



C A R I C

CONSORTIUM FOR
AEROSPACE RESEARCH AND
INNOVATION IN CANADA

CORPORATE PLAN

2017-2018

Amended on March 1st, 2018

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Financial partner

 Innovation, Science and
Economic Development Canada Innovation, Sciences et
Développement économique Canada

TABLE OF CONTENTS

1	Introduction.....	1
1.1	Context	1
1.2	Mission	2
1.3	Strategy	2
1.4	New Perspectives	4
2	2017-2018 Corporate Plan.....	7
2.1	Objectives, Strategy, New Perspectives for the Upcoming Fiscal Year	7
2.2	Summary of Planned Activities and Anticipated Results	7
2.3	Planned Activities in Light of an Extended CARIC Program (Scenario 3)	9
2.4	Statement of Planned Expenditures for CARIC Operations and Collaborative R&TD Projects for the Upcoming Fiscal Year, by Source of Funding	10
2.5	Risk Assessment and Mitigation Strategies	10
2.6	Summary of Ongoing Performance Monitoring Strategies	12
2.7	Statement of CARIC's Annual Cashflow Requirements for the Upcoming Fiscal Year	12
2.7.1	2017-2018 Budget (Approved on January 19, 2017)	13
2.8	Statement of all Amounts Owing to the Crown Pursuant to Legislation, this Agreement, any Other Agreement or any Other Authority	14



1 Introduction

This 2017-2018 Corporate Plan is submitted to Innovation Science and Economic Development Canada (ISED), in accordance with Article VII of the Contribution Agreement between CARIC and ISED. CARIC is requested to provide the Minister with an Annual Corporate Plan, approved by its Board, no later than two (2) months before the beginning of the fiscal year.

1.1 Context

CARIC is in its third year of operation. It has achieved all its targets as described in the previous three Corporate Plans. Given the added value and relevance of CARIC's programming in the aerospace innovation ecosystem, it has seen tremendous uptake which translated in over-subscription. Consequently, as it stands, CARIC has engaged all its resources available to support collaborative R&D projects for its first five-year mandate.

As a result, CARIC, with the support of the AIAC, is seeking to replenish its funding until the end of its mandate. This would enable CARIC to keep its momentum and to continue the full pursuit of its mission. Additionally, CARIC will seek to seize the opportunities that may present themselves in the roll-out of the Innovation Agenda so as to expand, where feasible, its mandate and programming. As well, as laid out in the AIAC Aerospace Innovation think piece, it is suggested to explore how to merge CARIC with the Green Aviation Research & Development Network (GARDN) to build an effective and streamlined Green R&D Aerospace Consortium that would contribute both to the implementation of the Innovation Agenda and its clean technology development priorities.

Hence, there are three scenarios possible for CARIC's fourth year of operations.

1. No further funding is available for projects until 2019. In this case, efforts will be limited to monitoring the progress of the projects within the current portfolio. Network-building efforts will be maintained, but their impact will be limited because of inability to support projects, resulting in a loss of momentum.
2. CARIC funding levels are replenished. In this case, efforts are pursued within the current or modified Contribution Agreement framework.
3. Efforts in exploring opportunities in the roll-out of the Innovation Agenda are generating positive outcomes and



enable CARIC to enhance its programming and renew its governance.

This document outlines CARIC's plan for its fourth year of operations. It is based on scenario 2 with provisions for work under scenario 3. In other words, efforts will be focused on effectively executing CARIC operations and either implementing or preparing the advent of an extended CARIC mandate.

1.2 Mission

CARIC's mission is to generate and foster dialogue and collaboration between players in the aerospace industry and to provide financial support in launching industry-led R&TD projects in partnership with these players.

More specifically, the outcomes that CARIC pursue are:

- Delivering innovation to foster competitiveness
- Strengthening the network to create synergy coast-to-coast
- Educating personnel to ensure sustainability

Depending on the Innovation Agenda roll-out, CARIC could develop new activities and contribute significantly to new initiatives linked to the agenda so as to pursue positive outcomes for the aerospace community of stakeholders and more broadly, for the Canadian innovation ecosystem.

