

Innovation through Collaboration

CANADIAN AGRI-FOOD AUTOMATION
AND INTELLIGENCE NETWORK

2024-25
ANNUAL REPORT



CAAIN  RCAIA

connect
create
cultivate

connecter
créer
cultiver





Vision

We are Canada's leading agtech network and innovation catalyst.

Mission

CAAIN is the centre of Canadian agtech, investing in data-driven innovation and automation to ensure Canadian agriculture thrives in a connected world.

Values

*Community
Accountability
Respect
Excellence*

Board of Directors

Laura Kilcrease (Chair)
Stuart Cullum (Vice Chair)
Micheline Ayoub
David Bailey
Joe Dales
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Cornelia Kreplin
Chris Paterson
Rob Saik
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Rickey Yada

Shareholders

Ian Potter
Patrick Machacek
Hubert Lau
Marco Coppola

Team CAAIN

Darrell Petras..... CEO
Tracy Bowers..... Executive Assistant
Garson Law Program Manager
Patience Palmer..... Program Manager
Julie Thibeault Finance Manager
Eric Morin..... MarComm Manager
Ryan Furtas..... Knowledge & Networks
Preeti Choudhary Accounting Coordinator
Lakota Bowers Administrative Assistant



2024-25 ANNUAL REPORT

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Message from the Chair

“Let us move forward with a renewed appreciation for the tireless efforts of those who keep our grocery shelves stocked and our communities nourished.”

The Government of Canada, through forward-thinking programs like the Strategic Innovation Fund (SIF), plays a vital role in fostering research and development across diverse fields, including the agricultural technology sector—CAAIN’s core focus. This strategic support matters because a thriving agri-food industry is foundational to our nation’s well-being in two ways:

- First, it forms the keystone upon which human and animal health are built. A robust agricultural sector is indispensable for ensuring a consistent and reliable supply of nutritious food.
- Second, the significant financial contributions of the agri-food sector have long bolstered our economic prosperity, driving growth and creating opportunities across the country.

However, farming requires immense dedication, resilience, and a deep connection to the land. Farmers navigate fluctuating markets, unpredictable weather patterns, and evolving global trade dynamics with quiet determination. CAAIN supports cutting-edge research and development that empowers our farmers and primary processors to overcome their key challenges. Innovation

in this sector is multifaceted, ranging from streamlined operational improvements to the integration of sophisticated technologies. Our valued project partners are central to this progress. Since our inception in 2019, we have committed close to \$40 million to initiatives that are transforming the agri-food landscape. The projects are as diverse as they are groundbreaking and improve everything from broadacre farming to beekeeping. As is the case in many areas of endeavour, most of the innovation we support depends on the application of artificial intelligence, a reality that represents both challenge and opportunity to CAAIN’s Board of Directors and staff.

We invite you to join us on this transformative journey to drive Canadian agricultural productivity and sustainability by visiting us at <https://caain.ca/our-projects> and exploring the remarkable advancements our partners are developing.

Laura J. Kilcrease, C.M.A., MBA
Board Chair



Message from the CEO

“Our national brand continues its strong upward trajectory, with the significant attention we are receiving serving as testament to the impactful work that increasingly defines Canadian agtech innovation.”

CAAIN’s 2024 fiscal year was marked by important progress and significant milestones.

Our brand continues its strong upward trajectory, with the attention we are receiving serving as testament to the impactful work that increasingly defines Canadian agtech innovation. Here are some highlights from April 1, 2024, through March 31, 2025:

- We received \$8M in additional funding from Innovation, Science and Economic Development (ISED), a powerful endorsement of our work to date.
- Our second annual Fireside Chat attracted over 300 Canadian agri-food leaders, firmly establishing the gathering as an important sector networking event.
- CAAIN project stories continue to attract the attention of top agricultural journalists, generating an average of more than one story per month.
- Our online community continued its strong growth, and we now have almost 800 members.
- We launched the first two episodes of our bimonthly Bushels & Bytes podcast hosted by Real Agriculture’s Shaun Haney.

