)	20% (4/20)	30% (6/20)	32% (6/19)	27% (16/59)
	22% (8/36)	27% (8/30)	25% (8/32)	24% (24/98)
9- Month Follow-Up (9 months after program end)	39% (7/18)	56% (9/16)	55% (11/20)	50% (27/54)
	47% (17/36)	50% (15/30)	47% (15/32)	48% (47/98)
Thereafter until Nov 18, 2021	61% (22/36)	63% (19/30)	56% (18/32)	60% (59/98)

Figure 4: Employment Status (Survey data)



From the interviews we conducted with selected participants and program partners, we heard mixed perspectives about the impact of the COVID-19 pandemic on participant employment outcomes. On the one hand, some participant interviewees indicated that the pandemic made it difficult for them to effectively network with employers because in-person career fairs were cancelled. On the other hand, a few program partner interviewees believed that COVID-19 did not impact the digital industry as much as other industries and in fact created new job opportunities due to the global trend towards e-business and remote working. We suspect the increasing employment rate of EDGE UP graduates over time as seen in the participant survey data could be due to a combination of the slowly recovering labour market and the continuing employment support provided by the EDGE UP team. However, stronger evidence on the extent to which COVID-19 might have affected employment outcomes needs to be collected in future deliveries of this program.

Education outcomes

While achieving education outcomes is not the main goal of the program, **nine months after program exit, 17% of the survey respondents reported enrolment in training or education programs** to further build their capabilities in ICT based on the knowledge and skills they learned from EDGE UP (see Table 5).

Table 5: Education Outcomes

Enrolled in Education (both cohorts)	IT Project Management	Data Analytics	Full-Stack Software Development	Total
Exit (at program end)	7% (2/30)	13% (3/23)	17% (4/23)	12% (9/76)
3- Month Follow-Up (3 months after program end)	10% (2/20)	10% (2/20)	16% (3/19)	12% (7/59)
9- Month Follow-Up (9 months after program end)	22% (4/18)	6% (1/16)	20% (4/20)	17% (9/54)

4. Findings from the Process Evaluation

Our process evaluation of EDGE UP explored the following questions:

- **Program experience of participants:** Were participants satisfied with the program? How did satisfaction vary across the training streams and cohorts? What did they see as program strengths and areas for improvement?
- **Program experience of program partners and employers:** Was the program implemented as intended and what adaptations were made relative to the original design? What did program partners and employers see as program strengths and areas for improvement?

We explored these questions through survey data and interviews with participants, program partners and employers.

Program experience of participants

To understand participants' experience with EDGE UP, we included several questions in the exit survey to capture different aspects of their program satisfaction. We also interviewed a selected sample of 20 participants about their experience with the program. This sub-section summarizes participants' satisfaction with the program and perceived program strengths and challenges.

Program satisfaction

From the exit survey and participant interviews, we found the following **patterns of participants' satisfaction** with the EDGE UP program.

- **High program satisfaction rates.** A majority (**88%**) of the exit survey respondents were somewhat or very satisfied with the overall program. Most respondents were also somewhat or very satisfied with the different aspects of the program, including training stream (**83%**), ICTC training (**91%**) and PSI training (**80%**). Eighty percent would recommend or had already recommended EDGE UP to someone. However, a smaller proportion of respondents perceived the program to be very useful in preparing participants for future digital/tech roles (**64%**) or in transitioning participants from the oil/gas industry to digital/tech roles (**36%**) (See Table 6). We shed some light on why this might be the case in our discussion about participants' perceived challenges later in this section.

