Executive summary:
CLIC Final Report

Canada's cybersecurity sector is facing a dramatic surge in threats while grappling with a shortage of skilled talent. Traditional training pathways struggle to keep pace, many positions remain vacant, and barriers limit entry for women, newcomers, and racialized professionals.
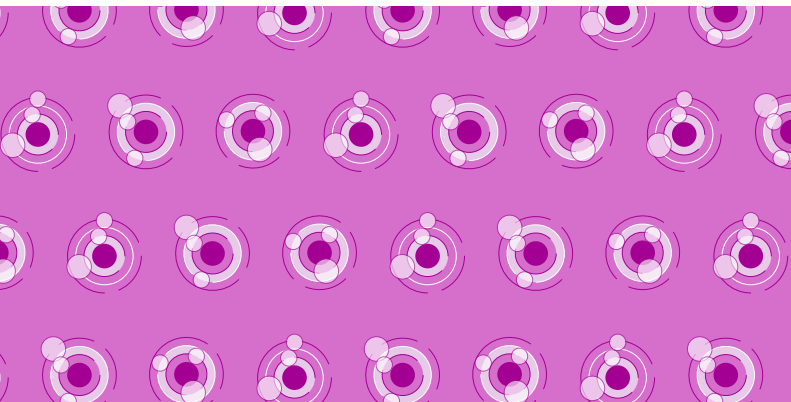
In response, the Rogers Cybersecure Catalyst (the Catalyst) at Toronto Metropolitan University launched the Accelerated Cybersecurity Training Program (ACTP) in 2020. Delivered in partnership with the SANS Institute, and supported by the Government of Canada, Rogers Communications, and RBC, this seven-month program combined industry-recognized SANS Institute training and certifications, career coaching, and employer-informed curricula to facilitate pathways into cybersecurity for women, newcomers, and career changers.

In 2021, Future Skills Centre (FSC) funding helped the Catalyst expand ACTP to additional students (and more BIPOC learners, in particular). As an FSC consortium partner, Blueprint published two ACTP evaluations: *A Race for Talent* (2022), examining employer hiring practices and needs; and *Future Talent* (2023), assessing early ACTP outcomes and sector relevance.

With ACTP's funding concluding in 2023, the Catalyst sought to build on its success through a tuition-based successor: Certifications for Leadership in Cybersecurity (CLIC). Developed as a streamlined, financially sustainable version of ACTP, CLIC is the Catalyst's first participant-funded training program. Developed with input from the Catalyst's Employer Advisory Council, CLIC's first and second cohorts launched in October 2023 and May 2024.

About this report

This report examines the reach, uptake, learner experiences, short-term outcomes, and expenditures of those first two CLIC cohorts, using administrative data, participant feedback, and Catalyst focus groups collected from May 2024–May 2025. We compare these findings to ACTP data (gathered from 2021–2023) to assess how transitioning to a tuition-based model affected program reach, quality, accessibility, and outcomes.

Program model and theory of change

What is CLIC? CLIC is a six-month, asynchronous, self-study program designed for learners new to cybersecurity, with a target audience of women and non-binary learners (in cohort 2 (CLIC 2), it introduced a limited number of $5,000 bursaries for these learners, funded by Rogers Communications and RBC). Participants complete courses on security foundations, security essentials, and professional practices, led by industry experts, then take exams to earn two GIAC certifications: the Foundational Cybersecurity Technologies (GFACT) and the Security Essentials Certification (GSEC). In-program supports include weekly TA check-ins, study groups, practice tests, and the 'cyber range': an experiential learning course and simulated corporate environment. Learners receive job search support, on-demand career coaches, and access to a small pool of entry-level cybersecurity positions posted exclusively on the Catalyst's internal job board. At the time of our data collection, CLIC had a tuition rate of $15,500 + HST.

CLIC's theory of change. CLIC's theory of change attempts to illustrate how, through the inputs and activities described above, CLIC can lead to outcomes for learners and employers.

- Learner short-term outcomes include improved cybersecurity knowledge and skills; clarity on career pathways; stronger employer and peer networks; and improved job search capacity. Over the medium- to long-term, these are to lead to increased interest from employers; progression through hiring; improved career navigation and advancement; and well-compensated advancement into more senior cybersecurity roles.

