



# MAKING AN **IMPACT**

ANNUAL REPORT 2013-14

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*Taking high definition to a whole new depth - page 18*

# MESSAGE FROM THE CHAIR

At the Research & Development Corporation, we are making an impact on Newfoundland and Labrador. In fulfilling our mandate to enhance



the focus, quantity, quality and relevance of R&D in the Province we are generating a “significant and important impact on R&D, productivity and innovation” (Memorial University economist Dr. Wade Locke, 2013).

As we pursue our mandate, our activities are guided by the Provincial Government’s strategic

direction to grow R&D capacity and foster a knowledge-based economy in Newfoundland and Labrador. Through our suite of specialized programs, we have invested in over 500 R&D projects that are impacting R&D by developing highly-qualified people, cutting edge research, and world-class infrastructure.

We can clearly see the positive impact of R&D on our clients, such as Dr. Adam Gobi of SULIS Subsea Corporation (formerly Go Beyond Consulting Inc.) (page 18), Brent Chaffey of New World Dairy (page 23) and Dr. Sam Bromley of Whitecap Scientific (page 24). With RDC support, these innovative individuals are harnessing the power of R&D to realize new economic opportunities and transform their businesses.

We can also see the impact of R&D on the Province’s people and economy. Scientific breakthroughs in genetics have saved lives in our province (page 12), while enhanced oil recovery research may help unlock further prosperity from our valuable offshore oil resources (page 13).

This Annual Report concludes the reporting period for our 2011-2014 Strategic Plan. Therefore, it includes our results from last year as well as the progress we made against our 3-year goals of building a strong foundation for R&D, fostering R&D in priority sectors, and growing business investment in R&D.

I am pleased to report that we achieved our goals and look forward to delivering further impacts in the years ahead. We remain focused on our 6-year Mission, established in 2011, and have developed an ambitious Strategic Plan that will guide our activities over the next three years.

As Chair of RDC, and on behalf of the Board of Directors, I am pleased to present RDC’s Annual Report. This plan has been developed in accordance with the legislative requirements of the Transparency and Accountability Act, and in consideration of the strategic directions of the Government of Newfoundland and Labrador. My signature indicates the Board’s full accountability for the strategic directions of the organization.

Fraser H. Edison

A handwritten signature in black ink, appearing to read 'Fraser H. Edison', written over a light grey horizontal line.

Chair  
Research & Development Corporation



*Scientific breakthroughs in genetics have saved lives in our province – page 12*

# RDC'S BOARD OF DIRECTORS

RDC's Board of Directors includes experts from the province of Newfoundland and Labrador and around the world. Directors are experienced in a wide range of R&D activities and represent the private sector, post-secondary educational institutions and the Provincial Government.

## FRASER H. EDISON, CHAIR



Fraser H. Edison, President and CEO of Rutter Inc., has extensive management experience in the finance, construction, oil and gas, and transportation industries. He previously led ConPro Group Limited in a joint venture to build the Gravity Based Structure for the Hibernia Project and subsequently the Terra Nova Floating Production and Offloading System. Mr. Edison has served as President of the St. John's Board of Trade and as the Chair of the Board for the St. John's International Airport Authority.

## BERNARD COLLINS, B.BA.



Mr. Collins is the current chairman of PF Collins International Trade Solutions, an internationally recognized expert in trade and logistics solutions for East Coast oil and gas operations. He possesses extensive knowledge of the petroleum industry, ranging from freight to offshore drilling. Mr. Collins is also an award-winning entrepreneur, having been named Entrepreneur of the Year by Memorial University's Gardiner Centre in 2012; twice named as one of the top 50 Atlantic CEOs by Atlantic Business Magazine; and named the 2005 recipient of NOIA's Outstanding Contribution Award.

## ALAN BROWN, M.SC., B.SC., P.ENG., VICE-CHAIR



Alan Brown retired from the oil and gas business after many years in technical, operational and business leadership roles around the globe. Most recently he has served as Vice-President, East Coast Canada with Suncor Energy Inc. (formerly Petro-Canada). He now lives in Aberdeen, Scotland, where he maintains contact with a number of energy industry players while endeavouring to support RDC and provincial efforts to grow globally competitive technical and business capacity.

## GARY DINN, P. ENG.



Gary Dinn is well versed in the area of ocean technology, bringing over 25 years of experience from the private sector in a variety of roles including consultant, engineer, corporate director and manager. Mr. Dinn is currently the Vice President of PanGeo Subsea, a company responsible for leading edge technical advances in subsea acoustics, geotechniques, and enhanced seismic developments.

**LAURIER L. SCHRAMM, PH.D., B.SC. (HON.),  
P.CHEM., C. DIR., FCIC**



Dr. Laurier Schramm is an award winning proponent for best practices in university-industry R&D collaborations. Dr. Schramm has over 30 years of experience in R&D management, having worked in each of the industry, non-profit, university, and government sectors. He is currently the President and CEO of the Saskatchewan Research Council.

**TERRY-LYNN YOUNG, PH.D., M.SC., B.SC. (HON.)**



Dr. Terry-Lynn Young is a molecular geneticist, internationally recognized for gene discovery and translation research into medically important conditions prevalent in Newfoundland and Labrador. She is full professor in the Faculty of Medicine at Memorial University, a laboratory scientist with Eastern Health, and a member of Governing Council with the Canadian Institutes of Health Research (CIHR).

**BRIAN VEITCH, DR. TECH., P. ENG.**



Dr. Brian Veitch is an internationally-recognized expert on marine transport, offshore safety, and testing and evaluation of advanced ocean technologies. He is currently a professor with the Faculty of Engineering and Applied Science at Memorial University. Dr. Veitch is a member of the Society of Naval Architects and Marine Engineers as well as the Royal Institution of Naval Architects.

**GLENN JANES, M.SC., MBA, B.SC., C.DIR.  
(NON-VOTING DIRECTOR)**



Glenn Janes is a Rhodes Scholar and the CEO of the Research & Development Corporation. He has held a range of progressively senior positions with companies involved in research, development and technology commercialization processes, including most recently with the Imperial Innovations Group plc in London, England.

**MARK PLOUGHMAN, B.ENG, MBA  
(NON-VOTING DIRECTOR)**



Mark Ploughman has spent over 25 years in the manufacturing sector. He has extensive experience in quality assurance, operations management, human resource management and new product development. Mr. Ploughman completed both his bachelor's degree in engineering and graduate degree in business administration at Memorial University. Mr. Ploughman is currently the

Assistant Deputy Minister with the Department of Innovation, Business and Rural Development.

# RDC OVERVIEW

In 2009, the Government of Newfoundland and Labrador created RDC as “a groundbreaking initiative to develop and lead a provincial R&D strategy to build a stronger knowledge-based economy and plot a course toward sustained prosperity” (*Speech from the Throne 2008*).

## MANDATE

The mandate of RDC is to “strengthen the focus, quantity, quality and relevance of research and development undertaken in the province and elsewhere for the long-term economic benefit of the province” (*Research and Development Council Act*).

## VISION

R&D fuels innovation and creates economic growth and prosperity in Newfoundland and Labrador.

## MISSION

By March 31<sup>st</sup>, 2017, the Research & Development Corporation (RDC) will have increased the capacity of business, academic, and government clients to perform and utilize research and development in priority areas towards the creation of long-term economic benefits for the province. This mission guides RDC in the delivery of its mandate and directly contributes to advancing Government’s broader strategic direction of increasing R&D leadership and capacity in the province.

## LINES OF BUSINESS

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### POLICY AND GOVERNMENT COORDINATION

RDC is responsible for providing advice on R&D policy and working collaboratively with entities across government to advance R&D in Newfoundland and Labrador.

### ADVOCACY AND COOPERATION WITH CLIENT GROUPS

RDC establishes and promotes collaboration between businesses, academia and government to grow R&D activity.

### RDC PROGRAMS

RDC has a suite of commercial, non-commercial and priority sector programs to support R&D. These programs reflect RDC's strategy of investing in people, infrastructure and research. These programs are regularly evaluated to ensure they are achieving objectives.

### R&D ASSET INVESTMENT

RDC invests in assets to expand the capacity to perform world-class R&D in the province. This includes actively pursuing the development of RDC-owned labs, test sites and facilities, such as the Atmospheric Corrosion Test Site announced in June 2014.

### STAFF



**RDC employs 37 staff**  
*(21 female and 16 male)*

### PRIORITY SECTORS



Energy



Mining/Minerals



Ocean Technology

## RDC PROGRAMS

TARGET	PROGRAM	DESCRIPTION	MAXIMUM RDC CONTRIBUTION
BUSINESS	R&D Vouchers	Helps businesses gain access to scientific and technical equipment, expertise, and research facilities	\$15,000
	R&D Proof of Concept	Increases the technical capacity of businesses to perform R&D	\$250,000
	Industrial R&D Fellowships	Enables businesses to hire post-doctoral researchers	\$60,000
ACADEMIC	Collaborative R&D	Supports academic-led collaborative R&D projects with industry and government partners	\$800,000
	IgniteR&D	Provides funding for new researchers	\$100,000
	LeverageR&D	Strengthens R&D capacity through leveraging private and non-provincial public funding sources	\$500,000
	Research Inspired Student Enrichment Awards (RISE)	Exposes high school students to research activities at an early stage in their education	\$100,000 Annually (Maximum of 15 Awards)
PRIORITY SECTORS	ArcticTECH	Advances R&D in support of the development of Arctic technologies	\$500,000
	GeoEXPLORE	Enhances geoscience R&D capacity in support of mineral and petroleum exploration and development	Academia: \$250,000 Industry: \$750,000
	PetroleumR&D Accelerator	Strengthens R&D in support of petroleum exploration, development and operations	\$5,000,000
	Ocean Industries Student Research Award (OISRA)	Attracts and develops world-class research talent in ocean industries	Undergraduate: \$7,500 Graduate: \$40,000 (MA) \$90,000 (PhD)

\* Complete program information available online at [RDC.org/funding](http://RDC.org/funding)

# IMPACT ON COLLABORATION

RDC is committed to strengthening R&D collaboration among businesses, academia and government. These collaborations provide RDC with a greater understanding of the R&D activities occurring in the province and enhance our efforts to attract leading researchers, undertake new research, and build world class infrastructure. These relationships are essential for generating long-term economic prosperity in the province.

## **BUSINESS**

RDC works with business partners to increase their R&D capacity and deliver innovative projects. To achieve this, RDC offers a full suite of funding programs and targeted initiatives aimed at enhancing the quality and quantity of business and collaborative R&D.