Table 6: Program Satisfaction

Program Satisfaction		IT Project Management		Data Analytics		Full-Stack Software Development		Total
		Cohort 1	Cohort 2	Cohort 1	Cohort 2	Cohort 1	Cohort 2	
Overall Satisfaction	Somewhat or very satisfied with program in general	87% (13/15)	93% (14/15)	92% (12/13)	90% (9/10)	83% (10/12)	82% (9/11)	88% (67/76)
		90% (27/30)		91% (21/23)		83% (19/23)		
	Would definitely recommend or have already recommended program to someone	73% (11/15)	80% (12/15)	92% (12/13)	80% (8/10)	100% (12/12)	64% (7/11)	80% (61/76)
		77% (23/30)		87% (20/23)		83% (19/23)		
Satisfaction with aspects of program	Somewhat or very satisfied with their training stream	73% (11/15)	80% (12/15)	92% (12/13)	80% (8/10)	100% (12/12)	64% (7/11)	83% (63/76)
		77% (23/30)		87% (20/23)		83% (19/23)		
	Somewhat or very satisfied with ICTC training	87% (13/15)	87% (13/15)	92% (12/13)	80% (8/10)	100% (12/12)	100% (11/11)	91% (69/76)
		87% (26/30)		87% (20/23)		100% (23/23)		
	Somewhat or very satisfied with PSI training	79% (11/14)	93% (14/15)	85% (11/13)	80% (8/10)	92% (11/12)	55% (6/11)	81% (61/75)
		86% (25/29)		83% (19/23)		74% (17/23)		
Perceived usefulness of program	Find EDGE UP very useful in preparing for future digital/tech roles	70% (7/10)	86% (6/7)	71% (5/7)	80% (4/5)	57% (4/7)	25% (2/8)	64% (28/44)
		76% (13/17)		75% (9/12)		40% (6/15)		
	Find EDGE UP very useful in transitioning from oil/gas industry to digital/tech roles	30% (3/10)	14% (1/7)	29% (2/7)	20% (1/5)	43% (3/7)	75% (6/8)	36% (16/44)
		41% (4/17)		25% (3/12)		60% (9/15)		

- **Achievement of learning outcomes.** Almost all participant interviewees indicated having successfully learned the foundational technical knowledge and skills and applied much of what they learned in the capstone project. They also felt more confident to include these new skills in their resume and highlight them during job interviews.
- **More confidence and hope.** Participant interviewees frequently mentioned that the EDGE UP program helped them gain confidence in themselves and rekindled their hope for the future. According to many participant interviewees, they believed they could still learn new skills at this age despite all the challenges and they could still transition to a new career path with a brighter future.
- **Clearer career goals.** Participant interviewees generally appreciated that EDGE UP introduced them to the digital space and provided a good opportunity for them to think about and work towards career transitions. They seemed more certain about what they would like to pursue in their future careers. For those who had determined to transition to the ICT sector before participating in EDGE UP, the training enabled them to set more targeted and specific career goals. For those who had been exploring alternative career paths before participating in EDGE UP, the training broadened their horizons and paved the path for new career opportunities.

“The best is giving people hope...really motivate mid-career professionals...give them direction and support... so many friends in the last 5 years got laid off and a lot gave up...it would have taken longer for me to know how to pivot without EDGE UP”

-
Participant

“The program...helped me understand my strengths”

-
Participant

“Opened a whole new world for me and opened another new door and opportunities...I really love this new world and it is really exciting”

-
Participant

Perceptions of program strengths

Below we summarize some of the program features that participant interviewees identified as **key strengths** of the EDGE UP program.

- **Targeted high-quality training that is free of cost and relatively short.** Participant interviewees indicated that EDGE UP was specially designed to help displaced oil and gas professionals make career transitions. Further, the program was available to them free of cost and was quick to complete, compared to the formal degree programs offered at PSIs. Participant interviewees highlighted the following:
 - Well-structured digital technology training designed based on consultation with industry partners, customized to the target learners, and facilitated by experienced instructors.
 - Well-organized work-integrated learning allowing participants to work with industry partners on real-life projects in the field.
- **Informed choice of training stream.** Participant interviewees mentioned that they appreciated the opportunity and the useful advice the EDGE UP team provided to them to choose from three training streams based on their interests, career goals, learning objectives, educational background and/or prior work experience.
- **Professional career service.** Participant interviewees were extremely satisfied with ICTC's workplace readiness training (with the highest overall satisfaction rate of 91% among different program aspects) and believed it met high industry standards in preparing participants for a successful career pivot.