1.3 Strategy

As stated in the 2016-2017 Corporate Plan, CARIC's intention was to develop a longer-term strategy which would address various dimensions of its mandate. CARIC was to work with the Board of directors to define goals beyond year five and to secure a long-term partnership with Innovation, Science and Economic Development (ISED). This was accomplished.

In addition, each regional office contributes to the development of this Corporate Plan. Priorities were discussed during a team meeting on the 16th of November in Ottawa and have been taken into consideration.

In March 2016, the CARIC Board identified 9 strategic guiding principles to better meet its mission in the years to come:

1. TRENDS



Identify key drivers of competitiveness for the Canadian industry and design the program accordingly.

In partnership with the AIAC and GARDN, CARIC has developed a strategy which aims to lead to the identification of key S&T drivers starting in 2017-18.

2. NETWORK

Build an all-inclusive and cohesive network across Canada to tap into the entire pool of expertise available.

CARIC intends to further expand and strengthen its networks across Canada and encourage inter-regional collaborations.

3. SMEs

Provide specific support to SMEs, a key element of prosperity for Canada.

CARIC will seek initiatives that directly support the R&D requirements of SMEs in their pursuit of global value chains.

4. SERVICE OFFER

Fulfill all members' R&D needs by using existing programs and any other appropriate R&D funding vehicle. Act as the front door to R&D services in aerospace.

CARIC will familiarize itself with other national and provincial programs to offer its members when appropriate.

5. INTERSECTORAL

Reach out to other scientific and technology sectors, especially through its industry, associations, and academic leaders, where mutually beneficial partnerships and collaborations may emerge.

CARIC will reach out to organizations from other sectors for mutual benefits. Significant opportunities exist as a result of the Apogee program and new ones will certainly emerge from the implementation of the Innovation Agenda, including its clean technology dimensions.

6. INTERNATIONAL

Stimulate international collaborative R&D to link partners and supply chains.



CARIC will continue to raise the international profile of the network and to ensure the global positioning of the Canadian innovation ecosystem.

7. COLLABORATION

Collaborate with other networks to benefit from new tools; participate in a network of networks.

CARIC's strategy will be informed in great part through its work on its mapping of key S&T drivers and the roll-out of the Innovation Agenda.

8. RESOURCES

Tap into other sources of funding to support its plan.

CARIC will explore possibilities with other governments and with respect to foreign direct investments.

9. METRICS

Define performance metrics to monitor progress.

CARIC will further explore how to measure its impact with respects to supporting talent, technology and business development.

In addition to these basic principles, the decision has been made to support the aerospace defence market as a complement to the commercial aerospace market. Opportunities linked to large defence procurement projects will be pursued.

1.4 New Perspectives

Along with the strategic orientations based on the 9 principles that guide CARIC's activity, the Board and staff worked together to define the vision for its next phase of operation. The experience gathered during the first three years of operations led to the identification of gaps in the aerospace innovation system and to the proposal of an extended programming that may be possible to implement in the context of the Innovation Agenda. A proposal to that effect was made in collaboration with the AIAC as part of its broader recommendations to support innovation for the industry. The proposal includes the following highlights:



1. A Blue-Sky Research Program

To investigate high-risk, long-term and high-payoff technological developments. This program would not oblige industrial partners to commit financial resources. This program would foster exchange and ideas between highly qualified personnel (HQP) in industry and in academia.

2. A mini-TDP Program

To fulfil the requirements for relatively low-scale Technology Demonstration Projects (TDP), with a scope of a few millions of dollars. This would complement the current and very valuable but high-scale TDP program. This is clear evidence of a large demand for projects of this magnitude, both from SMEs as well as larger companies.

3. The Aero-Connect Program

This program aims at creating new connections between academic institutions and companies. Having financed a few of these by tapping into our membership revenues, it is clear that there is a demand for this program. Our ability to finance them from membership revenues is very limited and it is requested to finance them within our Project funding envelope.

4. Strategic Studies

At the moment, there is no funding available to carry out strategic studies to better align our research priorities and programs.