## **ACADEMIA**

RDC works with academia to identify R&D projects, improve R&D infrastructure and equipment, and develop highly-qualified researchers and students. RDC also works to facilitate local, national, and international collaborative R&D projects.

## **GOVERNMENT**

RDC works with government partners to develop R&D policy and advance strategic initiatives that maximize potential long-term economic benefits. Collaboration with the federal government often includes co-investing in R&D projects.

RDC's focus on collaboration is making an impact. In 2013-14, RDC supported 78 projects that included 388 individual collaborators from academia, government or business. This collaborative approach to increasing R&D also aligns with the Provincial Government's broader strategic directions of increasing R&D capacity and leadership in the province to build a strong knowledge-based economy.

*In 2013-14, RDC supported 78 projects that included 388 individual collaborators from academia, government or business.*

# IMPACT ON THE ECONOMY

## SIGNIFICANT IMPACT ON THE PROVINCIAL ECONOMY

In 2013, RDC commissioned Wade Locke Economic Consulting to prepare an independent analysis of the economic impacts of RDC. Dr. Locke's report concluded that "overall, RDC has had a significant and important impact on R&D, productivity and innovation within Newfoundland and Labrador. It is clear that they have met their mandate."

Dr. Locke found that every dollar RDC invests generates:

- \$2.4 in total overall R&D project activity
- \$6 in inter-firm sales (business revenues)
- \$2.2 in income (profits and wages)
- \$0.2 in Provincial Government taxes

His analysis further determined that every million dollars invested by RDC results in 21 person years of employment.

## PREVENTING SUDDEN CARDIAC DEATH

**DESCRIPTION:** Memorial University's cardiac genetics research team have identified the gene responsible for ARVC (arrhythmogenic right ventricular cardiomyopathy), which can cause sudden cardiac death in people that may never have known they had this gene. Individuals can now have a cardiac defibrillator implanted to prevent sudden death.

**RDC INVESTMENT:** \$0.5 million

**LEVERAGE:** \$4.6 million

**ECONOMIC IMPACT:** \$40 million to \$360 million, representing the value of the 40 lives that have already been saved by a defibrillator firing.



*“Overall, RDC has had a significant and important impact on R&D, productivity and innovation within Newfoundland and Labrador. It is clear that they have met their mandate.” - Dr. Wade Locke*

*Photo: A Next Generation DNA Sequencing Platform has helped Dr. Terry-Lynn Young and her research team provide life-saving treatment to more than 100 Newfoundlanders and Labradorians.*

## FULL IMPACTS YET TO BE REALIZED

While Dr. Locke’s findings speak to RDC’s significant impact to date, the real prize of R&D is the application of new discoveries in the provincial economy to generate new businesses, create new products, and grow employment. Dr. Locke’s analysis highlighted this long-term potential, stating that “as impressive as these economic impacts are, they pale in comparison to the potential economic impacts that will be realized as RDC supported initiatives continue to improve innovation and productivity within the province over a longer term.”

Dr. Locke undertook a close examination of two R&D projects supported by RDC. One project has already had a direct impact on the lives of more than 40 residents of the province, and a second could extend the life of our offshore oil industry and generate new revenues for the Provincial Government.

### ENHANCED OIL RECOVERY RESEARCH

**DESCRIPTION:** The Hibernia Enhanced Oil Recovery (EOR) Laboratory at Memorial University houses state-of-the-art equipment that will allow researchers to perform enhanced oil recovery experiments under realistic reservoir conditions.

**RDC INVESTMENT:** \$1.6 million

**LEVERAGE:** \$13.6 million

**ECONOMIC IMPACT:** Potential to unlock 50-100 million barrels of oil and increase the value of output by \$5-10 billion. This would mean an additional \$2.1 - \$4.4 billion in royalties for the province.



**IMPACT**

ON  
R&D

RDC's impact has been achieved through a strong focus on achieving the key strategic issues established in its Strategic Plan 2011-2014. These issues are:

**BUILDING A STRONG FOUNDATION FOR R&D**

**GROWING BUSINESS INVESTMENT IN R&D**

**FOCUSING R&D IN PRIORITY SECTORS**

RDC has dedicated its effort to making an impact in these key areas. Over the course of the 2011-2014 Strategic Plan, RDC invested \$47.1 million in 350 R&D projects, leveraging \$107.8 million from other partners, including \$47.2 million from industry. These efforts are important for supporting Government's broader strategic directions of improving provincial R&D capacity and leadership to build a strong knowledge-based economy.

# BUILDING A STRONG FOUNDATION FOR R&D

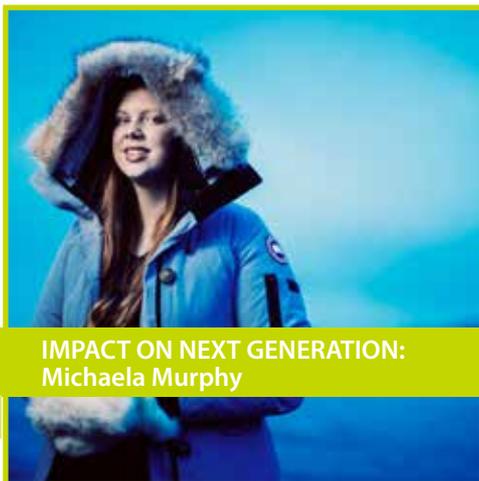
RDC has made a positive impact on the R&D foundation in the province by making targeted investments in highly-qualified people, world-class infrastructure and leading-edge research. These fundamental investments support a high-performing R&D environment that consistently solves technical challenges and translates them into economic activity.

A key part of RDC's efforts has been the design

and delivery of its suite of 11 programs, with each program targeting commercial or non-commercial clients and increasing R&D in RDC's priority sectors of energy, mining and minerals, and ocean technology.

- In 2013-14, RDC invested \$11.7 million in 70 infrastructure projects, with total project costs of \$34.6 million.

- From 2011-2014, RDC funded projects supported 218 researchers and 220 students.
- RDC has funded 103 projects across its 3 programs focused on supporting highly-qualified people: Research Inspired Student Enrichment Awards; Ocean Industries Student Research Awards; and the Industrial R&D Fellowship.



**IMPACT ON NEXT GENERATION:**  
Michaela Murphy



**IMPACT ON NEW COMPANIES:**  
SULIS Subsea Corporation  
(formerly Go Beyond Consulting Inc.)



**IMPACT ON CAPACITY:**  
Tools, Equipment or Infrastructure

# R&D AWARDS THAT TAKE YOU PLACES

Michaela Murphy has places to go, thermodynamic properties to see. Michaela was awarded a 2013 RISE award that took her to the Arctic with the Students on Ice program. Not only did Michaela explore the eastern Canadian Arctic and western Greenland by ship and on land, she was accompanied and mentored by scientists, paleontologists, oceanographers, botanists, bird experts, geologists, a glaciologist and more. It's an R&D learning opportunity perfectly suited to Newfoundland and Labrador's harsh environment opportunities.

A strong foundation for research and development requires a supportive environment for those performing R&D. At RDC we believe in making investments today to support a generation of R&D performers tomorrow. RDC has programs designed specifically to support future R&D performers who are currently enrolled in high school, undergraduate studies or graduate studies.



# TAKING HIGH DEFINITION TO A WHOLE NEW DEPTH



For Adam Gobi, the final frontier is the unexplored ocean. His vision is to develop underwater machine vision technology that can boldly go where no subsea camera equipment has gone before – and do what no camera software has done.

RDC invested in Mr. Gobi's Mount Pearl based start-up, SULIS Subsea Corporation, to help develop a subsea camera and software system capable of analyzing and automatically counting organisms such as crab, starfish and sea cucumbers. The goal is to extend autonomous missions and reduce the amount of time required for image-gathering in harsh environments.

Building on the success of this system and his previous work with James Cameron's Deepsea Challenger, Mr. Gobi subsequently landed a seven-figure contract with Schmidt Ocean Institute (SOI), to design and develop an extensive line of imaging systems for N11k, the world's most advanced robotic undersea research vehicle. For Mr. Gobi this is just the beginning. With three engineers hired and a 15,000-litre optics tank constructed, he already has plans to develop an off-the-shelf 3-D, HD subsea camera for commercial use. His ultimate goal: to help facilitate the exploration of the 95 per cent of the ocean that has never been seen by human eyes.



# THERE'S A TOOL FOR THAT

R&D performers need tools. Tools, equipment and infrastructure help R&D performers optimize efficiency, increase product offerings, improve knowledge and enhance competitive advantage. In the right hands, R&D tools can improve R&D performance and enhance outcomes.

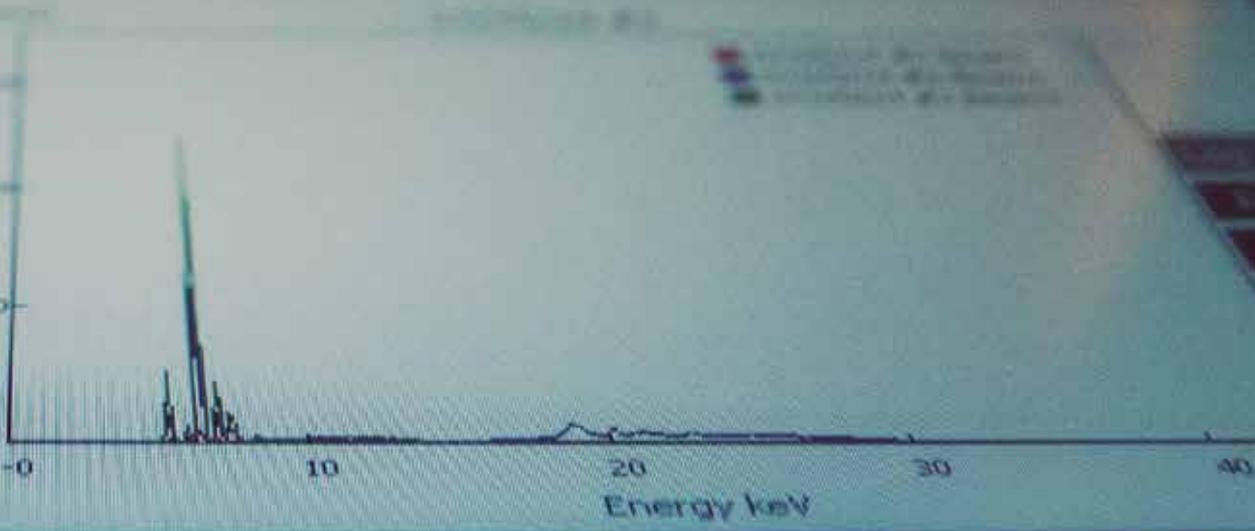
For geologist Stephen Piercey, the ultimate field-based analytical tool is a portable x-ray fluorescence (p-XRF) spectrometer. It's a device the size of a bread box that permits real-time chemical analysis of rocks, soils, minerals and ores in the field or in the workplace.

