

Taking Investable Technology Products to Market



Annual Report 2014



Contents

Executive Summary	1
Letter	2
Endorsements	4
Product Development	6
Client Spotlights	7 & 9
Business Development	8
Channel Development: Seminars	10
Channel Development: Workshops	12
Financial Statements	14
Corporate Information	16
Management & Partners	17
Contact Information	18

Executive Summary

2014 marks the seventh year of the operation of the Alberta Centre for Advanced MNT Products (ACAMP). Today, ACAMP is firmly established as a leader in enabling companies from around the world to create innovative Micro Nano Technology (MNT) based hardware. ACAMP helps its clients focus on thoughtfully designed, problem solving, and enabling technologies that meet the needs of the real world.

ACAMP takes several approaches to working with industry and have provided services to 205 companies over the past seven years.

- Over seven years we developed products for 18 clients now in production
- Trained over 3,400 HQP (Highly Qualified Personnel) since 2008
- Experienced multidisciplinary staff support over 70 projects/year
- Trained 486 HQP in 2014 through seminars and workshops
- Assisted 34 companies in 2014 in product design and commercialization

Further, ACAMP is the only MNT technology services provider in Western Canada to offer a full range of services and solutions from prototype to production. ACAMP's client-driven approach to product development uses state-of-the art equipment and a business focus. Our success is gauged only by the success of our clients.

Client Highlights



World-class Pipeline and Wellbore Monitoring. Hifi and ACAMP are collaborating on world class optical electronic components and data interpretation/analysis, for Hifi's HDS preventative leak detection system for pipelines.

p. 7



One of the world's largest independent MEMS product development foundries. Creating and manufacturing some of the smallest MEMS actuators, sensors and 3D mechanical structures in existence for leading high-tech corporations.

p. 9



To our clients, funders, suppliers,





Alberta Centre for Advanced Micro Nano Technology Products, ACAMP, has served industry for the past seven years. Micro Nano Technologies (MNT) continue to see exciting growth and development and we have been able to help this community of innovators make prototypes and commercial production a reality. We have experienced strong growth of our client base from only a few industry players to 205 by the end of fiscal year 2014, December 2014.

In Alberta alone, we now have 165 Alberta companies with revenue that are directly related to projects at ACAMP. And we continue to adapt our expertise and capacity to align with the needs of industry. While the total number of staff at ACAMP has remained constant, 2014 saw new expertise particularly to support more advanced embedded systems incorporating MNT. As the world moves to increased system integration and machine intelligence, our clients have required our support for taking chip level assembly to subsystems and then entire system level designs to full production. This trend is driven primarily by advances in the sensor market that promise to fundamentally change the way we approach medicine, communications, renewable energy, automotive systems and the internet of things.

Our goal is clear: help our clients move their innovative products to production by providing critical support in product and business development with manufacturing. ACAMP has a unique service that has attracted projects from around the world and our team of talented engineers and business professionals have the experience and know-how required.

Micro Nano technologies continue to be used in most state of the art products. Sensors, electronics, optics and materials in systems enable smarter products, provide cost reductions to industry, create safer working environments, allow 24/7 monitoring, improve our health care, watch over our security and make the world a better place to live in.

ACAMP is the result of a collaborative effort between industry and government, providing a path to commercialization for established firms of all sizes and across all markets. ACAMP's operations are made possible primarily through investments by the Government of Alberta. Through the Ministry of Innovation and Advanced Education, and Alberta Innovates Technology Futures, funding has been provided for research and development of MNT at Alberta's universities, the National Institute of NanoTechnology (NINT), and other research institutions.

Through a range of other funding programs, the Government of Alberta has also made investments in MNT product commercialization of which has enabled ACAMP, SMEs (small and medium-sized enterprises), MNEs (multinational enterprises), and university start-ups to bring products to market.

Our team is a group of international business professionals and product developers, many with over 30 years' experience in taking products to market. Our services encompass all of the critical areas for commercialization of technology based products.

