



Annual Report

2019  2020



Canada's National Design Network[®] (CNDN) 2019-2020 Milestones

New initiatives in support of globally competitive hardware innovation.

Thank you to the **Canada Foundation for Innovation (CFI)** for their ongoing **support** including a three-year extension of Major Science Initiatives funding for Canada's National Design Network!

CMC collaborates with **UBC** and **34 other post-secondary institutions** on **CADnet**, a proposal targeting CFI's Infrastructure Fund competition.



Welcomed **49 professors and their students** using tools and technologies available to CNDN for the first time.

Enhanced research and classroom education subscriptions launched to allow **greater use of resource to support teaching activity.**

Nipissing University and SAIT **join CNDN.**



CMC awarded U.S. patent for joining an optical fiber to a semiconductor chip.

200 designs submitted to fabrication.

CMC launches **SponsorChip**, a program enabling companies to choose areas of research to stimulate chip fabrication and collaboration between industry and academic researchers.

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Letter from the Chair & CEO

The 2019-2020 annual report captures the progress CMC Microsystems together with our ecosystem of partners have made over the past year. It is a privilege for us to tell you how we are making the world's most innovative technologies accessible to Canadian researchers, industry leaders, and aspiring innovators via Canada's National Design Network (CNDN).

CMC went through an important shift in how we are funded. We are delighted to have been recognized by the Canada Foundation for Innovation (CFI) as a Major Science Initiative (MSI). This allows us to expand our reach and to provide more than 10,000 Canadian researchers with access to our tools and ensures the long-term sustainability of our support for Canadian innovation well into the future.



10,000 Canadian researchers with access to our tools

We strengthened our presence and grew our network in Canada and around the world. At home, we surpassed 60 post-secondary educational institutions in CNDN, welcoming Nipissing University and the Southern Alberta Institute of Technology (SAIT) as our 60th post-secondary educational institution to the join the network as a member. We are also proud to announce that we have moved our head office to Montreal and forged a formal relationship with the Government of Québec to support the growing photonics and quantum sectors there. We expanded and opened a new office in Ottawa – home to some of the nation's most innovative players – to provide support for research in microelectronics, photonics, and mechanical sensors (MEMS) and embedded systems.



60 Post-secondary institutions are now in CNDN

Our international reach is growing and is a testament to Canada's strong reputation in research and innovation. We have hosted an international Micro and Nano technology network for over a decade and this year we welcomed the Australian National Fabrication Facility (ANFF) to provide clients of both networks with access to world-leading expertise and equipment. We also partnered with GLOBALFOUNDRIES® (GF®), the world's leading specialty foundry, making their most advanced platforms available to CMC researchers. Finally, we continue to co-develop technology with Advanced Micro Foundry (AMF) of Singapore and we launched a support program for European clients through Circuits Multi-Projets (CMP) of France. We will keep our clients at the leading edge of silicon photonics and microelectronics design and fabrication.

**We are proud to play an important role in Canada's
research and innovation ecosystem and are well placed
to take our country's best to the next level.**

Like most of the world, we were impacted by the COVID-19 crisis at the beginning of 2020. Our past investments in cloud-based platforms proved invaluable as we were well positioned to continue offering our core design (CAD) and fabrication (FAB) services remotely, without interruption. We also leveraged our experience in delivering training remotely to ramp up our offering of virtual workshops and training services for our community. Our highly qualified personnel – CMC's most important resource – continued to work diligently, and safely.