Dr. Piercey and his researchers are putting the spectrometer through the paces, developing calibrations that will improve its ability to determine exact concentrations of minerals in ore, or contaminants in soil, or even rare elements in high-tech metals. With the new device, all this work can be carried out in the field. The result is significant cost and time savings for Newfoundland and Labrador mineral exploration or site remediation and greater opportunities for discovery. It's an R&D investment that works, providing results that really measure up.



Ca	24.8	0.5
Ni	3891	14
Cu	21	3
Zn	31.0	1.1
Pb	3.5	0.8

Beam #3: 36 / 180 sec test



# GROWING BUSINESS INVESTMENT IN R&D

One of RDC's main priorities is to increase the level of business investment in R&D in the province to match the higher levels achieved in leading national and international jurisdictions. The world's most innovative economies are defined by high business investment in R&D, as their businesses are able to rapidly realize the value of new discoveries and transform them into economic opportunities.

- In 2013-2014, RDC's commercial R&D project approvals exceeded non-commercial projects for the first time. This is a positive indicator of growing business investment in R&D.
- In 2013-14, 57 RDC projects had investment from businesses. RDC and business partners are each investing \$10 million in these projects, with total costs of \$34 million.
- In 2013-14, 78 projects supported R&D collaborations between business and academia or government partners. These projects supported 388 individual collaborators.



**IMPACT ON NEW OPPORTUNITIES:**  
New World Dairy



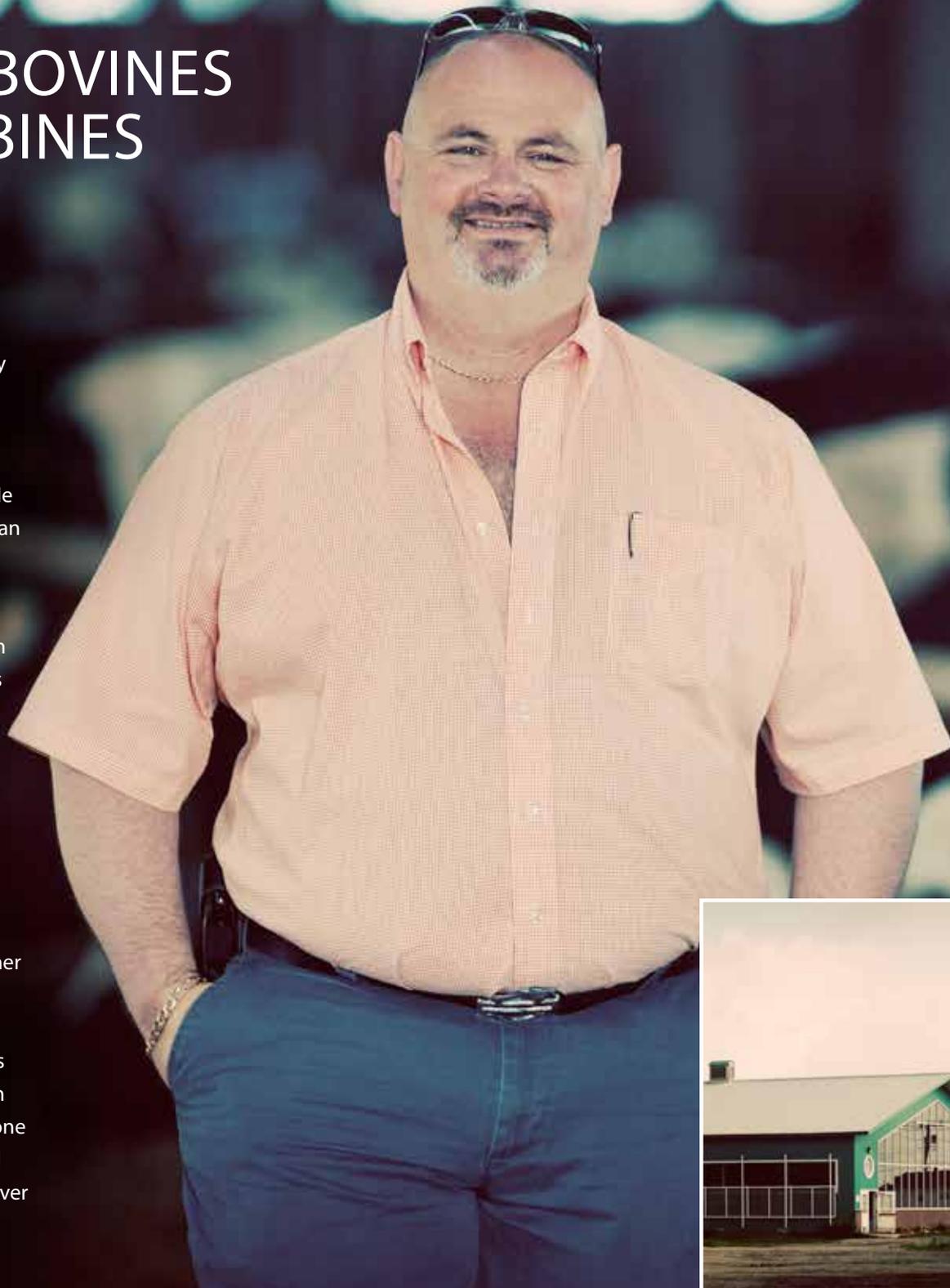
**IMPACT ON NEW TECHNOLOGY:**  
Whitecap Scientific Corporation

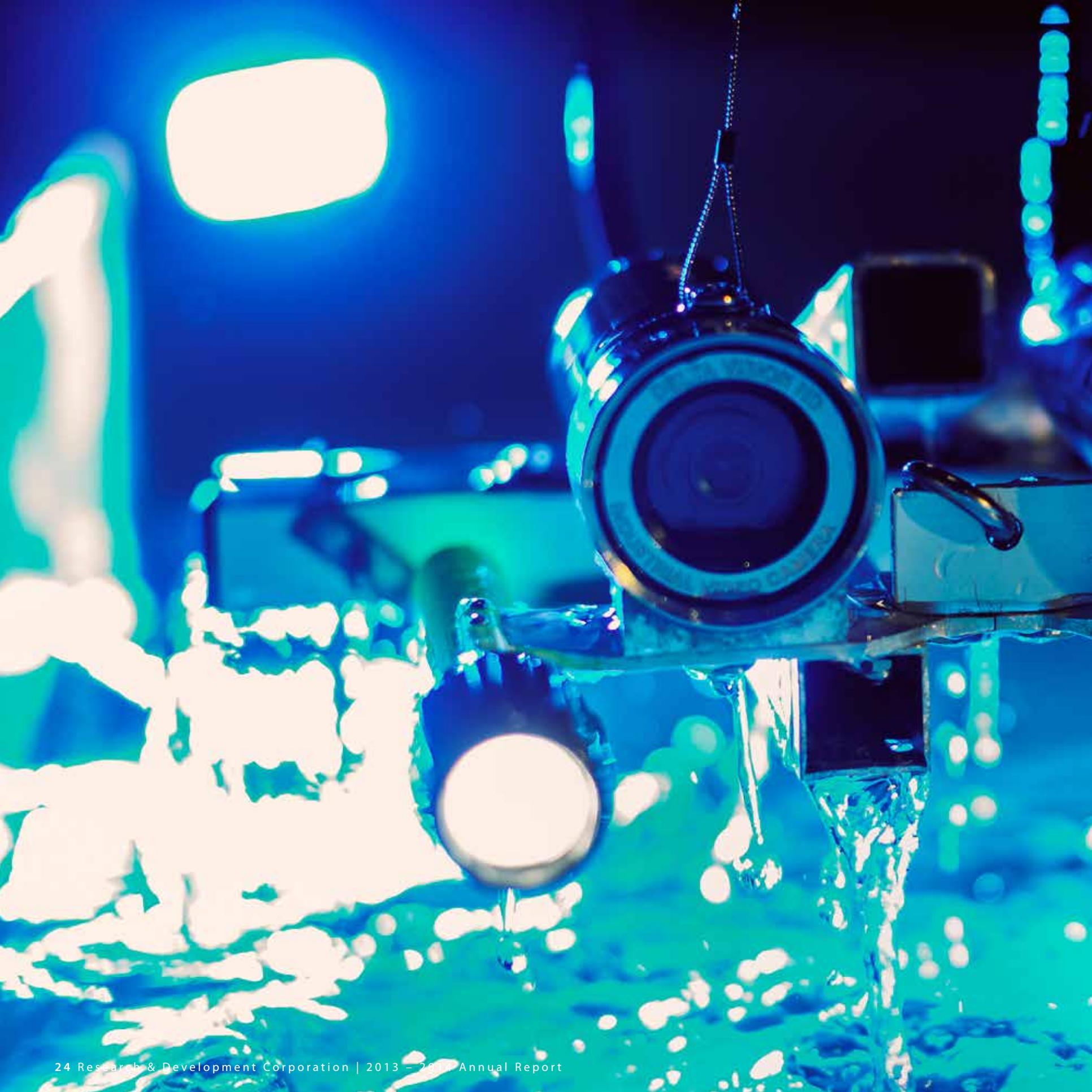
# TURNING BOVINES INTO TURBINES

Looking out across a giant anaerobic digester filled with the manure of 1200 cows, innovator Brent Chaffey sees one thing: potential. Mr. Chaffey is President of New World Dairy of St. David's, on the west coast of Newfoundland, one of the largest dairy farms in Canada. He is also an R&D performer who can see innovation working for his business, in unexpected ways.

Since 1989 Mr. Chaffey has been planning ways to turn his farm's supply of cow manure into electricity, better fertilizers and even bedding for his cows.

RDC supported New World Dairy with the development of technology that generates electricity from methane gas produced from manure and other organic waste generated at the farm. The result: green energy that replaces about 40,000 litres of furnace oil annually and even generates surplus energy that one day could be sold for additional revenue. Nothing on the farm ever smelled as sweet.