This is merely a glimpse of the significant progress we made over the past 12 months. It underscores CAAIN’s essential role in empowering the true leaders of Canadian agricultural technology—our funding recipients. We are proud to be a catalyst of their success, which allows us to contribute meaningfully to Canadian agriculture and primary processing.

Such progress cannot occur in isolation. I deeply appreciate the support of our ISED colleagues, as well as the guidance of our shareholders and Board of Directors. I must also acknowledge my team. They produce outstanding results through collaboration, skill, and dedication. Every one of us believes in innovation’s potential to support Canadian farmers.

Thank you for your interest in the Canadian Agri-Food Automation and Intelligence Network.

Darrell Petras, P.Ag.
Chief Executive Officer

Strong Results

The 2024-25 fiscal year was arguably CAAIN's most successful and gratifying. Consider the following:

- Several of our funded projects were brought to a successful conclusion.
- Total approved CAAIN funding sits at \$32.4M, including \$10M earmarked for livestock innovation.
- We welcomed two new Board members, while saying goodbye to two long-standing directors whose contributions over the past five years cannot be overstated.
- CAAIN's online community continues its steady growth, approaching 800 members on March 31, 2025.
- CAAIN developed and launched the first two episodes of a bimonthly podcast titled Bushels & Bytes. Find it on our YouTube channel: youtube.com/@caain4436



CAAIN's funding recipients have consistently delivered strong results, helping us build a thriving national brand. This reputation has attracted numerous ag and agtech organizations seeking our collaboration and support for their projects.

A recurring message from stakeholders is the urgent need to accelerate the adoption of innovative technologies. While supporting groundbreaking R&D remains a core focus, we must also continue to validate and demonstrate emerging technologies, driving their adoption. Developing transformative data-driven agtech is exciting, but its impact depends on widespread adoption.



*Darrell Petras, P.Ag.
Chief Executive Officer*



2024-25 KPIs



INNOVATION & RESEARCH

Focus: R&D progress, product development, funding programs

- 24 new/improved products developed
- 3 products commercialized
- \$2,450,000 follow-on investment
- 2 funding competitions launched in 2024-25, generating 53 submissions
- 15 proposals received during FY 2024-25 in response to 2024 Smart Farm Network Competition
- \$8M funding extension from ISED*

* *Technically, the additional funding allocation is not a key performance indicator. However, a top-up this generous demonstrates clearly that ISED values CAAIN's contribution to Canada's innovation sector.*



NETWORK GROWTH

Focus: Community building and digital reach

- 261 new network members
- 1,050 new social media followers



TALENT DEVELOPMENT

Focus: Job creation and workforce development

- 194.5 highly skilled FTEs created
- 100.5 high quality FTEs maintained



COMMUNITY & OUTREACH

Focus: Public engagement, storytelling, visibility

- 18 speaking engagements for CAAIN staff
- 9 project stories launched
- 39 earned media stories
- 2 podcast episodes
- 2 events hosted



Cumulative KPIs 2000-2024

\$32M

committed
to:



36 projects



generating **\$70M**
private-sector investment,



and contributing to multi-billion-dollar
unicorn transactions,



leading to **\$500M+**
follow-on economic activity,



and/or supporting **over 500**
highly-skilled full-time employees



creating numerous **international
engineering awards** and considerable
domestic recognition received by CAAIN
funding recipients.



2024-25 Events Round-Up

CAAIN's rapidly growing brand depends on three core functions/activities:

- Serving as a connector fostering collaboration among myriad agtech stakeholders across Canada and, occasionally, internationally.
- Funding the development, validation, and demonstration of extraordinary Canadian agtech innovation.
- Hosting, speaking at, and attending stakeholder gatherings.

In 2024-25, CAAIN hosted two highly successful events.

In addition to the sessions CAAIN hosted, our team attended dozens of other events, covering eight provinces. Our goal for 2025-26 is to reach 10 provinces and at least one territory.