Perceived challenges with program

In addition to identifying program strengths, participant interviewees also provided feedback about the **challenges or difficulties** they experienced during the EDGE UP program, which we summarize below:

- **Challenges with job search.** Finding employment seemed to be the biggest challenge for almost all participant interviewees from both cohorts. This is consistent with the low employment rates seen in the exit survey. Many interviewees reported feeling frustrated and disappointed because they had been optimistic about finding a job right after the training. Some also felt unqualified for jobs and lacking in confidence to compete in the job market due to their perceived limited technical skills or experiences. This may partially explain why the exit survey respondents seemed relatively less likely to perceive the program to be very useful in preparing them for future ICT roles (64%) or transitioning them to ICT roles (36%), compared with their high program satisfaction rates (>80%). Because COVID-19 made it challenging to connect with employers, many participant interviewees recommended the program provide co-op/internship and more networking opportunities with industry partners and other local companies (including start-ups) to complement the limited work experiences and employer connections they gained from the capstone project. In their view, this would help increase their chances of being hired.
- **Difficulties with online learning, class workload, or course content.** Participant interviewees from Cohort 1 seemed to be more likely to report difficulties with online learning, including handling multiple learning systems, extended hours in front of the computer, unfamiliarity with the online environment and insufficient interactions

with the instructors and classmates. They also felt that they had to scramble through the program without learning because of the heavy workload. Additionally, they were disappointed with the introductory nature of the course content. It appears fewer participant interviewees from Cohort 2 experienced similar issues. This is probably because they had become more used to online learning given that it was several months into the COVID-19 pandemic and because orientation sessions were added for this cohort to set clear expectations regarding the course workload and requirements.

- **Gaps in enrolling in training streams.** Exit survey respondents in Full-Stack Software Development Cohort 2 were the least likely to be satisfied with their training stream (55%) and the PSI training (55%), and the least likely to recommend the program (64%) (See Table 6). The interview data shows that this stream was not the first choice for some of its Cohort 2 participants. They were enrolled in it because the other two streams were already full and there was not yet another cohort for them to consider. Therefore, we suspect a mismatch between participants' interests or career goals and the training stream they were placed in.
- **Varying experiences with capstone project.** From the experiential learning platform hosted by Riipen, instructors at each participating PSI selected several capstone projects for their EDGE UP participants to choose from. The interview data shows that participants' experiences with the capstone project seemed to largely depend on their "luck." For example, participant interviewees tended to report positive feedback on the capstone project if the companies they worked with happened to meet the criteria below:
 - previously worked with Riipen and understood the processes and expectations well, and were therefore more likely to offer complete, relevant and practical projects
 - were able to directly benefit from the projects, and were thus more dedicated, responsive and cooperative.
 - were local, and thus more open to networking with or even hiring participants
 - used programming languages that participants had learned in class and thus were more familiar with
- **Varying instructor quality in training delivery.** According to participant interviewees, although most course instructors did a great job delivering high-quality training, a few lacked the necessary teaching or organizational skills. For instance, they were not able to appropriately allocate time between difficult and easy content, adequately break down concepts, engagingly guide participants' thinking, effectively incorporate hands-on or interactive elements, or provide sufficient details about courses or lessons. This seemed to be especially the case for a few instructors who delivered Full-Stack Software Development Cohort 2, which may also partly explain the lower program satisfaction levels among participants in this group.


Program experience of program partners and employers

This sub-section summarizes the 12 interviews (six per cohort) we conducted with representatives from the six partner organizations of EDGE UP and one employer which hired an EDGE UP graduate. During the interviews with them, we asked for feedback about their experiences with EDGE UP, including what adaptations they made to the original program design to meet emerging needs and what they perceived to be program strengths and areas for improvement.

Program adaptations

Program partner interviewees indicated that, in general, the program was delivered as per the original design, although adaptations and adjustments were made in response to COVID-19 or based on insights from continuous learning.

