Smart Agriculture Living Lab Call for Proposal

Sponsored by the BC Ministry of Agriculture and Food and the Ontario Ministry of Agriculture, Food and Agribusiness

Submit your proposal using our secure online portal:
https://portal.cengn.ca/prog/call_for_proposal_smart_agriculture

About the CENGN Living Lab Initiative

With $45 million in funding from the Federal Government's Innovation, Science, and Economic Development (ISED), CENGN is developing eight Living Labs across Canada to support over 100 Canadian startups and scaleups looking to prepare their innovative network technology products for market entry, commercial growth, and industry adoption.

The CENGN Living Labs initiative is set to drive nationwide digital transformation for key Canadian economic sectors. CENGN will provide the services, expertise, and infrastructure required to test and validate network technology solutions through these living labs. This initiative will advance the Canadian industry's competitiveness while supporting the development of new intellectual property and the growth of our most innovative tech startups and scaleups.

Overview of the Call

This call was developed through a partnership between CENGN, the BC Ministry of Agriculture and Food and the Ontario Ministry of Agriculture, Food and Agribusiness. It is funded by Innovation, Science, and Economic Development (ISED) through the Strategic Resources Fund (SRF).

Background and Rationale

As Canada's Centre of Excellence in Next Generation Networks, CENGN helps drive the innovation and adoption of advanced networking technologies across Canada. To support this mission, CENGN provides the connected infrastructure, technical expertise/services, talent development, and partner ecosystem to support Canada's digital and economic growth.

CENGN is establishing eight living labs across British Columbia, Ontario, and Quebec to accelerate technology innovation and industry growth. These real-world testing environments provide Canadian companies with the services, expertise, and infrastructure needed to test and validate next-generation network technology solutions.

The Living Labs initiative is focused on supporting technologies that drive digital transformation across key economic sectors in:
- Smart Agriculture
- Smart Mobility
- Smart Buildings
- Advanced Manufacturing
- Robotics
- Networking Technologies

Key Objectives

This call for proposals seeks to develop a project action plan and execution to address the priority problem statements identified by the Governments of British Columbia and Ontario affecting the agri-food sector. Applicants may address all these challenge statements or select specific statements that align with their expertise and proposed approach.

Industry Challenges

Agricultural Robotics and Automation

IoT devices and/or agricultural robots to enable autonomous functions such as weeding, harvesting, or planting. These could include multi-device interaction to communicate with each other to enhance coordination and improve the efficiency of operations. Labour shortages continue to challenge the agri-food sector, particularly in field crops, horticulture, and processing. Automation technologies for planting, harvesting, and weeding can reduce reliance on seasonal labour and improve productivity.

Challenge Areas
1. **High upfront costs and limited access to financing**
   Many farms cannot afford robotics equipment or justify the investment without a clear ROI.

2. **Lack of region-specific automation solutions**
   Most robotic solutions are designed for large-scale or uniform crops, not diverse regional operations.

3. **Limited training and integration capacity**
   Producers and workers often lack the skills or technical support to integrate robotics into daily operations. Some technologies may not currently be suited for a range of producer environments.

Potential Use-Cases
1. Autonomous robotic platforms for weeding, fruit picking, and crop monitoring in horticulture operations.

Smart Irrigation Systems

IoT-powered irrigation systems that automate watering schedules based on real-time soil moisture and weather forecasts, conserving water and optimizing irrigation. Water management is a growing concern due to climate variability and increasing pressure on freshwater resources. IoT-powered irrigation systems can help optimize water use, especially in regions with intensive horticulture and greenhouse operations.

Challenge Areas

1. **Rising water scarcity and variable climate conditions**
   Producers lack real-time tools to optimize irrigation under droughts and floods

2. **Complex permitting and infrastructure costs**
   Barriers such as groundwater licensing, storage infrastructure, and limited rural connectivity reduce the adoption of advanced systems.