Winnipeg Networking Event

On November 6, 2024, CAAIN hosted 70 members of the Manitoba agtech community at our inaugural Winnipeg networking evening.

Fireside Chat

The second annual CAAIN Fireside Chat, held on February 10, 2025, left a lasting impression on over 300 Canadian agri-food leaders. The sold-out event featured an extraordinary dialogue between renowned agriculture figure Kim McConnell and international trade expert John Weekes.



Top Left: Kim McConnell and John Weekes educate, inform, and entertain 300 Canadian agri-food sector leaders

Top Right: Parliamentary Agriculture Secretary Francis Drouin welcomes attendees to the Fireside Chat on behalf of the Government of Canada

Bottom Left: Program Manager Garson Law leads a panel featuring CAAIN project partners Cameron Bergen of mode40 and HerdWhistle's Adam Morand at the 2024 Quebec Beef Industry Conference.

CAAIN Program Funding Summary

ALL PROJECTS

Updated March 31, 2025



Program Name	Funded Projects	CAAIN \$	Industry \$	In-Kind
2020 Core Partner Competition	9	\$14.3M	\$13.4M	\$5.3M
2021 Open Competition	7	\$3.0M	\$4.6M	\$2.8M
2022 Open Competition	6	\$5.6M	\$8.4M	\$0.5M
Beef & Pork Primary Processing Competition	2	\$3.5M	\$5.2M	\$0.6M
2023 Livestock Innovation Competition	5	\$2.1M	\$3.1M	\$0.6M
2023 Open Competition	6	\$3.8M	\$5.7M	\$1.1M
Smart Farm Network Competition	1	\$0.09M	\$0.1M	\$0.1M
	36	\$32.4M	\$40.5M	\$11.0M

CAAIN Program Funding Summary

LIVESTOCK PROJECTS

Updated March 31, 2025



Program Name	Funded Projects	CAAIN \$	Industry \$	In-Kind
2020 Core Partner Competition	1	\$1.3M	\$1.3M	\$0.1M
2021 Open Competition	4	\$1.0M	\$1.4M	\$1.1M
2022 Open Competition	1	\$0.5M	\$0.8M	\$0.2M
Beef & Pork Primary Processing Competition	2	\$3.5M	\$5.2M	\$0.6M
2023 Livestock Innovation Competition	5	\$2.1M	\$3.1M	\$0.6M
2023 Open Competition	3	\$1.6M	\$2.5M	\$0.1M
Smart Farm Network Competition	0	\$0.0M	\$0.0M	\$0.0M
	16	\$10.0M	\$14.3M	\$2.7M

COMMERCIALIZED CAAIN-FUNDED PROJECTS

In 2024-25, 12 CAAIN projects began, or continued, some level of commercialization. Adoption of technology will be a major CAAIN focus in 2025 and beyond as we continue developing a nationwide network of smart farms.