- Employer short-term outcomes include access to a qualified, diverse pool of candidates and increased ability to recruit women and underrepresented groups. Over the medium- to long-term, these are to lead to more diverse hiring practices and representation across teams, reduced workforce gaps, and more inclusive organizational cultures.

> CLIC shows that high-quality, inclusive cybersecurity training funded by government sources can indeed evolve into a tuition-based model without losing its core value.
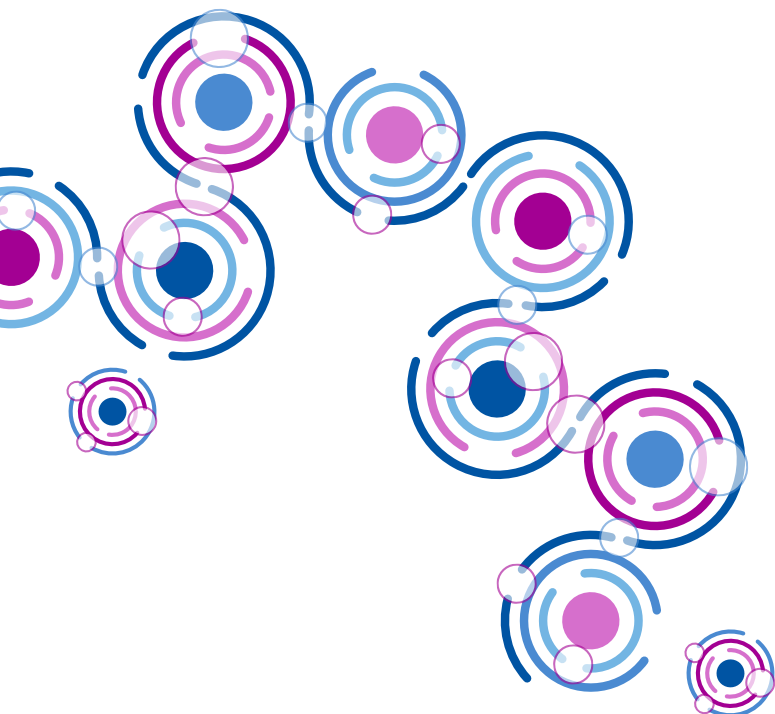
Findings

Reach, uptake, and demographics

- **CLIC successfully met uptake and demographic targets.** CLIC met 96% of its enrolment target (its only target demographic were women and non-binary learners: 56% identified as women). Notably, 80% identified as BIPOC, and 62% were born outside of Canada.
  - ◦ CLIC saw fewer applicants than ACTP (350 vs. 900 per cohort, on average), admitted a larger proportion of them (46% vs. ACTP's 14%, on average), and saw fewer begin the program, post-enrolment: 47% vs ACTP's 88%.
- As a new, tuition-based program, CLIC required substantial marketing to generate interest, positioning CLIC as an accelerated route to employability and career potential. As in ACTP, most CLIC learners noted that gaining employment was their main reason for enrolling. CLIC learners were less likely to report interest in cybersecurity, the accelerated format, flexible structure, or program value as motivators.

- Broadly, learners fell into three, roughly equal-sized groups: those with highly technical or cybersecurity experience; those with IT backgrounds; and those with non-technical backgrounds. ACTP and CLIC learners reported similar levels of current employment (70% and 61%, respectively) and prior IT experience (53% and 56%). In CLIC, 27% of learners reported current or previous employment in cybersecurity or in a related job; 22% of employed participants reported that their current job was related to cybersecurity.

Retention and withdrawal

- **High rates of exam- and course-completion.** CLIC and ACTP learners had similar rates of writing and passing the first exam (the GFACT): >80%. While 73% of CLIC learners attempted the GSEC, 60% passed and thus completed CLIC. ACTP's GSEC pass rate was 76%. More CLIC learners requested extensions than in ACTP.

- **Similar withdrawal levels to ACTP.** CLIC and ACTP saw similar rates of withdrawal (32% vs. 34%). CLIC withdrawers cited personal reasons, challenges with structure or format, and misaligned expectations. Some felt unprepared for CLIC's intensity, pace, and self-directed nature. Others wanted more live instruction, support, and a slower tempo — especially those working full-time or with limited technical experience.

> For policymakers, CLIC offers a rare case study in sustaining public skills programs once grant funding ends.