# WHITECAP'S WINDOW AT THE BOTTOM OF THE OCEAN



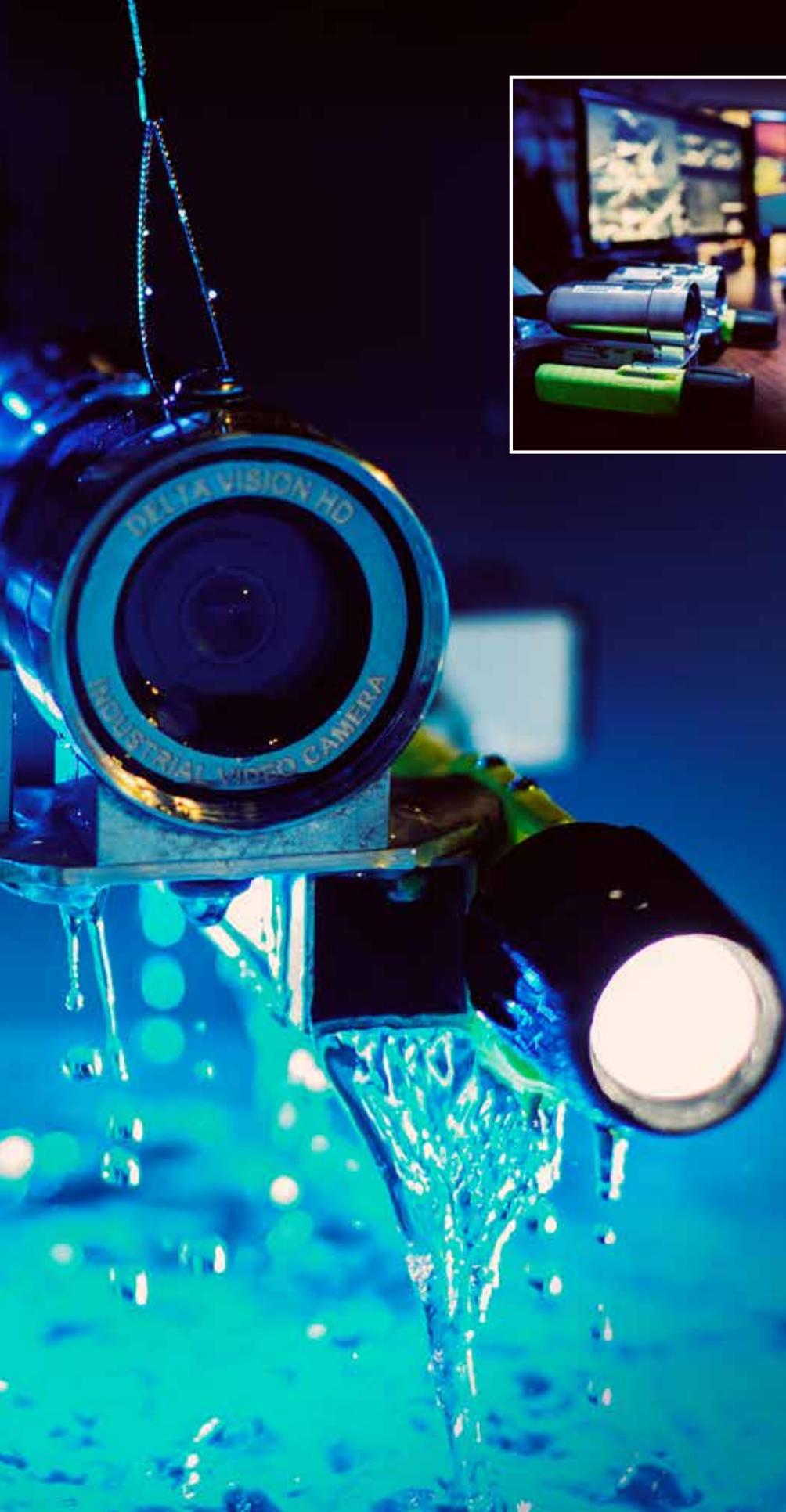
Seeing clearly underwater and manipulating a robotic arm is challenging work. Existing subsea technologies lacked depth of field capabilities or caused operators to get nauseous after a couple of hours of work.

With an investment from RDC's R&D Proof of Concept program, the team at Whitecap Scientific Corporation developed an entirely new approach. Their advanced vision system technology generates a real-time 3-D model that allows the operator to move his head to see around an object, just as you would in the real world.

It's like turning your computer monitor into a window at the bottom of the ocean, says Dr. Sam Bromley, Co-founder for Whitecap Scientific. The technology allows operators to keep their hands on the robotic arm and have a much greater sense of where their tools are in relation to objects they are trying to move.

The R&D project has generated significant interest from commercial clients but more importantly has led to a whole new line of product and service development. "This is forming the foundation for further advancements in the realm of live 3-D scanning," says Bromley.

As a result of the success of the advanced vision project, Whitecap Scientific has increased its technical staff from three to five and is now pursuing new projects with clients in the oil and gas sector. The future of this new subsea technology looks bright from all angles.



# FOCUSING R&D IN PRIORITY SECTORS

RDC strives to increase R&D in its priority sectors of energy, mining and minerals, and ocean technology to capitalize on the province's competitive strengths and maximize the potential for economic impact. While RDC primarily targets investments in priority sectors, we also identify and invest in other sectors that offer a high potential for important new discoveries and economic opportunities.

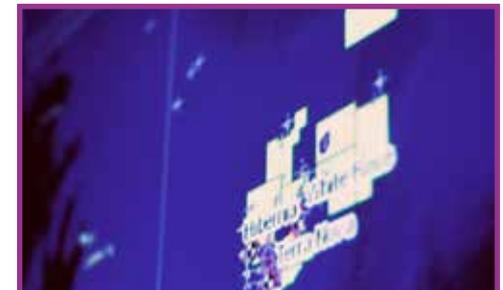
- RDC is investing \$10 million in 73 priority sector projects contracted in 2013-14, with total project costs of \$25.8 million.
- From 2011-2014, RDC contracted 198 priority sector projects and will invest \$30 million, with total project costs of \$95 million.
- From 2011-2014, RDC funded R&D projects led to 111 new products or processes, 53 new prototypes, and 7 new or expanded companies in priority sectors.



**IMPACT ON RESOURCE DEVELOPMENT:** Rambler Metals and Mining Canada Limited



**IMPACT ON NEW OPPORTUNITIES:** Canatec Associates International



**IMPACT ON NEW TECHNOLOGIES:** Integrated Informatics Inc.

# TAKING TECHNOLOGY TO THE DEPTHS OF THE EARTH



Rambler Metals and Mining Canada Limited has an additional 18 million tonnes of copper mineralization in the ground – but it's not in its mine plan. That's because it is yet to be proven as a mineral reserve, sitting below the massive sulfide reserve that Rambler is currently producing at a rate of about 25,000 tonnes of copper concentrate per year. The lower copper deposit, termed the Lower Footwall Zone, contains lower grade copper mineralization that, under the current production rate would be too costly to mine.

But Rambler has its eyes on a technology that could see the Lower Footwall economically mined, milled and shipped, extending the life of the existing mine and potentially creating significant additional

employment. Its plan is to explore the development of an underground pre-concentration dense media separation system – a method of reducing the amount of waste rock brought to the surface, and therefore reducing the cost of the mine.

The technology has been used above ground in open pit mining operations, but never in the tight confines of a mine 3,000 feet beneath the surface, and never with this rock type.

RDC is investing in Rambler's underground pre-concentration R&D project to help the company prove the technology will work. If the demonstration technology is successful at a broader scale, Rambler could untap significant new profit-making potential deep within its resources.

*Photos courtesy of Rambler Metals and Mining Canada Limited*

# RISING ABOVE THE ICE

Canatec Associates International had a crushing problem on its hands. The company had successfully developed harsh environment communications technology for the detection, analysis, forecasting and management of sea ice. The technology could transmit effectively at minus 40 degrees and demonstrated battery life better than anyone else in the business.

The trouble was the beacon housings were designed primarily to land and sit on arctic ice floes, not to survive crushing between floes, conditions that occur as the ice melts and refreezes in spring and fall.

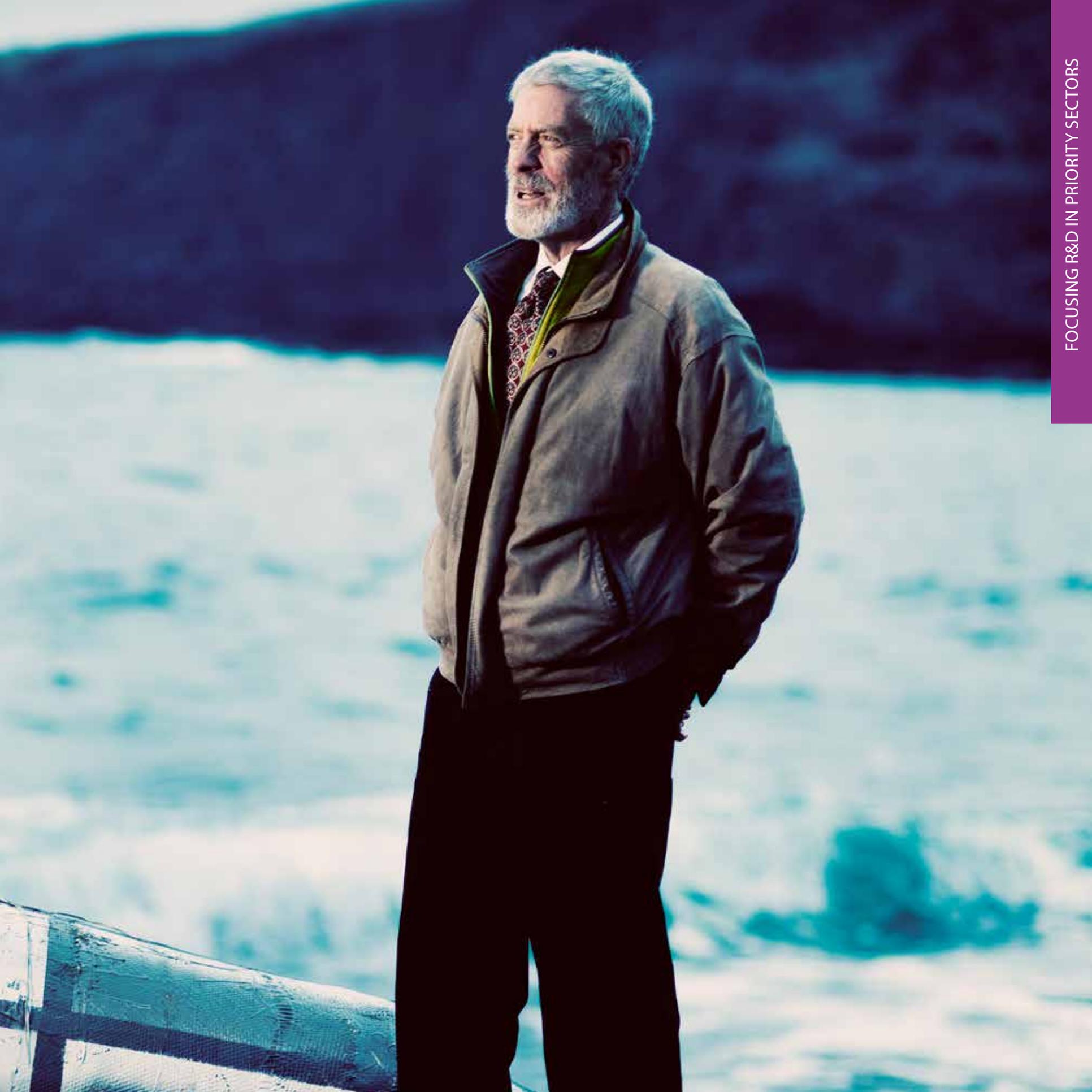
Seeing the promise of its technology, RDC invested in a Canatec R&D project to build an ice beacon that would work