- Product Development design for manufacturability, from simulation through assembly
- Packaging and assembly full product manufacturing capabilities
- Testing and characterization destructive and non-destructive testing
- Marketing and Business Development business case implementation, market analysis, presentation support, sales channels, customer introductions

associates & friends

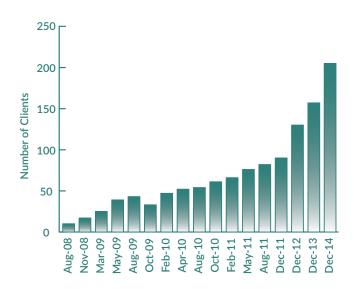
Financial Results

ACAMP's operating budget in 2014 was \$3.3 million and \$3.5 million in 2013. Our financial operating model continues as designed – a publicly funded initiative with fees for service from industry to support the growth of an MNT cluster in Alberta. We subsidize Alberta SME client projects using our operating funds provided by the Government of Alberta. Nonetheless, the expertise and capacity at our Alberta facilities has also enabled growth of a fees-for-service component of our operations. This customer service revenue in 2014 was \$1.58 million which is nearly double that of 2013.

Expanding Client Relationships

We are clear about our goals – that is, to continually focus on developing best-in-class technologies, processes, channel support and performance tailored to the unique requirements of each client. This in turn helps to grow the technology industry and its global reach for their new products. ACAMP reaches out globally with Seminars and Conferences, to enable entrepreneurs, multi-national corporations, investors, suppliers and distributors to come together to expand their market reach and showcase their hardware product technologies.

Our client base continues to grow, by the end of FY2014, ACAMP has 205 MNT clients.



Looking Forward

The MNT environment is an ever evolving and advancing technology sector, and while ACAMP continues to operate at the leading edge, new approaches, challenges, and opportunities continue to present themselves. To maintain this position, ACAMP is committed to focusing on our customers, adapting to client needs, and delivering superior quality services. Our commitments will be met through managing resources, in terms of equipment, staffing and expertise. We realize customer satisfaction drives our business and we are unyielding in our promise to meet expectations in quality, delivery, and performance.

Analysts continue to forecast global expansion of the MNT industry and our experience in design for manufacturability, prototype development, scale-ability, channel to market and business connections is perfectly positioned to fill any gaps in expertise for new business ventures.

At ACAMP, we anticipate continued government support for future operations in order to meet growth in demand for our services. We have reached many significant milestones and we welcome the opportunity to meet new challenges.

We look forward to addressing you again next year.

Duane Macauley	Ken Brizel
Chairman	Chief Executive Officer

Annual Report 2014 3



Endorsements

Expertise and Resources

"ACAMP's strong network of both local and international contacts has enabled Boreal Laser to tap expertise and resources that would otherwise not have been available to us. Without ACAMP facilitation, small SME's would tend to work in a vacuum, unaware of the expertise and technologies available right on their doorstep."

- Hamish Adam, President and CEO Boreal Laser Inc. (Edmonton based manufacturer of high value laser based gas detectors)

• People, Equipment and Industry Connections

"The commercialization of MNT products is very challenging and ACAMP plays an important role in translating product ideas into reality. ACAMP has the people, equipment and industry connections needed to create saleable products and successful companies."

- Bruce Alton, Chief Operating Officer Touchstone Holdings Ltd. (investment and asset management)

Access to Technology and Equipment

"By providing equipment, expertise and an experienced knowledge base, small companies can access technology and equipment that would otherwise not be available to them. The equipment base at ACAMP is both expensive and difficult to maintain. For a small company like Norcada, having access to ACAMP is an extremely valuable asset. We could not support our current development activities without access to this facility."

- Graham McKinnon, President Norcada (micro-fabricated components for industrial applications)

Holistic Approach

"During the course of our technical interactions with ACAMP, we were also introduced to the business development aspects of the organization. As a result of these activities, Wilson has gained new industrial partners, and has been able to fairly quickly and painlessly determine promising ideas for product development in new areas such as agriculture and forestry, which are away from our initial focus industry of oil and gas."