GORDON MEIN

Chair of the Board of Directors, CMC Microsystems

GORDON HARLING

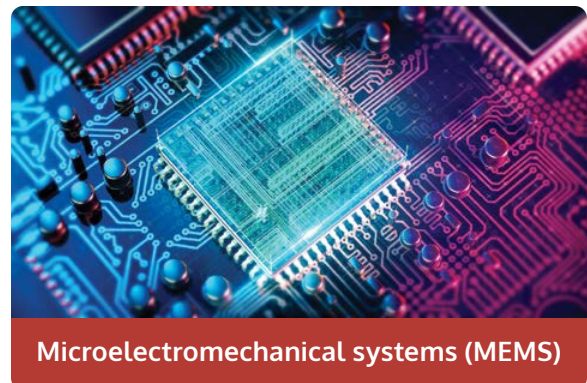
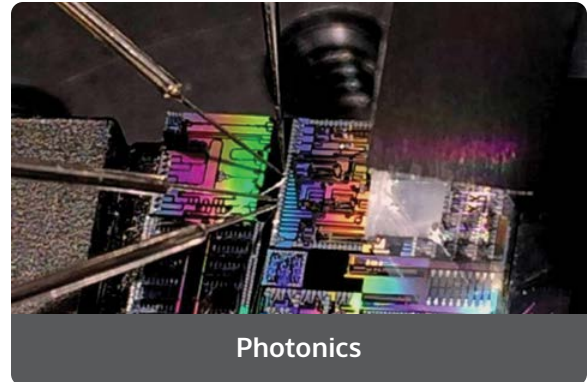
President and CEO, CMC Microsystems

Technology Direction

CMC and CNDN facilitate access to state-of-the-art design, manufacturing, and testing facilities for microsystems technologies. We lower barriers to technology adoption by giving Canada's top researchers and innovators simplified access to the best tools to design, develop, and test their ideas.

Following extensive stakeholder consultations, we updated our technology roadmap to identify emerging opportunities and ways that we can support them. We have intensified our focus and efforts on foundational technologies.

These technologies are critical to enabling Canada's growing digital economy, and helping these sectors thrive is perfectly aligned with the Government of Canada's Economic Strategy.





Microelectronics

The semiconductor industry is heading toward a collaborative and comprehensive “silicon to services” model. This shift will mean that the industry will cover a more integrated product and service offering that spans from data centers to the mobile edge applications.

This model builds on the ideas of Platform as a Service (PaaS), open-sourced hardware, and building silicon from disaggregated, pre-verified chiplets to slash costs and reduce time-to-market for heterogeneous designs.

This shift brings with it significant initial costs and structural barriers that can dissuade some innovators and firms. CMC lowers barriers to microelectronics technologies access by reaching out internationally to customers to help make production runs more affordable and frequent for Canadian clients. Our channel partnership with GLOBALFOUNDRIES (GF) is an example of how we are allowing Canadian innovators to compete in this space.

Photonics

Photonics technology is widely used in almost all modern technology infrastructure, where it delivers many essential functions ranging from data transmission to sensing. The photonics industry is ripe for widespread integration between different systems and across applications. With increased integration comes the potential for explosive growth.

At CMC, we view photonics as a systems-enabling technology, and are working towards a future where photonic functionality is built into all chips and integrated with technologies such as microelectronics. This shift naturally leads to more complex designs and higher deployment costs. As the photonics sector is set for exponential growth, CMC will continue to break down access barriers so that Canadian researchers are well placed to design leading edge, fully integrated photonics technologies.

CMC will continue to fund research projects with partners to lower barriers to entry and develop “made in Canada” photonics solutions.



Technology Direction

(Continued)

Embedded Systems

We enable critical research in artificial intelligence, machine learning, heterogeneous computing, and 5G applications for researchers and industry across CNDN. These technologies are growing incredibly quickly, with new potential applications emerging regularly. Despite increasing adoption, design, prototyping, and manufacturing costs still present an important barrier to entry.

CMC lowers the barriers to technology adoption by creating and sharing platform technologies to develop the future of embedded systems. We do this by providing access to the world's best available tools such as Cadence, Mentor, Synopsys, and providing funds for purchases.