better in all seasonal ice environments and in a wider variety of ice zones. The drift buoys were designed, developed and tested in simulated laboratory ice. Now C-CORE's Centre for Arctic Resource Development (CARD) is deploying them as part of a project to improve understanding of the dynamics and seasonal break-up of near-shore ice.

And Canatec is discovering new markets for the emerging technology. With more help from RDC, the ice beacons are now morphing into a completely new product to solve problems involving marine search and rescue, with worldwide markets in view, not just the Arctic. It's an R&D success story that rises to the occasion, no matter what the ocean conditions.





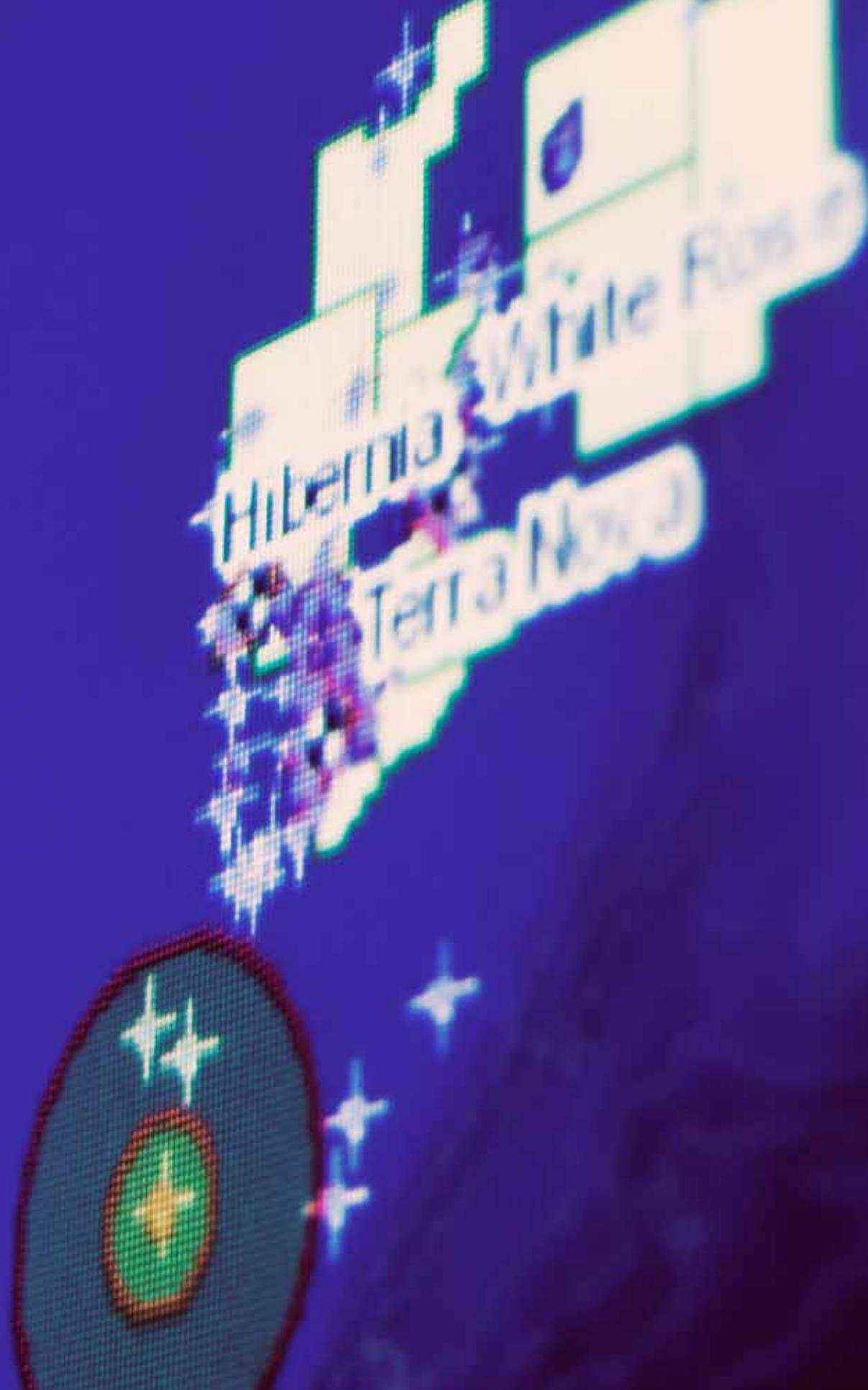
# ALL THE DATA – ALL IN ONE PLACE

The team at Integrated Informatics Inc. knows an opportunity when they see one, even if it is buried deep in mountains of data. They observed that oil and gas companies were submitting thousands of pages of Environmental Effects Monitoring (EEM) documents to the Canada-Newfoundland and Labrador Offshore Petroleum Board as part of their regulatory requirements. The data, submitted in massive bound volumes, costs operators millions of dollars to collect. Yet, despite this monumental effort, the data cannot be used to its full potential. Bound volumes do not lend themselves to modern analytical practices.

Enter the Geographic Information Systems (GIS) experts at Integrated Informatics. They saw an opportunity to create a central repository for all Newfoundland and Labrador EEM data, and set to work to create Integrated Guardian – an online system that allows oil and gas operators to integrate their own project data with environmental data, in real time.

Thanks to an investment from RDC, and participation of one of the province's offshore operators, Integrated Informatics was able to develop a working prototype of this database. Integrated Guardian turns volumes of largely unused reports into a powerful, intuitive, and user friendly analytical tool that also delivers improved quality control and reduced costs.

Best of all, this is just the beginning, says Integrated Informatics CEO and founder, Jason Humber. "We've developed a framework that is applicable across a myriad of other applications" says Humber. Thousands of reports the world over may one day be put to better use.



# LOOKING FORWARD

RDC will continue to pursue activities that support increased business-led R&D in Newfoundland and Labrador. One key opportunity will be to enhance R&D capacity through the development of RDC-owned R&D assets.

These assets will help industry solve technical challenges, support the attraction and development of businesses and leading researchers, and strengthen the province's competitive position in areas such as Arctic and harsh-environment technologies.

This task is not without its challenges. RDC works closely with stakeholders, researchers and relevant industry experts to ensure potential opportunities are viable and within RDC's R&D mandate. The right opportunities can have a significant impact on industry, the research and development community and the economy. This model has proven successful in other jurisdictions such as Finland and closer to home, in Saskatchewan, where public R&D organizations operate facilities and perform R&D to support industry and promote international collaboration. Successful R&D organizations also leverage local physical, economic and cultural advantages.

## ATMOSPHERIC CORROSION TEST SITE

The exposed headlands of the southern Avalon Peninsula in Newfoundland and Labrador are among the harshest and most corrosive natural environments in North America. This accessible, exposed coastal location provides an ideal environment for the RDC Atmospheric Corrosion Test Site. The site is strategically located in Argentia, just 90 minutes from globally recognized R&D facilities and institutions in the St. John's area. Research and testing conducted at the site will increase knowledge and understanding of highly corrosive and harsh environments and will help measure and forecast the long term effects of severe, real-world conditions on coatings performance and on materials and products of all types.

## EXTREMELY CORROSIVE ENVIRONMENT

RDC's Atmospheric Corrosion Test Site offers year-round field testing to advance the development of solutions and technologies that protect vital industry assets. If you need to understand the effects of extremely corrosive atmospheric conditions, this facility is ideally suited for your research and development project.

We work closely with clients to develop research projects and testing plans suited to their needs. From R&D collaborations to full service engineering corrosion expertise, RDC has the flexibility to support a broad range of projects in the marine, automotive, energy, aerospace and manufacturing industries.

### AVERAGE WEATHER CONDITIONS

- Average Wind speed: **29.2 Km/h**
- Average Monthly maximum wind speed: **106.2 Km/h**
- Number of days of fog: **206**
- Annual Precipitation: **1365 mm**
- Average Air Temperature: **7°C**

### THE ATMOSPHERIC CORROSION TEST SITE OFFERS

- A secure site
- Remote data monitoring and access
- Year-round usage
- Real time weather monitoring
- Access to corrosion and asset integrity expertise

# APPENDIX A – REPORT ON PERFORMANCE

## STRATEGIC ISSUE 1: BUILDING A STRONG FOUNDATION FOR R&D

**Goal:** By March 31<sup>st</sup>, 2014, RDC will have enhanced academia, business, and government capacity for R&D excellence

**Measure:** Enhanced R&D infrastructure

**Objectives:** By March 31<sup>st</sup>, 2014, RDC will have enhanced R&D infrastructure

**Measure:** Enhanced academia, business and government capacity for R&D excellence

**Indicators:**

- Programs to support HQP delivered
- Programs to support infrastructure delivered
- Programs to support R&D activities delivered
- Number of students trained as researchers/involved in research through RDC-funded projects
- Number of researchers employed through RDC-funded projects
- Number of R&D projects supported by RDC programs

### OVERVIEW

To grow a strong foundation for R&D, RDC invests in highly-qualified people, cutting-edge research and world-class infrastructure. By building a stronger foundation and enhancing the capacity for R&D excellence, RDC is supporting innovation and helping to create the knowledge-based economy required for Newfoundland and Labrador to be globally competitive. The pursuit of this goal also advances Government's broader strategic directions of increasing R&D capacity and leadership in the province.