- Ken Schmidt, President Wilson Analytical (field-capable chemical analysis spectrometers)

Positive Ingredient

"In 3 years, we have gone from literally nothing, to shipping product direct and via a growing group of global distributors. Thus far, we've raised \$3m in equity financing, and our association with ACAMP has been a positive ingredient in that accomplishment."

Sean Krakiwsky, President & CEO
 Nanalysis (portable nuclear spectrometers)

Inspired to Think Big

"ACAMP has inspired young technology companies to think big, to take on the world challenges and to raise the bar in the advancement of innovation."

- Cristian Scurtescu, Founder and CEO SmileSonica (non-invasive dental repair technologies)

Product Development

Products incorporating state-of-the-art micro and nano technologies are investable and valued in the billions

Energy applications for seismic, data logging, pipeline pigging, control and communications

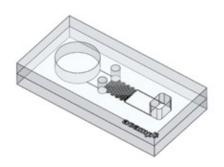
Our client-driven approach to product development using state-of-the art equipment and business services is the key to our success and our clients' success. Our engineering development services use world-class infrastructure, low-cost manufacturing equipment, and unique capabilities and tools.

ACAMP is uniquely positioned in Western Canada to support hardware product development. We offer complete solutions to companies within all industries. From prototype to production, our services enable a wide variety of complex applications such as:

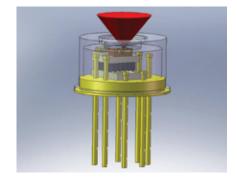
- Autonomous sensors to monitor physical or environmental conditions
- Applications in health and medical for determining diseases and encapsulating new targeted drugs

Demo Products

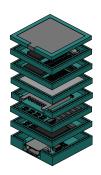
A selection of demonstrator products developed for our clients that showcase ACAMP's capabilities is shown below:



Microfluidic Analyte Detector

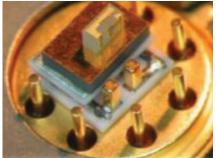


Free Space Laser Assembly



10-Axis Inertial Assembly SmartCube™









World-class Pipeline and Wellbore Monitoring

HiFi Engineering provides the most advanced and reliable distributed dynamic sensing system in the world. You can have full confidence in the performance and safety of your oil and gas assets.

High-fidelity Dynamic (acoustics, temperature, strain) Sensing (HDS) for pipelines and wellbores.

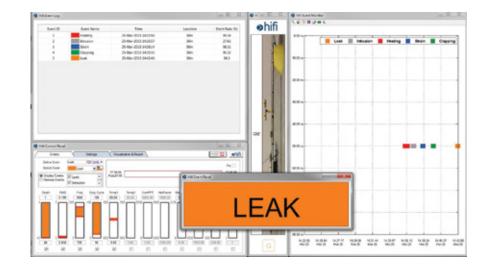


Hifi Engineering Inc. 816 – 46th Avenue SE Calgary, AB T2G 2A6 Office Line: 403-264-8930

Fax: 403-264-7087 www.hifieng.com

Applications for HiFi HDS

- Oil & Gas
 - Well Integrity
 - Production Optimization
- Pipeline Monitoring
- Security & Infrastructure



"ACAMP supports the needs of HiFi in a variety of technical areas and these types of services are important for products developed and produced within small to mid-sized companies throughout Alberta"

Steven Koles, CEO HiFi Engineering

"As we are developing our state of the art systems, ACAMP brings world class expertise to Alberta"

John Hull, P.Eng., Chief Technology Officer / Founder

Business Development

In 2014, ACAMP helped clients turn prototypes into commercial products.



A business case provides justification to develop a proposed product and outlines the required amount of capital and resources to make it happen. Writing a business case is very hard work—implementing the business case is even harder. Our business team is a group of business professionals, each with up to 30 years' experience in taking products to market. Each business development manager is responsible for business case review, program review, connection to funding opportunities, channel development, marketing and applications material support. As the liaison between ACAMP's engineering team and the client, the business team helps to keep projects on track and on target.