- **Transition to online delivery due to COVID-19.** When COVID-19 hit, all training was shifted to online delivery for Cohort 1 and this mode of program delivery continued throughout Cohort 2. Despite some challenges and slight delay in the program delivery, program partner interviewees indicated that this transition was in general quick and effective due to the effort the EDGE UP team made to ensure participants adapted to the new delivery format and received the program in its entirety in this emergent situation.
- **Orientation sessions added to Cohort 2.** According to program partner interviewees, orientation sessions were added for Cohort 2 to address some of the difficulties Cohort 1 participants had with online learning, class workload and course content. The orientation sessions clarified the introductory nature of the training courses, expected commitment to training and working full-time following training, virtual training protocols and etiquette and the fact that participants would not be “given” jobs.
- **Post-ICTC training restructured for Cohort 2.** Some program partner interviewees mentioned that the focus of the post-ICTC training switched from group sessions for Cohort 1 to one-on-one sessions for Cohort 2 to provide participants with more tailored coaching and support in revising resumes, cover letters and LinkedIn profiles. An additional bonus session on LinkedIn was also delivered for Cohort 2 at the participants’ request.



“We were in constant evaluation mode at every committee meeting and we would discuss what needs to be updated or changed”

-
Program Partner

Program strengths

- **Valuable program that meets a clear need.**

According to the program partner and employer interviewees, EDGE UP was designed based on research findings that identified the skills gaps of the displaced oil and gas professionals and the need for ICT talent among businesses undergoing digital transformations in the economic landscape of Calgary. The program provided valuable training and created an environment that was supportive of the individuals in finding employment opportunities. All these interviewees were optimistic about the future demand for training in tech and digital skills, especially among displaced oil and gas professionals.

- **Partnership-driven program.** Program partner interviewees believed that EDGE UP stood out among similar initiatives in many areas. In particular, the collaborative partnerships between the participating organizations and the coordinator role that CED played allowed the program to fill a void in the community where there was a growing population of unemployed individuals.

- **Graduates that are strong job candidates.** The employer interviewee found EDGE UP graduates to be as competitive as other applicants for industry jobs. In addition to the skills gained from the program, graduates had relevant and transferable skills from their previous careers. Because of their long career histories, the job onboarding period was shorter than that for some new graduates from PSIs. This employer saw potential in EDGE UP graduates and was interested in continuing to hire graduates from its future cohorts.

“We were in constant evaluation mode at every committee meeting and we would discuss what needs to be updated or changed”

-
Program Partner

“CED did a really great job facilitating the partnership... The partners really wanted to work together and wanted the overall program to be successful”

-
Program Partner

“I would love to hire more EDGE UP graduates... the tech skills that we observed coming out of this group would absolutely meet...our work.... an exceptional short list of candidates”

-
Employer

Program areas for improvement

- Participants' level of confidence in their job search.** According to some program partner interviewees, participants might have been experiencing impostor syndrome — they lacked the confidence to apply for ICT positions due to a perceived lack of technical skills or experiences. They did not realize that they did not necessarily need to be experts to apply for entry-level jobs or meet all job qualifications. To help participants handle the impostor syndrome, these interviewees suggested that those who worked closely with the participants (e.g., instructors, program coordinators) encourage them more during their job search (e.g., by emphasizing that “you will be a solid programmer,” “there will be a lot that you won’t know and that’s okay,” or “don’t underestimate the transferrable skills you are bringing in”). These interviewees also acknowledged that an internship component would be valuable for the participants to boost their confidence levels.
- Participants' expectations of the program.** Some program partner interviewees indicated that participants might have had misaligned expectations about the program at the start of the training, including the coverage and depth of the training content, the time they would need to commit to the training, the approaches and instructional systems instructors would use to deliver the training and the employment outcomes they would achieve from this program. As a result, participants may have found that the program did not meet their expectations. These interviewees suggested that orientation sessions, more learning resources and enhanced communication with the participants might be helpful for them to better understand program goals, requirements and outcomes and be better prepared for the training ahead.
- Instructors' quality in delivering the training.** A few program partner interviewees pointed out that some course instructors were full-time teaching staff at the participating PSIs, while others were ICT professionals with years of work experience in the industry. Following participant feedback regarding instructor quality, these interviewees suggested that the EDGE UP team make sure the instructors have the necessary teaching skills and industry experience and help them get prepared for delivering the training. This meant that the full-time teaching staff would need to be aware of cutting-edge technologies commonly used in today’s ICT industry and the ICT professionals would need to be familiar with the principles, pedagogy and management strategies commonly used in classroom instruction.