Learner experiences

- **High levels of overall satisfaction.** Among completers, 86% reported satisfaction, 86% would recommend, and 90% thought CLIC was useful in preparing for a career in cybersecurity. CLIC and ACTP completers had similar perceptions of GFACT and GSEC utility, but CLIC learners were less satisfied with the way materials were delivered in the GSEC course: at exit, 75% were satisfied vs. 88% of ACTP learners. CLIC interviewees described the GFACT as more manageable whereas the GSEC introduced more advanced concepts and greater challenges. As with withdrawers, completing interviewees noted CLIC would benefit from more live instruction, time, and TA-led sessions in preparation for the GSEC.

- **High levels of satisfaction with career supports.** Among CLIC exit survey respondents, 76% were satisfied with job search and career supports (similar to ACTP learners). They found the professional practice course satisfying (84%) and useful (76%), and were satisfied with the one-on-one career coaching (91%); resources (88%); job posting and hiring opportunities (83%); workshops (82%); employer coffee chats (72%); and employer information sessions (70%). Interviewees valued the job board (and exclusive postings) and having their resumes forwarded directly to employers. However, they also noted postings were infrequent, many roles were mid- to senior-level, not always well-suited to entry-level graduates, and job search support did not match expectations set during recruitment. Learners suggested improving employer engagement, expanding job listings, and extending post-program access to job boards and alumni networks.
  - Learners with some IT or broader technical backgrounds reported slightly higher satisfaction (93%) and perceived career utility (100%) than those with cybersecurity experience (81%, 81%) and non-technical experience (88%, 81%).
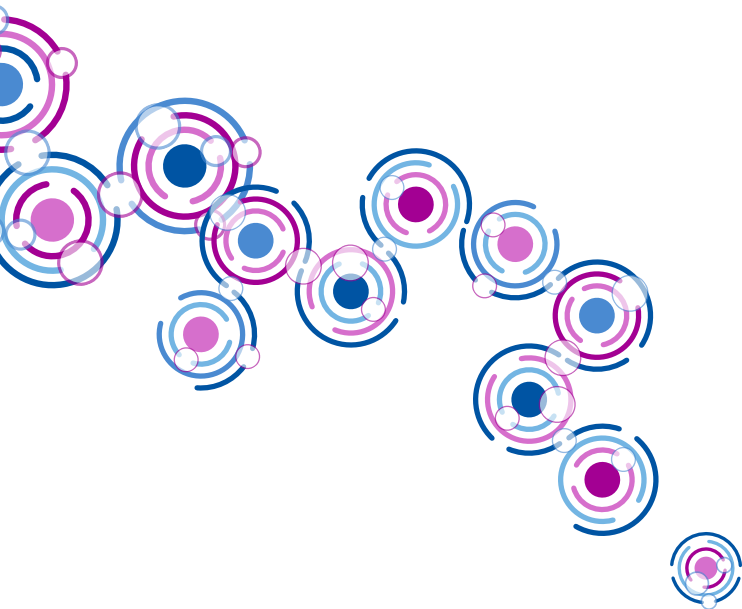
> Learners gained skills, confidence, and credentials. The program maintained its access for underrepresented groups while moving toward financial sustainability.

Short-term outcomes: Skills, knowledge, employment, and earnings

- **Increases in self-reported skills, knowledge, and confidence.** At exit, 96% of graduates agreed they had the skills and knowledge to be successful in a cybersecurity career, declining to 87% at follow-up (+36 ppt from baseline). About 90% felt confident in applying for a cybersecurity job, declining to 82% at follow-up (+46 ppt from baseline). ACTP graduates saw comparable or more modest growth. Interviewees felt the technical and hands-on training (i.e., the labs and cyber range) improved their skills and readiness, building a strong foundation in concepts they could discuss with employers, and that the tailored job search supports (e.g., resume and cover letter prep) helped build confidence.

- **Despite dips in employment overall, more employed graduates worked in cybersecurity and saw increased earnings.** CLIC learners reported a small decline in employment from baseline (61%) to follow-up (56%), whereas ACTP saw an increase in employment from 70% to 76% over the same period. Over half of CLIC graduates who indicated they were employed three months post-program reported working in cybersecurity—up from 22% at baseline (+33 ppt). ACTP graduates saw a greater increase from 3% to 40%, or 37 ppt. CLIC graduates reporting earning at least $60k/year grew from 48% to 68% by the three-month follow-up (+20 ppt): a smaller increase compared ACTP's growth from 30% to 75% (+45 ppt).
  - CLIC participants and Catalyst staff attributed limited employment progress compared to ACTP to weaker market conditions, employer caution, and regional constraints.