Project Management

Product hardware development requires interdisciplinary expertise and is often constrained by time, funding and deliverables. Through proper planning, organizing, motivating, and controlling resources to achieve specific goals, we are experienced in helping to manage the client's project. In 2014, ACAMP supported more than 70 projects across all market areas.

Funding Opportunities

Connecting to funding is critical for the client's project, enabling them to stay on track for development and bring products to market. Our business team is well-versed in local, regional and Canadian funding opportunities. We offer support in writing proposals and interfacing with funders and financing agencies.

Our business teams provide support to the client such as help to develop effective presentation skills. On international trade missions and business trips, our business professionals provide support as if they were a member of the client's team. In 2014, ACAMP supported 16 clients in engaging with their domestic and international customers.

Client: micralyne

One of the world's largest independent MEMS product development foundries.

Micralyne has been making MEMS devices for nearly 30 years. Our company, our team and our technologies have evolved with the industry. New applications are pushing the boundaries of MEMS designs, processes and fabrication and our focus is on solutions.

Micron-scale solutions are found in MEMS sensors for automotive control systems, optical switching technology in telecommunication networks, lab-on-a-chip devices for drug discovery, and precise measurement devices for oil and gas exploration.





Micralyne Inc. 1911 - 94 Street Edmonton, Alberta, Canada T6N 1E6 Phone: 780 431 4400 Fax: 780 431 4422 www.micralyne.com

"Over the past seven years ACAMP has been critical in supporting Micralyne's growth into new product assembly, test and characterization. As an SME in Alberta, the expertise brought by ACAMP enables Micralyne to compete on a global scale."

- Mike Ciprick, CEO Micralyne



Operating from a state-of-theart, 55,000-square-foot facility in Edmonton, Alberta, Canada, Micralyne serves companies around the world.

Channel Development: Seminars

The popular ACAMP Seminars are a series of quarterly business and technology networking events that bring our clients together with Alberta's innovation community.

ACAMP Seminar Series

Each ACAMP business development manager works to connect clients to global market opportunities. ACAMP sets the stage for productive opportunities by coordinating seminars for entrepreneurs, innovators, suppliers, customers, funders and investors. These events enable knowledge exchange, business and technology networking.

Unmanned Vehicles Seminar

Focus: Environmental remote sensing and monitoring; Agriculture/Commercial application areas, automation and monitoring; Pipeline/Oil & Gas inspection, detection and exploration; and Security/Law Enforcement applications areas.

Robotics & Intelligent Systems Seminar

Focus: The growth of new opportunities in sensors, controlled mechanical systems, artificial intelligence and signal processing for autonomous applications in markets including Health & Medical, Security & Inspection, Exploration, and Manufacturing & Industrial.

Emerging Pipeline Technologies Seminar

Focus: The growth in energy delivery from new pipelines and older pipelines world wide. With an eye towards the need for the safest, most reliable and most efficient way possible to deliver energy, new opportunities incorporating sensors, remotely and autonomously controlled mechanical systems, passive and active monitoring systems, remote inspection, leak detection and pipeline protection.

We acknowledge the generous support of our seminar sponsors:

















In 2014, ACAMP coordinated three seminars on:

Unmanned Vehicles Seminar

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Tuesday, March 11, 2014 -175 HQP* Robotics & Intelligent Systems Seminar

Monday, June 09, 2014 -125 HQP* Emerging Pipeline Technologies Seminar

Monday, Sept 29, 2014 -142 HQP*

*Highly Qualified Personnel

Value to HQP* attendees:

First, the opportunity to see what other technologies are out there. Second, the opportunity to network and meet people.

Gave insight into types of efforts underway to solve the issue.

Networking with industry people; learning about successful unmanned vehicle businesses

The presentations and the networking opportunity

Range of technologies presented from both the user and provider sidesthe Lux presentation was good, and the presence of "users" like Enbridge, General Dynamics is helpful.