### ANNUAL RESULTS: 2013-14

#### (1.1) Number and value of contracted projects that support R&D infrastructure

# of Projects	Value of RDC Investment	Total Value of Projects
70	\$11,685,519	\$34,619,930

#### (1.2) Value of investment by RDC in new R&D infrastructure

Value of RDC Investment in Infrastructure	Total Value of Infrastructure
\$4,481,337	\$10,464,610

#### (1.3) RDC expenditures on completed projects that have supported R&D infrastructure

2013-14 Expenditures
\$781,270

## STRATEGIC PLAN RESULTS: 2011-14

### (1.1) Programs to support Highly Qualified People (HQP) delivered

Program	# of Projects	Value of RDC Investment	Value of Project
RISE Awards	39	\$288,025	\$288,025
OISRA	56	\$2,592,500	\$2,592,500
IRDF	8	\$414,900	\$1,170,394
<b>TOTAL</b>	<b>103</b>	<b>\$3,295,425</b>	<b>\$4,050,919</b>

### (1.2) Programs to support infrastructure delivered

RDC successfully delivered two programs that directly supported the provision of equipment and infrastructure in 2011-14 (GeoEXPLORE and ArcticTECH). RDC also supported a number of additional major infrastructure projects through other programs and a one-time call in 2010 for infrastructure proposals. In this period RDC's investment in infrastructure and equipment was as follows:

# of Projects	Value of RDC Investment	Value of Project
8	\$8,806,601	\$27,659,672

RDC has also taken steps in 2013-14 to establish an Atmospheric Corrosion Test Site to improve government's and our partners' ability to conduct R&D.

### (1.3) Programs to support R&D activities delivered

Programs	# of Projects	Value of RDC Investment	Value of Project
IgniteR&D	54	\$5,174,966	\$5,365,386
LeverageR&D	84	\$16,156,304	\$73,559,471
CollaborativeR&D	13	\$4,936,129	\$23,711,682
OISRA	56	\$2,592,500	\$2,592,500
RISE Awards	39	\$288,025	\$288,025
R&D Vouchers	15	\$190,708	\$268,538
R&D Proof of Concept	42	\$7,247,452	\$16,067,740
IRDF	8	\$414,900	\$1,170,394
GeoEXPLORE	25	\$2,814,644	\$6,795,469
ArcticTECH	13	\$3,171,420	\$7,843,174
R&D Infrastructure	1	\$4,145,000	\$7,290,000
<b>TOTAL</b>	<b>350</b>	<b>\$47,132,048</b>	<b>\$144,952,379</b>

\*RDC has not yet contracted any projects under its Petroleum R&D Accelerator Program, although projects are currently under consideration.

\*\*For additional program information, please visit [www.rdc.org/funding](http://www.rdc.org/funding)

### (1.4) Number of students trained as researchers / involved in research through RDC-funded projects

# of Students	Percentage New
220	78%

### (1.5) Number of researchers employed through RDC-funded projects

# of Researchers	Percentage New
218	28%

## (1.6) Number of R&D projects supported by RDC programs

# of Projects	Value of RDC Investment	Total Value of Projects
350	\$47,132,048	\$144,952,379

### DISCUSSION OF RESULTS – BUILDING A FOUNDATION FOR R&D

In 2013-14, significant progress was achieved through investments of \$11.6 million in 70 projects that supported new infrastructure and equipment. The results from last year concluded significant efforts since 2011 to achieve RDC's 2014 Goal of "enhanced academia, business, and government capacity for R&D excellence." Over the course of RDC's Strategic Plan, programs were delivered and investments made to develop highly-qualified people, critical R&D projects, and essential R&D infrastructure. RDC's newly announced Atmospheric Corrosion Test Site will further improve the ability of government, academia and industry to conduct world class R&D. These activities have established a strong foundation for R&D excellence in the province.

## STRATEGIC ISSUE 2: GROWING BUSINESS INVESTMENT IN R&D

**Goal:** By March 31<sup>st</sup>, 2014, RDC will have encouraged increased business investment in R&D in Newfoundland and Labrador

**Measure:** Increased business investment in R&D

**Objectives:** By March 31<sup>st</sup>, 2014, RDC will have encouraged business investment in R&D

**Measure:** Encouraged increased business investments in R&D

**Indicators:**

- Delivered programs to support business-focused R&D
- Improved business outreach and attraction
- Supported enhanced collaboration between academia and business
- Number and value of business-initiated R&D projects

### OVERVIEW

The long-term prosperity of Newfoundland and Labrador relies on the capacity of businesses to be innovative and develop new opportunities; and R&D is critical to making that happen. Newfoundland and Labrador has historically had lower business investment in R&D compared to leading jurisdictions, which is why RDC has strategically focused on supporting business R&D projects, funding essential R&D infrastructure, and encouraging collaboration between industry and academia.

### ANNUAL RESULTS: 2013-14

#### (2.1) Number and value of total business investment in RDC funded projects

# of Projects with Business Investment	Value of RDC Investment	Value of Business Investment	Total Value of Projects
57	\$10,132,875	\$10,028,974	\$34,214,845

#### (2.2) Number of collaborations between academic or government R&D performers and businesses through RDC-funded projects

# of Collaborators	# of Projects
388	78

#### (2.3) Number of applications to business-led programs

# of Applications
42

## (2.4) Business intentions to continue investment in R&D

RDC conducts client Exit Surveys at the conclusion of all R&D projects to collect a variety of information, including the intention of businesses to continue investing in R&D in the future. Last year, 80% of businesses surveyed said they intended to maintain or increase their R&D expenditure from the current financial year. This is an increase from the 63% recorded in 2012-13.

### STRATEGIC PLAN RESULTS: 2011-14

#### (2.1) Delivered programs to support business-focused R&D

In 2011-14 RDC successfully delivered three major business-focused programs:

- R&D Vouchers: Helps businesses access scientific and technical expertise and equipment
- R&D Proof of Concept: Increases the technical capacity of firms to test R&D concepts and generally perform R&D projects
- IRDF: Enables businesses to hire post-doctoral researchers

*\*For additional program information, please visit [www.rdc.org/funding](http://www.rdc.org/funding)*

#### (2.2) Improved business outreach and attraction

RDC has actively worked to foster greater business awareness of R&D and the value it holds for their long-term growth and competitiveness. These efforts were led by the CEO, who held 60 meetings with business leaders and presented at 14 R&D related conferences over the past 3 years. The focused efforts of RDC staff have been complemented by partnerships with other entities. In March of 2014, for example, RDC collaborated with ACOA and Petroleum Research NL to deliver an energy and ocean technology R&D workshop, which hosted over 100 participants.

#### (2.3) Supported enhanced collaboration between academia and business

A majority of RDC's programs enable collaboration among various stakeholders, but the CollaborativeR&D program is specifically designed to foster collaboration by requiring academic applicants to demonstrate alignment with industry needs and a potential for an economic impact.

Programs	# of Projects	Value of RDC Investment	Value of Project
CollaborativeR&D	13	\$4,936,129	\$23,711,682

#### (2.4) Number and value of business-initiated R&D projects

Businesses financially contribute to a broad range of R&D projects supported by RDC, as the table below demonstrates:

Programs	# of Projects	Value of RDC Investment	Value of Project
R&D Vouchers	15	\$190,708	\$268,538
R&D Proof of Concept	42	\$7,247,452	\$16,067,740
IRDF	8	\$414,900	\$1,170,394
<b>TOTAL</b>	<b>65</b>	<b>\$7,853,060</b>	<b>\$17,506,672</b>

### DISCUSSION OF RESULTS – GROWING BUSINESS R&D

RDC achieved its 2013-2014 objective to encourage business investment in R&D. This can be seen, in particular, by the 80% of business clients that expect to increase investment in R&D next year, compared to 63% in 2012-13. The evidence of RDC's success is also clear in the 57 projects that have business investment. RDC and business partners will each invest \$10 million in these projects, with total project costs of \$34.2 million.

## STRATEGIC ISSUE 3: FOCUSING R&D IN PRIORITY AREAS

- Goal:** By March 31<sup>st</sup>, 2014, RDC will have realized development opportunities and supported areas of competitive advantage
- Measure:** Increased performance of R&D in priority areas
- Objectives:** By March 31<sup>st</sup>, 2014, RDC will have delivered targeted programs to support the performance of R&D in priority areas
- Measure:**
- Realized development opportunities
  - Supported areas of competitive advantage
- Indicators:**
- Programs to support priority areas delivered
  - Number of collaborations in priority areas
  - Number and value of projects funded in RDC priority areas
  - Number and value of infrastructure investments in priority areas
  - Number of new business or resource development opportunities pursued as a result of RDC intervention

### OVERVIEW

RDC recognizes the advantages of a focused approach to supporting R&D and strives to encourage greater R&D activity in the priority sectors of ocean technology, mining and minerals, and energy. RDC's focused approach helps R&D performers in these key sectors to realize R&D success and helps to advance Government's strategic direction of increased R&D leadership in the province.

### ANNUAL RESULTS: 2013-14

#### (3.1) Number of directed research programs targeting priority areas

RDC has three targeted programs dedicated to promoting R&D in priority sectors:

- GeoEXPLORE: Enhances geoscience R&D capacity in support of mineral exploration and development
- ArcticTECH: Advances R&D in support of the development of Arctic technologies
- PetroleumR&D Accelerator: Strengthens the province's capacity as an R&D performer in petroleum exploration, development and operations

RDC also promotes research projects in priority sectors while delivering all of its other programs.

#### (3.2) Number and value of RDC funded projects in priority areas

# of Projects	Value of RDC Investment	Value of Project
73	\$9,969,104	\$25,837,222

*\*Includes Aquaculture, Fisheries, Forestry and Agriculture, as outlined in Strategic Plan 2011-14*

### STRATEGIC PLAN RESULTS: 2011-14

#### (3.1) Programs to support priority areas delivered

Programs	# of Projects	Value of RDC Investment	Value of Project
GeoEXPLORE	25	\$2,814,644	\$6,795,469
ArcticTECH	13	\$3,171,420	\$7,843,174
<b>TOTAL</b>	<b>38</b>	<b>\$5,986,064</b>	<b>\$14,638,643</b>

*RDC has not yet contracted any R&D projects under its PetroleumR&D Accelerator program, although a number of projects are currently under consideration*

#### (3.2) Number of collaborations in priority areas

To help attract and develop the HQP required for leading R&D activities, RDC supported 830 individual collaborators across 161 projects funded in priority areas in 2011-14.