5. Joining Forces with GARDN

It has become obvious that a closer relationship between CARIC and the Green Aviation Research & Development Network (GARDN) offers promising perspectives.

Strengthening ties means both organizations can address government concerns about innovation and sustainable development technologies more directly. As both industry and academia agree on the added value of collaborative aerospace research from CARIC and GARDN, joining two world-class Canadian aerospace networks will inevitably ensure synergy and long-term competitiveness. Should an integrated approach proceed, a joint aerospace network would reinforce and complete CARIC's actual mission, by greening aerospace to ensure durability.



The extension of CARIC's work by building on GARDN's achievements is currently under evaluation. Consequently, GARDN's work could permeate CARIC's development priorities in the near future and shape the evolution of additional funding. Although this anticipated approach does not currently appear in the guiding principles cited above nor in the Contribution Agreement, it will be a key focus for the upcoming year and an important priority for both organizations.



2 2017–2018 Corporate Plan

2.1 Objectives, Strategy, New Perspectives for the Upcoming Fiscal Year

As for the past year, efforts for 2017-2018 will be concentrated on the achievement of operational excellence, taking into account the nine principles defined above. This means:

- Expanding the portfolio of industry-driven projects
- Engaging academic institutions strongly for an active participation
- Fostering collaboration across Canada's industrial sector and innovation ecosystem
- Leveraging funding from industry and other sources
- Engaging federal and provincial government levels to diversify funding sources and gain visibility and support
- Linking with Canadian and international S&T organizations and consortia to expand the network and initiate joint research projects
- Supporting the delivery of international projects
- Expanding the network by recruiting new research and industry organizations across Canada.

2.2 Summary of Planned Activities and Anticipated Results

The following planned activities are based on the aforementioned scenario 2. The items marked with an asterisk won't be possible under scenario 1. Hence, for the next fiscal year and assuming that CARIC gets funding to pursue at the current operating rate of \$6 million per year, the following actions will be taken:

PLANNED ACTIVITIES	ANTICIPATED RESULTS
Hold Committees of the Board meetings	2 Board of Directors meetings 4 Executive Committee meetings 1 General Assembly meeting
Hold regional workshops, network meetings and events	15 Regional workshops and events
Participate in outreach events	Main targeted events:



PLANNED ACTIVITIES	ANTICIPATED RESULTS
	National CARIC Forum, CANSEC, AIAC Summit, ADSE, Le Bourget, DEFSEC, Best Defence.
CARIC National Forum	Hold CARIC National Forum, prior to ADSE and CBAA in Vancouver (August 2017)
Select and launch CARIC National projects*	10 Approved regional projects
International Projects*	Sign at least one new project with an international partner Discuss collaboration with at least one partner in the USA
Brokering Services*	Approve at least one project under a program different than the CARIC Program
Intersectoral opportunities*	Approve at least one project co-funded with a consortium in another field than aerospace
Defence market and procurement	Sign at least one new project linked to the defence market
Recruit members from industry and academia	12 targeted new members
Performance indicators	<ul style="list-style-type: none"> • Implement the current measurement system • Document CARIC success stories, by showcasing 2 or 3 projects
Identify new sources of funding	<ul style="list-style-type: none"> • Launch discussions with other national organizations to promote partnerships with other provinces • Sign at least 1 agreement with a new funding partner • Approve at least 1 project supported with a new partner
CARIC's National S&T Strategy	<ul style="list-style-type: none"> • Launch a national exercise to map key S&T priorities • Deliver an interim report on the subject by the end of the fiscal year 2017-2018
CARIC/CASI collaboration	<ul style="list-style-type: none"> • Define the terms of the collaboration



PLANNED ACTIVITIES	ANTICIPATED RESULTS
	<ul style="list-style-type: none"> Participate in the 2017 CASI Conference
Communications Plan	<ul style="list-style-type: none"> Deploy 90% of the 2017-2018 communications plan Review and produce new promotional material for CARIC

2.3 Planned Activities in Light of an Extended CARIC Program (Scenario 3)

Provided an extended CARIC programming is possible, the following priority activities may take place. If Extended CARIC (scenario 3) is not confirmed, work on these items will take place to prepare approval.