Seeing innovations from both local and international businesses. It was useful to see the presenters demonstrate how they're applying new technology to existing business problems.

See new Technologies, Understand what has been developed and how it is implemented, Understand the market past and present as well as future outlook, Networking connections

11Multinational
Enterprises

440+ HQP Attendees **62**Exceptional Presenters

Channel Development: Workshops

Workshops focus on ACAMP's capabilities and expertise for product development and demonstrate how we work with our clients to help them deliver real results.

ACAMP Workshops

Simulation of Systems, Fluids and Complex Structures

Simulation has revolutionized product development over the past decades by minimizing costly physical testing and accelerating time to market in every industry around the world. ACAMP can capture designs, model and simulate complex solutions to real world problems, reducing the cost of development and speeding complex products to market.

LTCC - Low Temperature Co-fired Ceramic

LTCC assemblies produce complex multilayer hybrid circuits that can be used in applications requiring high temperatures up to 300°C or low temperatures down to -175°C, while maintaining electrical and mechanical performance and stability.

Fiber Coupled and Free Space Optoelectronic Systems

Optoelectronic systems incorporate electrical-to-optical or optical-to-electrical transducers into instruments such as lasers, LEDs, photo detectors and complex optical assemblies with electronics. ACAMP has the unique ability to develop simulation, packaging and assembly, testing and characterization for complex optoelectronic components and systems.

Inertial Product Assembly and Characterization

Inertial components and systems incorporate motion sensors (accelerometers), rotation sensors (gyroscopes) and magnetometers along with complex digital signal processors and data communication interfaces. In energy, applications include pipeline pigging, directional drilling and seismic detection.

Hot Embossing for Microfluidic Lab-on-a-chip

Microfluidic lab-on-a-chip devices are used in health and medical applications requiring precise manipulation of fluids that are geometrically constrained to a small scale. The devices integrate one or more functions into a single chip.

In 2014, ACAMP coordinated five technical workshops on:

Simulation

Inertial Measurement

Low Temperature Co-fired Ceramic

The 2014 ACAMP workshops include:

■ Inertial June 5, 2014 in Calgary – 11 HQP* Ansys HFSS Simulation Workshop

July 8, 2014 in Edmonton – 4 HQP* Simulation in Calgary

September 16, 2014 - 19 HOP* Sontamber 18, 201

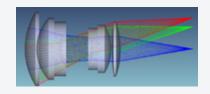
September 18, 2014 - 10 HOP* ■ LTCC

January 16, 2014, Edmonton - 10 HQP*

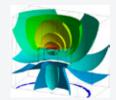
*Highly Qualified Personnel

Value to HQP* attendees:

"The methodology of testing and the capabilities of your rate table were of special interest" "There is a possibility that we could integrate your SmartCubeTM into our system"

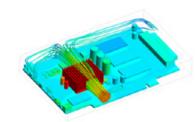






"The workshop focused on an introduction and walkthrough, which was useful. They also gave the case studies to understand how it works"

"Not only do I know which simulation software is available, I have a greater understanding of the technical capabilities of the ACAMP engineers with simulation"



Financial Statements:

Audited Statement of Financial Position and Operations

Statement of Financial Position. As at December 31, 2014.

Assets	2014	2013
	\$	\$
Current Assets		
Cash	669,765	519,083
Investments	598,249	686,739
Accounts receivable	481,390	174,867
GST receivable	7,389	130
Prepaid expenses	412,129	93,485
		4.474.004
Control Accepts	2,168,922	1,474,304
Capital Assets	5,863,829	4,852,875
	8,032,751	6,327,179
Current Liabilities		
Accounts payable	228,878	91,680
Source deductions payable	19,720	40,816
Deferred revenue	319,642	1,144,046
	568,240	1,276,542
Net Assets		
INCL ASSELS		
Unrestricted net assets	1,600,682	197,762
	1,600,682 5,863,829	197,762 4,852,875
Unrestricted net assets		

Statement of Operations. For the year ended December 31,2014.

