

The first quarter of the year set a benchmark for success in New Brunswick start-up companies and the momentum has continued. NBIF invested \$600,000 into ten companies in the last quarter, including three in the Propel and Energia Accelerator Programs. Industries in which we invested include agriculture and farming, environmental science and cybersecurity, online education, and ICT. As well, our team successfully ran two virtual mini Breakthru competitions, where

we awarded two \$25,000 SAFE investments to new start-up spinouts from our universities. Our portfolio companies were able to leverage another \$837,000 from private sector investors bringing the total venture capital investment into our portfolio companies this quarter to \$1.44 million. This investment activity will continue to stimulate innovation and revenue growth in our province, driving value creation and employment opportunities.

VENTURE CAPITAL AND INNOVATION VOUCHER FUND INVESTMENTS

COMPANY NAME	NBIF INVESTMENT	PRIVATE SECTOR INVESTMENT	INDUSTRIES	THE INNOVATIONS	
Gray Wolf	\$50,000	\$150,000	Fintech	→	Anti-money laundering monitoring through blockchain analytics.
Picketa	\$50,000		Agricultural Technology	→	Instantaneous soil and plant sample analysis.
PLAEX	\$50,000		Cleantech	→	Structural building blocks made from recycled materials.
Scenesharp	\$50,000	\$50,000	Environment Agriculture	→	Colour image sharpening for orbital cameras.
Simptek	\$250,000	\$562,000	Cleantech	→	Smart meter energy control system for homes & commercial properties.
Drinkable	\$50,000		ICT	→	Water quality testing platform.
MADA Analytics	\$50,000	\$50,000	Cleantech	→	Financial simulations for a renewable energy project.
Bloxo	\$25,000	\$25,000	ICT	→	App where players can find, join, and pay for recreational and sports activities hosted by local organizers.
HomeSchoolToGo	\$25,000		Social Sciences	→	Educational tools that develop each child's unique potential.
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Chinova Bioworks*	\$35,048	\$8,762	Food Biotechnology	RESEARCH PARTNER (INSTITUTION)	THE INNOVATION
				CCNB	Natural preservative product using chitosan.
TOTAL	\$600,000	\$837,000	TOTAL INVESTMENT	\$1,437,000	

*Innovation Voucher Fund

Research activity in the second quarter of the year spread from Southwestern New Brunswick to the Northwest and everywhere in between. Most of our first funding rounds of the year have launched.

We disbursed a total of \$961,072 in funding, which helped to leverage another \$3.38 million from the private sector for a total investment of \$4.34 million in applied research in New Brunswick.

Included in our launches was a new fund focused on Adult Literacy, created in partnership with the New Brunswick Social Policy Research Network (NB-SPRN) and PETL's Labour Market Research & Analysis program. We funded five projects through the first pilot round for a total of \$100,000. The results that will be delivered in the next nine months will provide valuable insight to GNB policymakers on the barriers to reducing and concrete actions to improve N.B.'s high adult illiteracy rates.

In addition, we funded seven capacity-building projects for a total of \$900,000 aimed at targeted specialized equipment purchases and the acceleration of strategic research opportunities across several jurisdictions and a range of private and public sector clients.

This includes two projects: a 3D printing healthcare lab to a team of researchers via the Saint John Region Hospital Foundation's Lion's Den competition; and a second project that supports the evolution of the Lobster Node. The first project leverages artificial intelligence to improve surgery outcomes. And the latter is a novel coalition of fishermen, fishing organizations and federal departments studying how our lobster industry can adjust to a rapidly changing climate.

APPLIED RESEARCH INVESTMENTS

NBIF FUND	NBIF INVESTMENT	LEVERAGED INVESTMENT	INDUSTRIES	THE INNOVATIONS
Talent Recruitment Fund	\$220,000	\$96,000	Healthcare, Engineering, Cybersecurity and AI	AI to applications in cybersecurity. Socioeconomic factors and healthcare outcomes for persons with disabilities.
Adult Literacy Funding Program	\$100,000	-	Education; Workplace Training	Accelerating literacy in adulthood.
Equipment Fund	\$369,072	\$2,106,033	Off-site Construction, Forestry, Advanced Materials	Structural and environmental assessments of new building materials. Crewless airborne vehicles used in forestry assessments. Instruments for measuring quantum sensors.
Strategic Opportunities Fund	\$232,000	\$1,090,061	Healthcare, Lobster Fishery	3D-printer to create patient models to help surgeon's plan. Track lobster maturity and migration.
Lab-to-Market	\$40,000	\$89,800	Software Development/ICT	Software field tool that documents archeological sites, with the potential to adapt to the construction industry and disaster planning.
TOTAL	\$961,072	\$3,381,894	TOTAL INVESTMENT	\$4,342,966



Xavier Hébert-Couturier,
CEO



Maxime Dumont,
COO



Dominic Levesque,
CTO



Zachary Anderson,
CCO



Brayton Smith,
Full Stack Developer



Operations:
Northwestern New Brunswick

Picketa



The agricultural sector in New Brunswick is a rich part of our history and is aggressively seeking technologies to improve its results.