OBJECTIVES	ANTICIPATED RESULTS
Contribution Agreement	Negotiate and sign the new Corporate Agreement with ISED
Blue-Sky Program	<ul style="list-style-type: none"> Define the parameters of the program Determine the way to generate and evaluate projects Discuss with NSERC how to leverage respective engagements Approve at least one project
Mini-TDP Program	<ul style="list-style-type: none"> Define the parameters of the program Determine the way to generate and evaluate projects Approve at least one project
Green Aviation Program	<ul style="list-style-type: none"> Define, in conjunction with GARDN, the parameters of a Green Aviation Program
Governance	<ul style="list-style-type: none"> Determine how to best join GARDN and CARIC together Define the new CARIC governance Implement the new CARIC governance
Federal Government Innovation Agenda	<ul style="list-style-type: none"> Participate in the development of at least one initiative resulting from the Innovation Agenda



2.4 Statement of Planned Expenditures for CARIC Operations and Collaborative R&TD Projects for the Upcoming Fiscal Year, by Source of Funding

The attached budget provides the detailed planned expenditures for the 2017-2018 fiscal year for both operations and collaborative R&TD projects.

For operations, an allocation of \$2.1 million is requested for fiscal year 2017-2018. The detailed budget is provided in section 2.7.1.

2.5 Risk Assessment and Mitigation Strategies

The following risks apply to the aforementioned scenarios 2 and 3, which imply the same funding levels are renewed or enhanced.

RISK ASSESSMENT	MITIGATION STRATEGIES
Atlantic - Dispersed efforts lead to difficulties of mobilization and lack of project emergence	This risk remains high. Execute a focused regional engagement plan for decision makers with industry, government, regional associations and academia, and careful nurturing of emerging projects.
Quebec - Decrease of the provincial financial support	Very low. The Quebec government has increased CRIAQ's budget.
Ontario - Lack of projects led by the Ontarian community, in comparison to Ontario's participation in CARIC program	Medium risk. Our new regional director is using a more proactive approach to raise projects. Close work is planned with OAC R&T Committee leaders.
Central - Lack of identification of technological development opportunities with new partners	Medium risk. The number of partners within the high-tech community involved in aerospace is relatively small. Organize events aiming to stimulate new connections and opportunities to exploit the available talent and assets to the greatest extent possible.



RISK ASSESSMENT	MITIGATION STRATEGIES
Pacific - Lack of engagement of Alberta-based stakeholders, industry and academia	High risk. Connect with leaders from Alberta and develop a project-based approach to build aerospace R&D new possibilities. Attempts have led to limited success. CARIC will participate in ConvergeX in Alberta in February so as to assess opportunities to expand CARIC's footprint.
Lack of connections between scientific and technological organizations in other sectors (ICT, Electrical Power, etc.) and aerospace industry users to support intersectoral projects	Medium risk. Engage partner entities, proactively, to identify key leaders in communities of interest and jointly develop connecting activities.
Misalignment of regions with the Canadian Aerospace Technology Roadmap and priorities	Low risk. Ensure strong links and liaison between Ottawa office with AIAC Technology Committee and CARIC head office and Regional Directors
Resources constraints for standing up of the Extended CARIC (if approved) in addition to running the current program	Medium risk. The strategic importance of this being high, priority will be assigned to this topic. Time freed from this year's strategic planning should suffice to perform these tasks.
Revisal of governance due to the new CARIC-GARDN proximity	Low risk. The two networks will establish ways to effectively join forces, with the advent of Extended CARIC.
Ramp-up of the new programs under Extended CARIC (if approved)	Medium risk. If Extended CARIC is approved as requested, there is a risk that the Blue-Sky and mini-TDP programs do not spend their full allocation in the first year. The parameters for these programs are being defined; the team is well aware of their intent and should be ready to solicit proposals as soon as approval is granted.