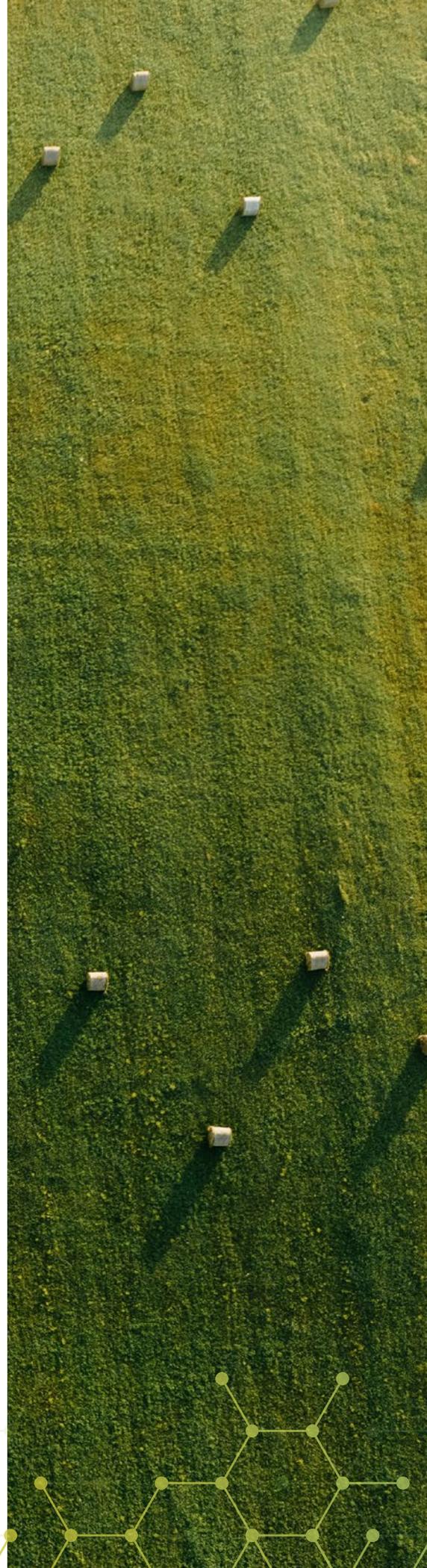
Project Name	Ultimate Recipient
Agricultural Autonomous Controls Framework	JCA Technologies
Automating Traceability, Creating a Digital Manifest, and Providing Transport Assurance Via Generic Data Enablers	Transport Genie
Harvesting Automation: Reducing the Requirement for Highly Skilled Labour During the Harvest of Broad-Acre Cash Crops	MacDon Industries
VeriGrain™ Development, Validation, and Commercialization	VeriGrain Solutions
GeoAI Platform for Automating Manual Observation Associated with Wheat Production	Super GeoAI
Automation and Scalability of SWAT MAPS to Advance Canadian Agriculture	Croptimistic Technologies
Digitizing Fomite Contact Tracing to Mitigate Pathogen Spread in Agriculture	Farm Health Guardian
Field to Glass – The Next Generation of Barley Traceability	Grain Discovery
SoilOptix®: Advancing Processes to Predicting Soil Organic Carbon	SoilOptix
Data-Driven Dormant Apple Tree Pruning and Tree Vigour Models to Improve Farm Outcomes	Vivid Machines
Artificial Intelligence (AI) Development for Autonomous Agriculture Application	DOT/Raven Industries/Case New Holland
Prescriptive Beekeeping: Leveraging Artificial Intelligence to Automate the Management of a Beekeeping Operation to Maximize Honeybee Colony Survival Rates and Business Profitability	Nectar Technologies Inc.



PROJECTS COMPLETED DURING FY 2024-25

In FY 2024-25, CAAIN successfully wrapped up several of our funded projects, including two from our original Closed Competition.

Project Name / <i>Ultimate Recipient</i>	Project Description
Pan-Canadian Smart Farm Network Development <i>Olds College of Agriculture & Technology</i>	The overall goal of the Pan-Canadian Smart Farm project was to build a collaborative framework among Canada’s Smart Farm initiatives for sharing of data and expertise to help farmers, industry and technology developers better understand, utilize, and develop smart agriculture technologies and systems.
Advancing Agronomy through Hyperlayer Data Collection and Analytics <i>Olds College of Agriculture & Technology</i>	This project’s overarching goal was to collect data and develop a robust repository of different, validated, high-resolution, geospatial agronomic datasets.
Precision Ranching for Improved Reproductive and Grazing Efficiencies <i>Lakeland College</i>	The focus of the project was to demonstrate a strategy, uniquely using multiple promising technologies (genomic predictors, remote sensing technologies) that increases the assessment of reproductive efficiency and rates in heifers and cows.
Automation and Scalability of SWAT MAPS to Advance Canadian Agriculture <i>Croptimistic Technology</i>	This project saw academic and on-farm researchers, industry players, and smart farm staff collaborate to expand SWAT MAPS’s capacity and develop scalable analytics and agronomic validation solutions supporting the widespread adoption of precision agriculture.
GeoAI Platform for Automating Manual Observation Associated with Wheat Production (Phase 2) <i>SuperGeoAI</i>	Pursuing a greater level of automation and precision agriculture to drive efficiency, this project built on Phase 1 (also CAAIN funded) to develop a grain grading GeoAI-driven cloud platform (app) that integrates I, GeoAI, Geospatial, and machine vision technologies to increase crop quantification and assessment accuracy.