Revolutionizing farming is exactly what Picketa Systems set out to do with their handheld scanner that pairs to mobile devices and integrates with a precision fertilizer management platform. This technology allows farmers to make timely, informed decisions about their crop health through real-time plant tissue and soil nutrient analysis.

This past spring, Picketa's team of university engineering students won UNB's Global APEX Competition. This win put their leading-edge technology and tenacious leadership team on the map, making them an excellent candidate for Energia's Accelerator program in the summer of 2021. Upon graduation from Energia, NBIF invested \$50,000 into Picketa to accelerate product development and leverage additional non-dilutive grants. NBIF prioritizes supporting graduates of accelerator programs because it increases funding credibility and provides excellent exposure to pipelines of potential talent.

As the Picketa team comprises people who have grown up farming in New Brunswick, they've witnessed the issues the sector faces. The team leveraged their hometown relationships and has introduced new farming technologies, providing tailored care recommendations to meet farmers' needs. Picketa Systems has already displayed great momentum with its new farming technology and is bound to have a great impact on the agricultural industry in New Brunswick, and beyond.



**Asif Hasan, CEO &
Co-Founder**

Simpltek



Energy efficiency has shifted from a desirable to a strategic priority for most electricity consumers.

Simpltek Technologies offers its customers tangible benefits through its GridEdge360 platform to be at the forefront of this developing market. This technology provides analytics to utilities and their clients, highlighting energy issues and making recommendations in the interest of energy efficiency and cost reductions.

Simpltek has been a strong company in NBIF's portfolio since its success in the 2015 Breakthru competition, followed by an additional investment made in 2017. In the past five years, Simpltek has established significant relationships with several large customers across Canada and the United States, expanded their product offering, and has had a consistently growing team, now with 13 employees. Simpltek's ability to persevere through the pandemic is a solid testament to their team and technology.

In the company's most recent equity round of financing, NBIF invested \$250,000. This round will provide the necessary working capital to increase the size of Simpltek's team, boost sales, and expand their customer funnel.



**Operations:
Fredericton, New Brunswick**

Equipment Fund



Dr. Brynle Barrett, Ph.D

UNB



PROJECT:

A NEW LABORATORY FOR QUANTUM SENSING AND ULTRA-COLD MATTER

Quantum technology is rapidly advancing in Canada and has enormous potential to disrupt industries and transform the world at large.

In September 2021, Dr. Brynle Barrett was granted an NBIF Equipment Fund Award to establish a new laboratory for Quantum Sensing and Ultra-cold Matter (QSUM) at the University of New Brunswick (UNB). NBIF co-funded this project by matching the Canada Foundation for Innovation's (CFI) investment of \$150,000, bringing the total project investment to \$300,000.

NBIF's Equipment Fund investment was a strategic part of the quantum technology sector. Dr. Barrett's research program concerns the development of a multifunctional quantum sensor (MQS) capable of providing high-accuracy measurements of accelerations, rotation rates, magnetic fields, and local time. The resulting instrument will be the first cold-atom-based sensor capable of 3D sensing using

matter-wave interferometry. This development will form the building blocks of a novel quantum technology in Canada that can serve several sectors, including natural resource exploration, geodetic surveys, and navigation in remote locations like the Canadian Arctic.

Investing in a new quantum research lab is highly impactful as it helps build the infrastructure to facilitate such groundbreaking technological developments in New Brunswick. Additionally, Dr. Barrett has specific plans to recruit three new graduate students and five undergraduate students over the first few years of his research project. The development of a quantum research lab at UNB will result in new quantum technology and attract talent and expertise to the province.

Adult Literacy Fund



Jules Maitland

ALL IN RESEARCH & INNOVATION INC.



PROJECT:

ALPHABETTI SPAGHETTI:

UNRAVELLING ADULT LITERACY SUPPORT OPTIONS FOR PEOPLE EXPERIENCING COMPLEX SOCIAL ISSUES

Low alphanumeric literacy (simply put, understanding how letters translate into spoken sounds) is one of the many barriers to economic and social inclusion for individuals who find themselves at the margins of society.

Over 50% of adults in New Brunswick are considered functionally illiterate, which is well below the national average, leading to significant consequences for personal, professional, and regional development. Understanding the problems that this illiterate group faces and helping them access support is essential to the development of establishing new approaches to adult literacy and improving our illiteracy rate. Improving literacy rates amongst these marginalized groups is the first step towards improving their economic situation and reducing expensive societal support burdens.

Jules Maitland of All in Research & Innovation Inc is tackling this pressing problem by combining observational and participatory design research methods to uncover insights into the early stages of the journey to adult literacy.

Jules and her team will leverage existing relationships with service providers within the marginalized community to invite low-literacy individuals to participate. Using an Adult Navigator Service Prototype as a research probe, Jules' team will document everyone's story and journey. Following this, a map will be created consisting of stakeholders, relationships, and resources that the participants are aware of and/or engage with.

Collectively, these insights will help identify barriers, enablers, decision points, pain points, and opportunities for adult literacy programs in New Brunswick, further improving proficiency in our province. We are actively working with Jules and the other literacy researchers awarded funding from our Adult Literacy Fund to connect them with policymakers in the province and together, create new strategies that can level the playing field for all New Brunswickers to fully participate in our economy.