2.6 Summary of Ongoing Performance Monitoring Strategies

CARIC's performance will be judged on the basis of its operating efficiency and the achievement planned activities. Particular emphasis will be placed on the following ongoing performance indicators:

- Number of CARIC members - Industry / Academia
- Number of CARIC members - by Region
- Overall attendance to CARIC activities
- Number of proposals submitted for evaluation - Low-TRL projects / Mid-TRL projects / International projects
- Number of projects selected - Low-TRL projects / Mid-TRL projects / International projects
- Monetary value of projects selected (CARIC's part) - Low-TRL projects / Mid-TRL projects / International projects
- Monetary value of projects selected (Industry's part) - Low-TRL projects / Mid-TRL projects / International projects
- Leverages achieved of projects selected - Low-TRL projects / Mid-TRL projects / International projects
- Number of Partners involved in projects selected (Industrial - Academia) by Region
- Number of the Academia involved in projects selected
- Amount of funding for selected projects - Academia
- Amount of funding for selected projects - SMEs
- Amount disbursed during fiscal year for CARIC's projects: projects/ Mid-TRL projects / International projects
- Number and monetary value of projects leading to higher TRL activities
- Number of students involved / trained
- Number of filed or granted patent applications

2.7 Statement of CARIC's Annual Cashflow Requirements for the Upcoming Fiscal Year (Amended on March 1st, 2018)

Operations: \$2 million

Projects: \$4.7 million (according to current Contribution Agreement)

± \$6.7 million (scenario 2, which implies "bridge funding")



These amounts will be higher if scenario 3 unfolds and CARIC can enhance its program.

2.7.1 2017-2018 Budget (Amended on March 1st, 2018)

	Administration & Animation Network animation	Research projects
Revenues		
ISED Canada - Administrative fees	\$2,000,000	
ISED Canada - TRL 1-5 projects		\$3,700,000
ISED Canada - INTL/CANNAPE projects		\$1,000,000
Membership - Industries	\$81,000	\$76,999
Membership - Universities and research centres	\$37,500	\$62,500
Special events (Workshops, Forum)	\$54,342	
Available cash balance (Membership)		\$335,668
Interest Income		
Revenues - TOTAL	\$2,172,842	\$5,175,167
Expenses		
Head office: Personnel and administrative charges (+ head office costs)	\$959,175	\$ -
Ottawa office - Personnel and administrative charges	\$161,741	\$ -
Regional offices - Personnel and administrative charges	\$459,680	\$ -
Support, services and other expenses		
Telecommunication and other supplies	\$30,000	
Travel and representation expenses	\$155,000	
Audit, accounting and legal (IP agreement and others)	\$45,000	
Consultants (Scientific, technical advisor and others)	\$20,000	
Support, services and other expenses - TOTAL	\$250,000	\$ -
Liaison and network activities		
Workshops and other events	\$95,000	
Forum	\$121,488	
AGM, Board of Directors and other meetings	\$15,000	
Tools (Web platform, website & online network community, database)	\$33,000	
Communication, sponsorship, advertisement and promotion expenses	\$45,000	
Simultaneous translation and document translations	\$20,000	



	Administration & Animation Network animation	Research projects
Liaison and network activities - TOTAL	\$329,488	\$ -
Research Programs		
SPENT - Research projects - TRL 1-5		\$3,998,240
SPENT - Research projects - INTL/CANNAPE		\$893,899
Research support projects and program, special projects		\$283,028
Projects evaluation		
Research Programs (Spent) - TOTAL	\$ -	\$5,175,167
TOTAL Expenses	\$2,160,084	\$5,175,167
Total eligible expenses	\$1,995,177	\$4,892,139
Balance	\$12,759	\$ (0)
Differed liabilities	\$ -	\$ -
Carry-over next year	\$12,759	\$ (0)
Non reclaim taxes (to cover with private revenue)	\$118,419	

2.8 Statement of all Amounts Owing to the Crown Pursuant to Legislation, this Agreement, any Other Agreement or any Other Authority

Interest income: \$17,326 (December 31, 2016)

\$20,000 (expected by the end of the fiscal year)