	2014	2013
	\$	\$
Revenue		
Grant revenue	2,843,702	2,114,488
Customer service fees	1,576,364	864,262
Other revenue	48,920	394,602
	4,468,986	3,373,352
Expenditures		
Advertising and promotion	11,337	13,996
Amortization	1,486,916	1,230,194
Bad debt expense	-	8,411
Bank charges and interest	5,950	3,987
Board activities	8,833	7,017
Conference - WAVE	10,349	309,539
Consultants	469,633	265,201
Freight	12,859	17,600
Insurance	31,315	30,892
Marketing	80,746	98,144
Moving	-	2,465
Office, cleaning and utilities	61,459	54,773
Professional fees	22,172	23,601
Rent	159,637	128,933
Repair and maintenance	99,162	63,975
Software license subscription and renewal	27,386	84,785
Supplies	49,342	82,520
Telecommunications	28,861	18,302
Travel	49,391	50,444
Wages and employee benefits	2,220,372	2,231,237
<u> </u>	4,835,720	4,726,016
Deficiency of Revenue over Expenditures Before Other Income and Expenses	(366,734)	(1,352,664)
Other Income (Expenses)		
Loss on disposition of capital assets	-	(2,120)
Gain (Loss) on disposition of securities	(2,739)	1,925
Unrealized investment gain (loss)	(12)	4,480
	(2,751)	4,285
Deficiency of Revenue over Expenditures Before Capital Funding and Purchases	(369,485)	(1,348,379)
Capital Funding		
Capital Funding - Western Economic Diversification Canada	3,049,097	-
WED funding deferred to subsequent period	(265,738)	-
Excess (Deficiency) of Revenue over Expenditures Before Capital Purchases	2,413,874	(1,348,379)
Capital Purchases		
Western Economic Diversification Canada	(2,428,467)	-
Other	(69,403)	(140,368)
	(2,497,870)	(140,368)
Deficiency of Revenue over Expenditures After Capital Funding and Purchases	(83,996)	(1,488,747)

Corporate Information:

A selection of clients that we helped in their challenge to bring products to market in 2014

















Deals Get Done

"ACAMP, under Ken Brizel's leadership, exemplifies an entirely different and refreshingly effective departure from traditional technology incubators. It provides real facilities, real equipment, and real connections within relevant industries. The workshops, seminars, and conferences it hosts are sufficiently focused to yield meaningful, concrete interactions among participants. As a consequence, technical challenges get addressed, problems get solved, customers meet suppliers, and deals get done."

- Steven J. Winston, Technical consultant Winston and Associates (environmental remediation, energy technology, nuclear medicine)

Management & Partners

Senior Management

Ken Brizel Chief Executive Officer
Rosy Amlani Chief Financial Officer and

Vice President Business Development
Kevin Yallup
Vice President Technology

Jeff Shakespeare Vice President Manufacturing

Board Members

Duane Macauley CEO, Dynamic Source Manufacturing

Alan Fair Director, Tailings Canada's Oil Sands Innovation Alliance

(COSIA)

Jayson Tymko ACAMP Director, J2 Capital Corp, President

Alexei Andreev ACAMP Director, Harris & Harris Group, Executive Vice

President & Managing Director

Warren Sheydwasser President, Soltare Inc

Kevin Keough Executive Director, Alberta Prion Research Institute

Ken Brizel CEO, ACAMP

Funding Partners

Alberta Innovates – Technology Futures
Alberta Innovation and Advanced Education
Western Economic Diversification Canada
NRC - Industrial Research Assistance Program

Partners

Innovate Calgary

nanoBridge

University of Alberta

University of Calgary

University of Lethbridge

National Institute for NanoTechnology University of British Columbia

TEC Edmonton Advanced Micro/nanosystems Integration Facility

TRTech Northern Alberta Institute for Technology

Annual Report 2014 17









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ACAMP (Alberta Centre for Advanced MNT Products) is a not-for-profit organization that provides specialized business services to MNT clients including Marketing & Business Development, Product Development, Packaging, Assembly and Manufacturing.