### (3.3) Number and value of projects funded in RDC priority areas

Priority Sector	# of Projects	Value of RDC Investment	Value of Project
Energy	51	\$14,625,471	\$51,661,692
Minerals/Mining	27	\$2,694,872	\$4,732,662
Ocean Technology	90	\$8,981,622	\$24,916,887
Other Natural Resources*	30	\$3,813,253	\$14,527,441
<b>TOTAL</b>	<b>198</b>	<b>\$30,115,218</b>	<b>\$95,838,682</b>

\*Includes Aquaculture, Fisheries, Forestry and Agriculture as included in Strategic Plan 2011-14

RDC's strong focus on increasing performance of R&D in priority sectors has resulted in priority sector funding increasing from \$5.9 million in 2012-13 to \$9.1 million in 2013-14.

### (3.4) Number and value of infrastructure investments in priority areas

Value of RDC Investment in Infrastructure	Value of Infrastructure
\$12,305,097	\$33,485,912

### (3.5) Number of new business or resource development opportunities pursued as a result of RDC intervention

RDC conducts Exit Surveys for all completed R&D projects. Between 2011-14 RDC funded projects have led to many business innovations and development opportunities, including:

New or Improved Products, Processes, Services, or Technology	New Prototypes	Intellectual Property	New / Expanded Companies	
<b>TOTAL</b>	<b>111</b>	<b>53</b>	<b>56</b>	<b>7</b>

## DISCUSSION OF RESULTS – FOCUSING ON PRIORITY SECTORS

RDC achieved its objective to deliver targeted programs that support priority sectors. Through priority sector programs, as well as our other specialized programs that support projects in priority sectors, RDC has committed to invest \$10 million in 73 projects, with total project costs of \$25.8 million. RDC also achieved its broader 2011-2014 goal of realizing "development opportunities and supported areas of competitive advantage." In particular, RDC projects helped businesses realize new opportunities, as shown by the 111 new products and processes, 53 new prototypes, 56 intellectual properties and 7 new or expanded companies.

**RESEARCH & DEVELOPMENT CORPORATION  
OF NEWFOUNDLAND AND LABRADOR  
FINANCIAL STATEMENTS**

**March 31, 2014**

## Management Certification

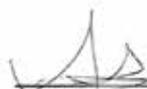
The accompanying financial statements of the Research & Development Corporation of Newfoundland and Labrador have been prepared by the Corporation's management in accordance with Canadian Public Sector Accounting Standards.

Management is responsible for the integrity and objectivity of the information contained in these financial statements, including the note disclosures. Some of the information in the financial statements is based on management's best estimate and judgment, and gives due consideration to materiality.

Management has developed and maintains a financial and management control system and practices designed to provide reasonable assurance that transactions are properly authorized, assets are safeguarded and liabilities are recognized.

Management is also responsible for ensuring that transactions comply with relevant policies and authorities and are properly recorded to produce timely and reliable financial information to maintain accountability of Research & Development Corporation of Newfoundland and Labrador funds.

The Board of Directors is responsible for ensuring that management fulfills its responsibilities for financial reporting and internal control and meets periodically with management to review and discuss the financial information. The Auditor General of Newfoundland and Labrador conducts an independent audit of the annual financial statements of the Research & Development Corporation of Newfoundland and Labrador in accordance with Canadian auditing standards in order to express an opinion thereon. The Auditor General has full and free access to the financial management of the Research & Development Corporation of Newfoundland and Labrador and meet when required.



Glenn Janes  
Chief Executive Officer



Joe McKenna, CA  
Chief Financial Officer

St. John's, Newfoundland and Labrador  
June 10, 2014



## INDEPENDENT AUDITOR'S REPORT

To the Board of Directors  
Research & Development Corporation  
of Newfoundland and Labrador  
St. John's, Newfoundland and Labrador

### Report on the Financial Statements

I have audited the accompanying financial statements of the Research & Development Corporation of Newfoundland and Labrador which comprise the statement of financial position as at March 31, 2014, the statements of operations, change in net financial assets, and cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

#### *Management's Responsibility for the Financial Statements*

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian public sector accounting standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

#### *Auditor's Responsibility*

My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with Canadian generally accepted auditing standards. Those standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

#### *Opinion*

In my opinion, the financial statements present fairly, in all material respects, the financial position of the Research & Development Corporation of Newfoundland and Labrador as at March 31, 2014, and its financial performance and its cash flows for the year then ended in accordance with Canadian public sector accounting standards.

TERRY PADDON, CA  
Auditor General

St. John's, Newfoundland and Labrador  
June 10, 2014

**RESEARCH & DEVELOPMENT CORPORATION OF  
NEWFOUNDLAND AND LABRADOR**

STATEMENT OF FINANCIAL POSITION  
As at

	March 31, 2014 \$	March 31, 2013 \$
<b>FINANCIAL ASSETS</b>		
Cash and cash equivalents (Note 5)	8,022,872	27,949,929
Portfolio investments	26,000,000	-
Receivables	286,211	210,142
	<u>34,309,083</u>	<u>28,160,071</u>
<b>LIABILITIES</b>		
Accounts payable and accrued liabilities (Note 6)	<u>1,694,779</u>	1,415,277
<b>Net Financial Assets</b>	<u>32,614,304</u>	<u>26,744,794</u>
<b>NON-FINANCIAL ASSETS</b>		
Tangible capital assets, net (Note 7)	1,113,636	1,154,551
Prepaid expenses	50,563	40,411
	<u>1,164,199</u>	<u>1,194,962</u>
<b>Accumulated surplus</b>	<u>33,778,503</u>	<u>27,939,756</u>

Contractual obligations (Note 8)

*The accompanying notes are an integral part of these financial statements.*

Signed on behalf of the Board:

  
 \_\_\_\_\_  
 Director

  
 \_\_\_\_\_  
 Director

## RESEARCH & DEVELOPMENT CORPORATION OF NEWFOUNDLAND AND LABRADOR

### STATEMENT OF OPERATIONS

For the year ended

	March 31, 2014 \$	March 31, 2014 \$	March 31, 2013 \$
	Budget	Actual	Actual
	(Note 13)		
<b>REVENUE</b>			
Government grants	25,321,100	22,040,812	23,829,533
Investment income	428,189	602,585	504,071
	25,749,289	22,643,397	24,333,604
<b>EXPENSES (Note 9)</b>			
Program expenses – Academic	9,737,805	8,553,710	17,638,919
Program expenses – Business	10,470,323	4,558,223	3,288,358
RDC research facilities	3,000,000	482,267	-
Operating expenses	5,000,481	3,210,450	3,827,983
	28,208,609	16,804,650	24,755,260
<b>Annual surplus (deficit)</b>	<b>(2,459,320)</b>	<b>5,838,747</b>	<b>(421,656)</b>
<b>Accumulated surplus, beginning of year</b>	<b>27,939,756</b>	<b>27,939,756</b>	<b>28,361,412</b>
<b>Accumulated surplus, end of year</b>	<b>25,480,436</b>	<b>33,778,503</b>	<b>27,939,756</b>

*The accompanying notes are an integral part of these financial statements.*

**RESEARCH & DEVELOPMENT CORPORATION OF  
NEWFOUNDLAND AND LABRADOR**

STATEMENT OF CHANGE IN NET FINANCIAL ASSETS

For the year ended

	March 31, 2014 \$	March 31, 2014 \$	March 31, 2013 \$
	Budget	Actual	Actual
	(Note 13)		
<b>Annual surplus (deficit)</b>	<b>(2,459,320)</b>	<b>5,838,747</b>	<b>(421,656)</b>
Acquisition of tangible capital assets	-	<b>(243,231)</b>	(685,992)
Amortization of tangible capital assets	<b>259,116</b>	<b>284,146</b>	250,205
	<b>259,116</b>	<b>40,915</b>	<b>(435,787)</b>
Acquisition of prepaid expenses	-	<b>(135,182)</b>	(69,494)
Use of prepaid expenses	-	<b>125,030</b>	44,193
	-	<b>(10,152)</b>	<b>(25,301)</b>
<b>Increase (decrease) in net financial assets</b>	<b>(2,200,204)</b>	<b>5,869,510</b>	<b>(882,744)</b>
<b>Net financial assets, beginning of year</b>	<b>26,744,794</b>	<b>26,744,794</b>	27,627,538
<b>Net financial assets, end of year</b>	<b>24,544,590</b>	<b>32,614,304</b>	26,744,794

*The accompanying notes are an integral part of these financial statements.*

## RESEARCH & DEVELOPMENT CORPORATION OF NEWFOUNDLAND AND LABRADOR

### STATEMENT OF CASH FLOWS

For the year ended

	<b>March 31, 2014</b>	March 31, 2013
	\$	\$
<b>OPERATING TRANSACTIONS</b>		
Annual surplus (deficit)	5,838,747	(421,656)
Non-cash item		
Amortization of tangible capital assets	284,146	250,205
Increase in receivables	(76,069)	(77,699)
Increase in prepaid expenses	(10,152)	(25,301)
Increase (decrease) in accounts payable and accrued liabilities	279,502	(1,962,946)
<b>Cash provided by (applied to) operating transactions</b>	<b>6,316,174</b>	<b>(2,237,397)</b>
<b>CAPITAL TRANSACTIONS</b>		
Acquisition of tangible capital assets (Note 7)	(243,231)	(685,992)
<b>Cash applied to capital transactions</b>	<b>(243,231)</b>	<b>(685,992)</b>
<b>INVESTING TRANSACTIONS</b>		
Acquisition of portfolio investments	(26,000,000)	-
<b>Cash applied to investing transactions</b>	<b>(26,000,000)</b>	<b>-</b>
<b>Net decrease in cash and cash equivalents</b>	<b>(19,927,057)</b>	<b>(2,923,389)</b>
<b>Cash and cash equivalents, beginning of year</b>	<b>27,949,929</b>	<b>30,873,318</b>
<b>Cash and cash equivalents, end of year (Note 5)</b>	<b>8,022,872</b>	<b>27,949,929</b>

*The accompanying notes are an integral part of these financial statements.*

# RESEARCH & DEVELOPMENT CORPORATION OF NEWFOUNDLAND AND LABRADOR

## NOTES TO FINANCIAL STATEMENTS

March 31, 2014

### 1. Nature of operations

The Research & Development Corporation of Newfoundland and Labrador (the Corporation) is incorporated under the authority of the *Research and Development Council Act (the Act)* and is funded by the Province of Newfoundland and Labrador (the Province). The *Act* came into effect December 18, 2009. The objective of the Corporation is to strengthen the focus, quantity, quality, and relevance of research and development (R&D) undertaken within the Province and elsewhere for the long-term economic benefit of the Province.