Project Spotlight

When one looks at CAAIN’s 2024-25 KPIs, the word “successful” comes to mind. However, numbers, while useful indicators, do not tell the whole story.

Our success is as much qualitative as quantitative, as is demonstrated in the following description of the work in which one of our ultimate recipients is engaged.

We chose the remarkable accomplishments of CATTLEytics as an example of the excellence that defines the efforts of our 30 ultimate recipients.

There are many others whose results are just as extraordinary. We invite you to check out their fascinating stories at <https://caain.ca/our-projects>





CATTLEytics

Data-Driven Decision-Making

Creation of a Dairy Management, Modelling, and Collaborative Framework System to Facilitate Predictive and Data-Driven Decision-Making in Canada

CAAIN's list of successful projects is long and impressive. It includes everything from a handheld grain grading app, to a smart farm network, to the subject of our annual report's project spotlight, a comprehensive AI-based application that is revolutionising dairy farming.

CATTLEytics was founded by the extraordinary Dr. Shari van de Pol—a computer engineer, veterinarian, musician, and lake-house designer (cottage architect?)—who brought a bold vision to the dairy industry. The first to join her in turning that vision into reality was the late John Clark, a gifted software developer whose clean, elegant coding solutions helped transform early ideas into a working platform.



*Shari van de Pol, DVM
Founder & CEO, CATTLEytics*

One of the Canadian agtech sector's most pressing challenges is not, repeat NOT, innovation. As evidenced by the number of remarkable technologies whose R&D CAAIN continues to support, our nation does not lack for ingenuity. As our Board Chair, Laura Kilcrease, has pointed out, Canada has a scaling challenge, not an innovation challenge. Scaling is connected to adoption, and that is where many entrepreneurs run aground. Not so, Dr. van de Pol and CATTLEytics. The most recent numbers have the company's suite of offerings managing a quarter of a million cows in Canada and the US.



One of the factors that sets CATTLEytics apart is the extent of adoption Shari and her team have enjoyed, due in equal measure to the brilliance of the product and to their implementation of a solid marketing plan. It doesn't hurt that the company and its Founder / CEO continue to receive a range of awards.

Consider that in the past 18 months, Dr. van de Pol has:

- Received the Tech for Good Award
- Been named a finalist for the Women that Build North American Innovations Award
- Won the She Loves Tech North American pitch competition
- Won the 2024 RBC Women of Influence Innovation Award
- Represented North America at the She Loves Tech finals in Singapore
- Been invited to deliver keynote addresses to Dairy Farmers of Manitoba and Dairy Farmers of Ontario AGMs
- Been named a finalist for the YWCA Women of Distinction Awards

As for CATTLEytics, it has:

- Received funding through the CAAIN 2023 Open Competition
- Won the Grand River Agricultural Society 2024 SPARK III Pitch Competition
- Won the Innovation Award & the Farmer's Choice Award at Canada's Outdoor Farm Show
- Received \$150,000 funding award from the Ontario Agri-Food Research Initiative Commercialization Stream
- Won the Best New Booth Award at the World Dairy Expo
- Been named one of three winners at the Forum Pitch Semi-Finals



- Received a \$450,000 investment through the Government of Canada's Federal Development Program

Those awards are not hyperbolic. When one sees the milestones CATTLEytics has hit over the past year, the recognition seems completely appropriate:

- CATTLEytics and Dr. van de Pol featured in numerous online and print publications
- Customer base grows to include dozens of Canadian operations and some of the largest American dairies
- Over 250,000 cows managed by CATTLEytics technology
- Revenue from SAS fees hits \$250,000
- Services revenue tops \$1.2M

Photos courtesy Dr. Shari van de Pol





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