Potential Use-Cases

1. **IoT-enabled drip irrigation that adjusts water delivery based on soil moisture, crop** type, and weather data

AI for Precision Agriculture and Affordable Precision Agriculture for Smallholders

AI-driven systems that help farmers with real-time monitoring of crop health using satellite imagery, drones, and ground sensors to automate crop management tasks like pest detection, disease recognition, and soil health analysis. Many producers are small to mid-sized and need scalable, cost-effective solutions. Making precision agriculture accessible to smallholder farmers supports equity, sustainability, and broader adoption of digital tools.

Challenge Areas

1. **High technology costs for smallholders**
   Most AI-driven systems are priced for large farms, excluding smaller producers.

2. **Fragmented and inaccessible data sources**
   Farmers struggle to collect and interpret data from satellites, drones, and sensors.

3. **Lack of regionally adapted AI models**
   Generic algorithms may not reflect regional crop varieties, soil types, or climate patterns

4. **Limited digital literacy and training support**
   Producers often lack the resources to implement and maintain precision agriculture tools

Potential Use-Cases

1. Affordable AI-powered crop health monitoring apps designed for smallholder and mid-sized farms

Sustainable Pest Management

Innovative, sustainable pest control technologies that reduce dependency on harmful chemicals. The regulatory environment is moving toward reduced pesticide use. Innovative pest control technologies align with environmental goals and consumer demand for cleaner, safer food production.

Challenge Areas

1. **Increasing resistance to conventional pesticides**
   Overuse of chemicals reduces effectiveness and increases costs

2. **Limited access to real-time pest and disease diagnostics**
   Producers lack early warning tools adapted to local conditions

3. **Environmental and biodiversity impacts of chemical use**
   Current practices harm pollinators, soil health, and ecosystems.

4. **Lack of integrated biological and digital control options**
   Few scalable alternatives combine natural predators with monitoring technologies

5. **Climate change driving new and invasive pests**
   Producers face uncertainty as pest lifecycles shift with rising temperatures

6. **Insufficient data sharing and regional coordination**
   Farmers often operate in silos without shared pest risk intelligence

Potential Use-Cases

1. **AI-driven pest identification and forecasting platform linked with biological control** recommendations

AI-powered Farm Management Software (including for smallholder farms)

AI platforms integrating IoT data can help farmers manage large amounts of farm data, from soil to climate conditions, and generate actionable insights to improve productivity.

Machine learning algorithms suggest optimal crop rotation patterns, irrigation schedules, and predict the best harvest windows. Making it accessible to smallholder farmers supports equity, sustainability, and the broader adoption of digital tools.

Challenge Areas

1. **Fragmented farm data management**
   Farmers collect soil, climate, and financial data from multiple sources, but lack integrated, user-friendly platforms

Potential Use-Cases

1. AI-powered farm management dashboards tailored for smallholders, integrating crop planning, labour, and financial management in a single tool

Funding Scope

As a result of this call, five (5) grants of up to CAD 100,000 each will be awarded. The project lasts up to twelve (12) months, encompassing all research, testing and validation activities and final reporting.

Please note that the program operates on a cost-reimbursement model, covering up to 50% of eligible project expenses. Applicants are responsible for securing the remaining funding from other sources.

No reimbursements are issued until a fully executed Ultimate Recipient (UR) Contribution Agreement has been returned to CENGN by the applicant.

Eligibility Criteria

1. Applicant must be a **registered organization in Canada** with **499 or fewer full-time employees**.
2. The technology solution must be **deployable in a CENGN Living Lab**.
3. Proposal must include an all-inclusive budget of eligible project costs covering **up to 50%** reimbursement rate, with a **maximum reimbursable amount of CAD $100 000**.
   a. At least **90% of the eligible supported work must be performed in Canada**.
4. Applicant must declare the **combined level of government financial assistance**:
   a. **≤ 75%** of eligible supported costs for **Industry Collaborators**.
   b. **≤ 100%** of eligible supported costs for **Post-Secondary Collaborators**.
5. All participants must be **willing to sign a participation agreement**.
6. Applicant must demonstrate **financial management capacity**, including:
   a. **Credit review** (e.g., Dun & Bradstreet).
   b. **2-year cash flow forecast**.