The affairs of the Corporation are managed by a Board of Directors (the Board) appointed by the Lieutenant-Governor in Council. The Corporation is a Crown entity of the Province and as such is not subject to Provincial or Federal income taxes.

### 2. Summary of significant accounting policies

These financial statements have been prepared by management in accordance with Canadian Public Sector Accounting Standards (CPSA Standards) which require management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. By their nature these estimates are subject to measurement uncertainty. The most significant item for which estimates are used is the useful life of tangible capital assets. The effect on the financial statements of a change in this estimate in future periods could be material and would be accounted for in the period the change occurs.

#### Basis of presentation

These financial statements include the accounts relating to the operations carried on under the name of the Corporation, and have been prepared by the Corporation's management in accordance with CPSA Standards.

#### Cash and cash equivalents

Cash and cash equivalents include cash in bank and short-term, highly liquid investments that are readily convertible into known amounts of cash and are subject to an insignificant risk of change in value. These short term investments have maturities of three months or less at acquisition.

#### Portfolio investments

Portfolio investments include highly liquid term deposits and guaranteed investment certificates that have maturities between three and twelve months at acquisition.

# RESEARCH & DEVELOPMENT CORPORATION OF NEWFOUNDLAND AND LABRADOR

## NOTES TO FINANCIAL STATEMENTS

March 31, 2014

### 2. Summary of significant accounting policies (cont.)

#### Revenue recognition

The Corporation recognizes the receipt of government transfers as revenue in the period the transfer is authorized and all eligibility criteria have been met, except when and to the extent that the transfer gives rise to an obligation that meets the definition of a liability for the Corporation. Investment income is recognized as earned.

#### Expenses

The Corporation recognizes expenses on an accrual basis. The cost of all goods consumed and services received during the period is expensed. Program grants are accounted for as government transfers and are recorded as expenses when they are authorized, when eligibility criteria have been met by the recipient, and when a reasonable estimate of the amount can be made.

#### Tangible capital assets

Tangible capital assets are recorded at cost and amortized on a straight-line basis over their estimated useful lives using the following terms:

	Term
Furniture and equipment	5 years
Computer hardware and software	2 years
Network infrastructure	4 years
Enterprise resource package software	3 years
Leasehold improvements	Lease term

RDC research facilities will be amortized on a systematic basis over terms that will be dependent on the specific asset once these assets become available for use. Tangible capital assets are written down when conditions indicate that they no longer contribute to the Corporation's ability to provide goods and services or when the value of future economic benefits associated with the tangible capital assets is less than their net book value. The net write downs are accounted for as expenses in the statement of operations.

#### Pension costs

Employees of the Corporation are covered by the Public Service Pension Plan (the Plan) administered by the Province or a self-directed RRSP. Contributions to each plan are required from the employees and are matched by the Corporation. The contributions for pensions are recognized during the period in which the services are rendered and represent the Corporation's total pension benefit obligation. The Plan provides defined pension benefits to employees based on their length of service and rates of pay. The maximum contribution rate for eligible employees is 8.6% (2013 – 8.6%). The Corporation is not required to make contributions in respect of any actuarial deficiencies of the Plan. Total pension expense for the Corporation at March 31, 2014 was \$210,658 (year ended March 31, 2013 - \$222,084).

# RESEARCH & DEVELOPMENT CORPORATION OF NEWFOUNDLAND AND LABRADOR

## NOTES TO FINANCIAL STATEMENTS

March 31, 2014

### 3. Risk management

The Corporation's management recognizes the importance of managing significant risks and this includes policies, procedures and oversight designed to reduce the risks identified to an appropriate threshold. The Board is provided with timely and relevant reports on the management of significant risks. Significant risks currently managed by the Corporation include liquidity risk and interest rate risk:

#### Liquidity risk

Liquidity risk is the risk that the Corporation will be unable to meet its contractual obligations and financial liabilities as they come due. The Corporation manages liquidity risk by monitoring its cash flows and ensuring that it has sufficient resources available to meet its obligations and liabilities. The Corporation has access to a credit facility as outlined in Note 12. The following table sets out the undiscounted contractual maturities of financial liabilities:

	Within 6 months	6 months to 1 year
Accounts payable and accrued liabilities	1,378,658	316,121
	1,378,658	316,121

The future minimum payments required from the Corporation in relation to its contractual obligations are outlined in Note 8.

There have been no significant changes from the previous year in the exposure to liquidity risk or policies, procedures and methods used to manage this risk.

#### Interest rate risk

Interest rate risk is the risk of financial loss to the Corporation caused by fluctuations in future cash flows of financial instruments because of changes in market interest rates. The estimated impact of a 1% change in market interest rates on the Corporation's surplus for the year ended March 31, 2014 is \$415,000.

There have been no significant changes from the previous year in the exposure to interest rate risk or policies, procedures and methods used to manage this risk.

## RESEARCH & DEVELOPMENT CORPORATION OF NEWFOUNDLAND AND LABRADOR

### NOTES TO FINANCIAL STATEMENTS

March 31, 2014

#### 4. Financial instruments

The Corporation's financial instruments recognized on the statement of financial position consist of cash and cash equivalents, portfolio investments, receivables, and accounts payable and accrued liabilities. The Corporation's financial instruments are measured at cost. The carrying value of these instruments approximate current fair value due to their nature and the short-term maturity associated with them.

#### 5. Cash and cash equivalents

	March 31, 2014 \$	March 31, 2013 \$
Cash in bank	3,022,872	2,949,929
Cash equivalent investments	5,000,000	25,000,000
	<b>8,022,872</b>	<b>27,949,929</b>

#### 6. Accounts payable and accrued liabilities

	March 31, 2014 \$	March 31, 2013 \$
Programs grants payable	1,012,711	685,954
Trade accounts payable & accruals	205,580	243,232
Payroll related accruals	476,488	486,091
	<b>1,694,779</b>	<b>1,415,277</b>

## RESEARCH & DEVELOPMENT CORPORATION OF NEWFOUNDLAND AND LABRADOR

### NOTES TO FINANCIAL STATEMENTS

March 31, 2014

#### 7. Tangible capital assets

	Leasehold Improve- ments \$	Furniture & Equipment \$	Computer Hardware & Software \$	Network Infrastructure \$	Enterprise Resource Package Software \$	RDC Research Facilities \$	Total \$
<b>COST</b>							
Balance, March 31, 2013	835,413	532,132	124,381	47,077	259,085	-	1,798,088
Additions	-	4,138	214,718	-	-	24,375	243,231
Balance, March 31, 2014	835,413	536,270	339,099	47,077	259,085	24,375	2,041,319
<b>ACCUMULATED AMORTIZATION</b>							
Balance, March 31, 2013	62,656	195,678	94,965	47,077	243,161	-	643,537
Amortization expense	83,541	106,840	77,841	-	15,924	-	284,146
Balance, March 31, 2014	146,197	302,518	172,806	47,077	259,085	-	927,683
<b>Net book value, March 31, 2014</b>	<b>689,216</b>	<b>233,752</b>	<b>166,293</b>	<b>-</b>	<b>-</b>	<b>24,375</b>	<b>1,113,636</b>
Net book value, March 31, 2013	772,757	336,454	29,416	-	15,924	-	1,154,551

#### 8. Contractual obligations

The Corporation has outstanding contractual obligations under its various programs in respect of approved but not yet disbursed funds in the amount of \$37,538,565. The Corporation has also entered into a lease agreement for the rental of office space and various operating contracts totaling \$4,140,477. Approximate payment of these obligations in future years is as follows:

	Programs \$	Operating \$
2015	18,534,975	931,047
2016	9,104,900	442,680
2017	7,152,959	442,680
2018	2,172,103	442,680
2019	492,952	442,680
Thereafter	80,676	1,438,710
	<b>37,538,565</b>	<b>4,140,477</b>

## RESEARCH & DEVELOPMENT CORPORATION OF NEWFOUNDLAND AND LABRADOR

### NOTES TO FINANCIAL STATEMENTS

March 31, 2014

#### 9. Expenses

The statement of operations presents the expenses of the Corporation by function, the following table presents them by nature:

	March 31, 2014 \$	March 31, 2014 \$	March 31, 2013 \$
	Budget	Actual	Actual
	(Note 13)		
Program grants	20,566,806	11,258,181	18,919,235
Salaries and benefits	4,570,718	3,371,478	3,939,400
Purchased services	1,979,015	1,090,577	1,336,836
Professional services	832,954	800,268	309,584
Amortization of tangible capital assets	259,116	284,146	250,205
<b>Total expenses</b>	<b>28,208,609</b>	<b>16,804,650</b>	24,755,260

#### 10. Related party transactions

These financial statements include transactions with related parties. The Corporation is related, as a result of common ownership, to all Crown corporations and agencies of the Province.

During the year, the Corporation had the following related party transactions:

- Program grants expense to related parties of \$8,286,042 (year ended March 31, 2013 - \$16,736,910).
- Purchased supplies and services from related parties for \$489,206 (year ended March 31, 2013 - \$491,972).

#### 11. Economic dependence

As a result of the Corporation's reliance on funding from the Province, the Corporation's ability to continue viable operations is dependent upon the decisions of the Province.

## **RESEARCH & DEVELOPMENT CORPORATION OF NEWFOUNDLAND AND LABRADOR**

### **NOTES TO FINANCIAL STATEMENTS**

March 31, 2014

#### **12. Credit facilities**

Subject to the prior approval of the Lieutenant-Governor in Council and the Board, the Corporation may borrow money for purposes related to the attainment of its objectives as set out in the *Act*. At March 31, 2014, the Corporation had available a revolving credit facility of up to \$1,000,000 bearing interest at prime, a letter of credit of up to \$50,000 bearing interest at 1%, and VISA business card(s) with an aggregate limit of \$50,000. At March 31, 2014, the credit facility, letter of credit, and the VISA business card(s) are inactive.

#### **13. Budgeted figures**

Budgeted figures have been provided for comparison purposes and have been derived from the original estimates approved by the Board.

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