Costs

- **CLIC saw increased marketing spend (for a new program) and lower labour costs than ACTP.** The Catalyst increased marketing spend from ACTP to CLIC to help build awareness for a new, tuition-based offering. This cost dropped considerably in CLIC's second cohort. The Catalyst decreased labour costs from ACTP to CLIC with efficiencies, including the professional practice course and leadership and employment team.

- **ACTP and CLIC 2 had similar costs per enrolment.** While CLIC 2 reduced labour costs and removed one GIAC certification, additional marketing needs and higher costs of running smaller cohorts offset these savings.

- **CLIC 2 showed financial sustainability.** In CLIC 2, delivery costs were comparable to the tuition charged to learners, showing the model can, in principle, be financially sustainable on a per-enrolment basis. Market costs of completing the GFACT and GSEC (including training and exams) through the SANS Institute is $19,950. With a tuition fee of $15,500 + HST, CLIC learners realized a cost savings of $2,435 (or $8,085 for women receiving a bursary) along with other supports: the job board, professional practice course, and career coaching.

Looking ahead

CLIC shows that high-quality, inclusive cybersecurity training funded by government sources can indeed evolve into a tuition-based model without losing its core value. Learners gained skills, confidence, and credentials. The program maintained its access for underrepresented groups while moving toward financial sustainability.

Evaluation results also highlighted tensions in transitioning from public to participant funding: how to balance accessibility, affordability, and employer demand. Future iterations may consider strengthening alignment between learner backgrounds and program intensity, ensuring non-technical entrants receive added support while experienced participants can deepen their expertise. Stronger employer engagement via clearer communication of graduate competencies, feedback on hiring barriers, and more visible job pathways may translate learning gains into outcomes.

For the Catalyst, these lessons chart a path toward refining CLIC's structure and market fit. For policymakers, CLIC offers a rare case study in sustaining public skills programs once grant funding ends. It shows that long-term success depends both on financial viability and on maintaining equity, quality, and responsiveness to a shifting labour market.

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Acknowledgements

About the Future Skills Centre

The Future Skills Centre is a forward-thinking centre for research and collaboration dedicated to driving innovation in skills development so that everyone in Canada can be prepared for the future of work. We partner with policymakers, researchers, practitioners, employers and labour, and post-secondary institutions to solve pressing labour market challenges and ensure that everyone can benefit from relevant lifelong learning opportunities. We are founded by a consortium whose members are Toronto Metropolitan University, Blueprint, and The Conference Board of Canada, and are funded by the Government of Canada's Future Skills Program.

About Blueprint

Blueprint helps leaders use data and evidence to tackle complex public policy challenges across Canada.

We partner with government, community, philanthropic, and industry leaders to strengthen public systems and deliver better outcomes. We bring together policy analysts, evaluators, economists, data scientists, and implementation experts—people who know how to turn insight into action. Our work is grounded in deep subject-matter expertise, rigorous methods, and a real-world understanding of how systems operate and evolve. More than just an advisor, we're also partners in change. We provide key support at every stage of the policy and program lifecycle: from early strategy and design to implementation, evaluation, and continuous improvement.

As a consortium partner of the FSC, Blueprint works with partners and stakeholders to collaboratively generate and use evidence to help solve pressing future skills challenges.

About Rogers Cybersecure Catalyst (the Catalyst)

Rogers Cybersecure Catalyst is Toronto Metropolitan University's national centre for training, innovation and collaboration in cybersecurity. Since its founding in 2018, the Catalyst has grown into Canada's most active cybersecurity hub, earning a global reputation for delivering high-impact programs and driving innovative solutions to critical technology security challenges. A not-for-profit corporation, the Catalyst collaborates with governments at all levels, public and private organizations, and academic institutions. Headquartered in Brampton, Ontario's Innovation District, the Catalyst delivers its programs across Canada and around the world.

The CLIC *Final Report* is funded by the Government of Canada's Future Skills Program.