Submission Process/Timeline

Activity	Date
Launch Call for proposal	September 23, 2025
Deadline for submitting proposals	Nov 14, 2025
Application Review and award Decision	Jan 16, 2026
Project Start	Feb 1, 2026

Notes:
- Submit your application electronically using CENGN Portal
- Late Applications will not be considered

Submission Guidelines:

Proposals should include:
- A clear description of the solution, its core features, the technical approach and its relevance to the identified challenges
- Integration capabilities with existing systems and practices (if applicable)
- Case studies or examples of successful deployments
- Estimated ROI and resource savings projections
- Implementation timeline, support model and scalability
- Other considerations

Requirements for Proposal

- Applicants must present a clear and concise description of their product or solution, including its core capabilities, value proposition, and current Technology Readiness Level (TRL) as per the [Government of Canada's TRL Guide](#)
- They should highlight real-world testing, customer feedback, and adoption progress.
- The proposal must also define the market problem being addressed, supported by industry data or trends, and explain how the solution offers a unique advantage.
- Applicants should outline their Total Addressable Market (TAM) and Serviceable Addressable Market (SAM) and provide evidence of market demand through lead customers or stakeholder commitments.

Evaluation Criteria

Applicant selection will be ranked according to their total overall point-rated score, region, and available Project capacity at the Living Lab.

Mandatory Criteria

Mandatory criteria are essential, non-negotiable requirements that an Applicant must meet to have their Project proposal considered for selection.

Criteria	
M1	The Applicant must be a registered organization in Canada with 499 or fewer full-time employees.

M2	The Applicant must provide the following business information:
	    a. Registered Business Name
	    b. CRA Business Number
	    c. Location of Incorporation
	    d. Articles of Incorporation

M3	The technology solution must be capable of being deployed in a CENGN Living Lab.
M4	The Applicant must provide resumes of all proposed key team members.

M5	The Applicant must submit a firm proposal, all-inclusive price for the Work and Eligible Supported Costs, which must not exceed the maximum funding available of up to CAD 100,000 for each project. At least 90% of the Eligible Supported Cost work must be performed in Canada.	
M6	The Applicant must declare the combined level of financial assistance from all government (federal, provincial, territorial, municipal) sources as not to exceed seventy-five percent (75%) of Eligible Supported Costs incurred by any Industry Collaborator and one hundred percent (100%) of Eligible Supported Costs incurred by any Post Secondary Collaborator.	
M7	All participants must be willing to sign a participation agreement.	
M8	The Applicant must demonstrate financial management capacity to carry out the Project: • Credit review (Dun & Bradstreet) • 2-year cash flow forecast	

Point Rated Criteria

Project proposals that meet all the mandatory criteria will be evaluated and scored as outlined in the table above. Applicants must achieve a minimum score of 70.

Criteria		Maximum Score	Minimum Score
R1	Understanding of Market Challenge, Solution Value Proposition and Commercial Potential	10	N/A
R2	Team Experience and Capability	10	N/A
R3	Feasibility of the Project in Meeting the Technical and Business Objectives Through Access to the Living Lab	30	22
R4	Project Plan	25	20
R5	Risk management and mitigation strategies	10	N/A
R6	Benefits to Canada	15	10
Overall score		100	70

Selection Process

Step 1: Eligibility Screening
The CENGN team reviews all submitted applications to ensure they meet the nine **mandatory eligibility criteria**. Only applications that satisfy all requirements will proceed to the next stage.

Step 2: Comprehensive Evaluation
An External Review Panel and the CENGN Living Lab Project Team evaluate eligible applications. This stage uses a set of **predefined scoring criteria** to assess the project's value, feasibility, and alignment with program goals.

Step 3: Feasibility and Definition Phase
Following a successful application review, selected SMEs will enter the project planning phase in collaboration with CENGN and the Living Lab Project Team. This phase ensures the project is

strategically aligned, technically feasible, and ready for implementation within the Living Lab environment.