5. Conclusions

This section summarizes the key findings of our evaluation and the implications for the design and delivery of EDGE UP and similar programs that re-skill displaced mid-career workers with the goal of getting them reemployed in emerging technology opportunities.

Key findings

The evaluation findings show that EDGE UP is a well-designed program that was successfully delivered amidst the COVID-19 pandemic. Driven by research on skills matching, employers' needs and partnerships, EDGE UP is oriented towards employment and places the continuous improvement of participant program experiences and employment outcomes at the centre of its programming. Despite the low employment rate for participants, this program holds promise in pivoting displaced oil and gas professionals to new career pathways and in providing a pool of talent to the local economy with emerging IT needs.

The key findings from this evaluation include:

The program is valuable and meets a clear need

The interview data suggest that, compared with similar training programs, EDGE UP is more appealing to displaced oil and gas professionals because it provides free and short, targeted, high-quality training, choice of training stream and professional career service. EDGE UP not only suits the needs of displaced oil and gas professionals, but also has the potential to meet the needs of businesses undergoing digital transformations.

The program was adapted based on insights from continuous learning and in response to the COVID-19 pandemic

According to program partner interviews, the program delivery was quickly and effectively transitioned online when COVID-19 hit. Learnings from the delivery of Cohort 1 also led to the addition of orientation sessions and the restructuring of post-ICTC training for Cohort 2.

The program successfully reached its target population, and the completion rates were high

The baseline survey data showed that the profiles of respondents across training streams and cohorts were largely aligned with the socio-demographic characteristics of EDGE UP's target population, i.e., mid-career professionals displaced from the oil and gas sector. According to the administrative data, 94% of all consenting participants completed the required program components and 88% completed the whole program.

Participants were generally satisfied with the program

Participant interviewees indicated that EDGE UP helped them achieve their learning outcomes, gain more confidence and hope and have clearer career goals. Among the exit survey respondents, 88% were somewhat or very satisfied with the overall program.

Participant employment rate was low at program end but increased over time

While under 10% of the survey respondents reported being employed at program exit, 50% reported being employed nine months after program exit (with some variation in the employment rate across training streams and cohorts). The low employment rate at program end and the increase over time could be related to COVID-19 and its impact on the labor market as well as the continuing employment support provided by the EDGE UP team.

The proportion of participants who reported enrolment in education slightly increased over time.

While 12% of the survey respondents reported enrolment in education at program exit, 17% reported enrolment in education nine months after program exit.

Participants reported difficulties with the training

Participant interviewees experienced difficulties with the training, including challenges with online learning, heavy workload, insufficient coverage of the course content, mismatch of the training stream with personal interests or career goals, ineffective selection of companies to deliver the capstone project, and gaps in a few instructors' teaching skills or approaches. Some of these difficulties could be due to participants' misaligned expectations from the training.

Participants reported challenges with job search

Participant interviewees found it challenging to find a job right after the training. The challenges could be due to COVID-19 and the resulting drop in employment overall, or due to participants' lack of confidence in their technical skills or experiences.

Implications

EDGE UP is a skills training program that focuses on moving displaced mid-career workers into in-demand jobs or industries. The key findings from the evaluation of EDGE UP presented in the previous section point to some implications that could inform the design and delivery of EDGE UP and similar programs to help participants achieve desired employment outcomes and optimal program experiences.

Provide work placement opportunities and wraparound employment support to increase participants' chances of being hired

EDGE UP and other skills development programs that aim to transition displaced mid-career workers into different sectors or industries should focus on incorporating work placement opportunities as a specific program component. This can help participants gain more work experience in the new fields and make them stronger candidates on the job market.

Furthermore, participants of EDGE UP and similar programs would find it valuable to have wraparound employment support such as:²

- Facilitating networking opportunities with industry partners and among participants to help them with the job search and enable them to seek advice and mentorship from insiders about career pathways and skillsets

² As of writing this report, the EDGE UP team has implemented or started experimenting with some employment supports including having professional career advisors, facilitating networking with employers through TechTalk sessions and offering extra capstone projects with a paid stipend.

- Adopting confidence-building measures to help participants handle stress and anxiety associated with the job search
- Launching focused marketing campaigns that highlight the transferrable skills participants could bring to employers
- Building strong program capacity in employment support, e.g., hiring professional career advisors

Provide orientation sessions and pre-training materials to prepare participants for the training

For programs like EDGE UP to be successful in transitioning displaced mid-career workers to in-demand sectors, it is important that participants have clear and realistic expectations about the training and its role in achieving desired employment outcomes. As shown in the positive outcomes of adding orientation sessions to EDGE UP Cohort 2, orientation sessions could help with setting expectations and mitigating challenges that participants may experience down the road.

Additionally, pre-training materials could also help participants be better prepared for the training. EDGE UP and similar programs could consider providing such materials as:

- A resource list for participants to learn the prerequisite knowledge and skills and get familiar with the learning systems to be used
- A program outline with course details and schedules as well as a syllabus for each course to help participants understand what they are expected to learn and make study plans accordingly
- A reference sheet on clear lines of communication so that participants are aware of who they can contact for what purposes when they encounter any problems with the training

6. Next Steps

In the spring of 2021, CED received an additional grant from FSC as part of its investment in [Scaling Up Skills Development](#). With this additional grant, the EDGE UP team will design and deliver an expanded program model to meet the increased and shifting needs of displaced oil and gas professionals and local employers, and to achieve stronger participant employment outcomes.

The objectives of this phase include:

- **Expanding the training model by designing and implementing new variations of it**, including deeper employer engagement, enhanced work-integrated learning and five additional training streams.
- **Informing future scaling decisions by generating stronger evidence in the original delivery context**, in particular, evidence on participant employment outcomes in a post-COVID-19 labour market.
- **Laying the groundwork for potential future scaling** by identifying and systematically documenting core program components (i.e., those that contribute the most to program outcomes).

We will continue to work with the EDGE UP team to generate more evidence about the outcomes and implementation of the program and to support its future scaling. Results from these additional evidence generation activities will be available in fall 2023.

Appendix A

Our Approach

Quantitative data

Participant administrative data

We analyzed the consenting participants' administrative data that ICTC and the PSIs collected and shared with us. The administrative data included participants' program and course completion status and their contact information, which we used to send them surveys.

Participant surveys

We also collected and analyzed data from the baseline, exit and follow-up surveys administered to consenting participants. These surveys included questions that measured the participant outcomes common to all FSC projects to support aggregate analysis in the future. We sent (a) the baseline survey during the first week of pre-ICTC training; (b) the exit survey during the first week of post-ICTC training to those who completed or were close to completing the PSI training; and (c) the follow-up surveys three and nine months after program exit.

Qualitative data

Two of our team members conducted each interview by phone or on Zoom. Each interview lasted for approximately 45–60 minutes. We did not record the interviews but captured the interviewees' responses either in paraphrased form or verbatim. Guided by the interview protocol, we coded the interview notes and conducted the qualitative thematic analysis to identify patterns and recurring themes.

Participant interviews

At program exit, CED reached out to a selected sample of 21 consenting participants (i.e., seven from each training stream with three from Cohort 1 and four from Cohort 2) with an invite to participate in an interview. The evaluation team selected this sample to make sure it represented the key demographic groups of program participants. Twenty of the invited participants responded to the invitation and agreed to take part in the interview.

Program partner and employer interviews

The evaluation team also reached out to the representative(s) from each program partner and four employers with an invitation to participate in an interview for process evaluation. CED helped identify representatives who played a key role in program design, implementation and delivery. CED also helped the evaluation team connect with employers who hired EDGE UP graduates. All the program partner representatives and one of the employers invited agreed to participate in the interview.