- Project Charter: Define project scope, objectives, and success criteria.
- Technical Feasibility Assessment: Evaluate the solution's readiness and compatibility with Living Lab infrastructure.
- Project Schedule and Work Plan: Outline key milestones, deliverables, and timelines.
- Budget and Funding Award Details: Finalize cost estimates and funding breakdown.
- Partner Feedback and Contributions: Integrate input from technology partners and stakeholders.
- Risk Identification, Dependencies, and Mitigation Strategies: Identify potential risks and develop contingency plans.
- Ultimate Recipient Agreement (URA): Upon approval of the project plan, CENGN will issue a Ultimate Recipient Agreement (URA). This agreement will detail all project requirements, reporting obligations, and the roles and responsibilities of the SME, Project Technology Partners, and Living Lab Hosts.

Post Selection Process

Once the Ultimate Recipient Agreement (URA) is signed, the selected SME will begin the project execution phase in collaboration with the Living Lab Host and Technology Partners. During this phase, the SME is responsible for carrying out the approved project activities, with ongoing support from the CENGN team to ensure alignment with project goals and successful implementation within the Living Lab environment.

Eligible Project Costs

Eligible costs are reasonable, necessary, and directly related to the approved project activities outlined in the Contribution Agreement. These costs must be non-recurring and specific to the proposal. Additionally:

- Costs incurred outside Canada must not exceed 10% of the total eligible costs.
- Ecosystem-related expenses are eligible, including:
- Organizing networking events
- Participation in collaborative R&D activities
- Attendance at conferences and workshops
- Operation of regional offices across Canada
- Operational costs may include:
- Salaries
- Office equipment
- Professional services
- Overhead

- Travel
- Funding for R&D projects is also considered eligible if it supports innovation and commercialization.

All eligible costs must be well-documented, auditable, and aligned with the project's scope and objectives.

Certain costs are not eligible for reimbursement ("Ineligible Costs"), regardless of whether the Recipient reasonably and properly incurs them in carrying out the Project.

Ineligible Project Costs include:
- Allowance for interest on invested capital, bonds, debentures, bank or other loans, together with related bond discounts and finance charges
- Legal, accounting and consulting fees in connection with financial reorganization, security issues, capital stock issues, obtaining of licenses and prosecution of claims against the Minister (except legal, accounting and consulting fees incurred in connection with obtaining patents or other statutory protection for Project Intellectual Property)
- Losses on investments, bad debts and expenses for the collection charges
- Losses on other projects or contracts
- Federal and provincial income taxes, goods and services taxes, excess profit taxes or surtaxes and/or special expenses in connection with those taxes
- Provisions for contingencies
- Premiums for life insurance on the lives of officers and/or directors, where proceeds accrue to the Recipient
- Amortization of unrealized appreciation of assets
- Depreciation of assets paid for by the Minister
- Fines and penalties
- Expenses and depreciation of excess facilities
- Unreasonable compensation for officers and employees
- Product development or improvement expenses not associated with the work being performed under the Project
- Advertising, except reasonable advertising of an industrial or institutional character placed in trade, technical or professional journals for the dissemination of information for the industry or institution
- Entertainment expenses
- Donations
- Dues and other memberships other than regular trade and professional associations
- Extraordinary or abnormal fees for professional advice regarding technical, administrative or accounting matters, unless approval from the Minister is obtained; and

- Selling and marketing expenses associated with the products or services, or both, being developed under this Agreement.

Data Protection and Intellectual Property (IP)

- External reviewers, infrastructure partners, and Living Lab hosts engaged in CENGN-supported projects may access sensitive SME data and intellectual property (IP) strictly for project-related purposes.
- This data must be treated as confidential, handled securely, and not shared with third parties without written consent from both the SME and CENGN.
- All IP developed by the SME remains its property unless otherwise agreed.
- External Reviewers may not claim ownership or use of SME data or project-generated IP.
- SMEs must agree to provide non-confidential summaries of the data and IP created during their projects. These summaries will be shared with other CENGN partners, who may then reach out to explore partnerships or further development.

Submit Your Proposal

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For additional questions, please contact our business development team at bd@cengn.ca.