Microelectromechanical System (MEMS)

MEMS growth is fueled by established sectors of the economy such as automotive and consumer goods, and is poised to become critical in advanced manufacturing of medical technologies and diagnostics, machine health, smart buildings, and edge computing.

However, the highly diversified MEMS market typically requires a unique manufacturing process for each product, resulting in high costs and technology access barriers. The Canadian ecosystem houses two MEMS foundries, and centres for pilot fabrication, packaging, and system development. Leveraging our relationships within this rich ecosystem, CMC has provided fabrication services for almost 400 designs in the last five years.

R&D Project Examples

Embedded Systems

- ✓ RISC-V Core (in collaboration with OpenHWgroup.org) with image segmentation hardware offload & DNA analysis hardware offload (MITACS)

Microelectronics

- ✓ Advanced CMOS layout

MEMS, Nanofabrication, Integration

- ✓ Silicon interposers and RDL (Mitacs)
- ✓ Electronic sensor platform (open-gate JFET) (Mitacs)
- ✓ MIDIS 2 CMC reference designs to update
- ✓ Product Design Kits for improved useability
- ✓ ProtoPack service to provide 3-D printed packaging

Photonics

- ✓ Photonic quantum computing
- ✓ Silicon Photonics Tool kit
- ✓ Silicon Photonics *Made in Canada*
- ✓ GlobalFoundries 45nm photonics development
- ✓ Printed photonics (in collaboration with INO)
- ✓ Photonics interconnect technology (in collaboration with IBM)



Our Board of Directors

Mr. Gordon Mein, Chair

Senior Director, Strategic Partnerships, Ciena

Mr. Gord Harling

President and CEO, CMC Microsystems

Mr. Shawn Blakney

Senior Director of Global Technology and Innovation, Celestica

Dr. Paul Chow

Professor, Department of Electrical and Computer Engineering, University of Toronto

Dr. Mary Ann Maher

Chief Executive Officer, SoftMEMS

Mr. Stéphane Tremblay

Site Business Development Manager, IBM Canada

Dr. Douglas Colton

Director Emeritus

CMC was glad to welcome the following new members to the Board who bring a wealth of experience from Canadian industry, academia, and research. Along with our returning directors, Board members play an important role in a revitalized CMC that is uniquely positioned to keep Canada at the forefront of innovation.

Mr. Ian Roane

Vice-Chair

Dr. Vincent Aimez

Vice-President Partnerships and Knowledge Transfer, Université de Sherbrooke

Dr. Alain Chandonnet

President and Chief Executive Officer, Institut national d'optique (INO)

Mr. Xerxes Wania

Wania Startup Advisors

Dr. Charles Despins

Vice-President, Research and Partnerships and Professor, Department of Electrical Engineering, École de technologie supérieure

Dr. Simon Wingar

Director of Research and Development, Advanced Technology Fabrication and Canadian Photonics Fabrication Centre, National Research Council Canada

[October 22, 2019 to March 5, 2020](#)

Dr. Ruth Rayman

Director General, Advanced Electronics and Photonics, National Research Council Canada

[As of March 5, 2020](#)

Officers of the Corporation

Ms. Nancy A. Marlow

Secretary-Treasurer

[April 1, 2019 to October 22, 2019](#)

Mr. Peter A. Stokes

Corporate Secretary

[As of October 22, 2019](#)

Ms. Marie Thiele

Treasurer and Director, Common Services

[As of October 22, 2019](#)

Thanks to our Funders!



**Government
of Canada**



**Canada Foundation for Innovation
(CFI) Major Science Initiatives
(MSI) program**

Major Research Facility: Canada's
National Design Network

**CFI Innovation Fund
Infrastructure Projects**

ADEPT - Advanced Design Leading
to Manufacturing in Micro-Nano
Technologies

Government of Alberta

Government of British Columbia

Government of Manitoba

Government of New Brunswick

Government of Newfoundland and Labrador

Government of Nova Scotia

Government of Ontario

Gouvernement du Québec

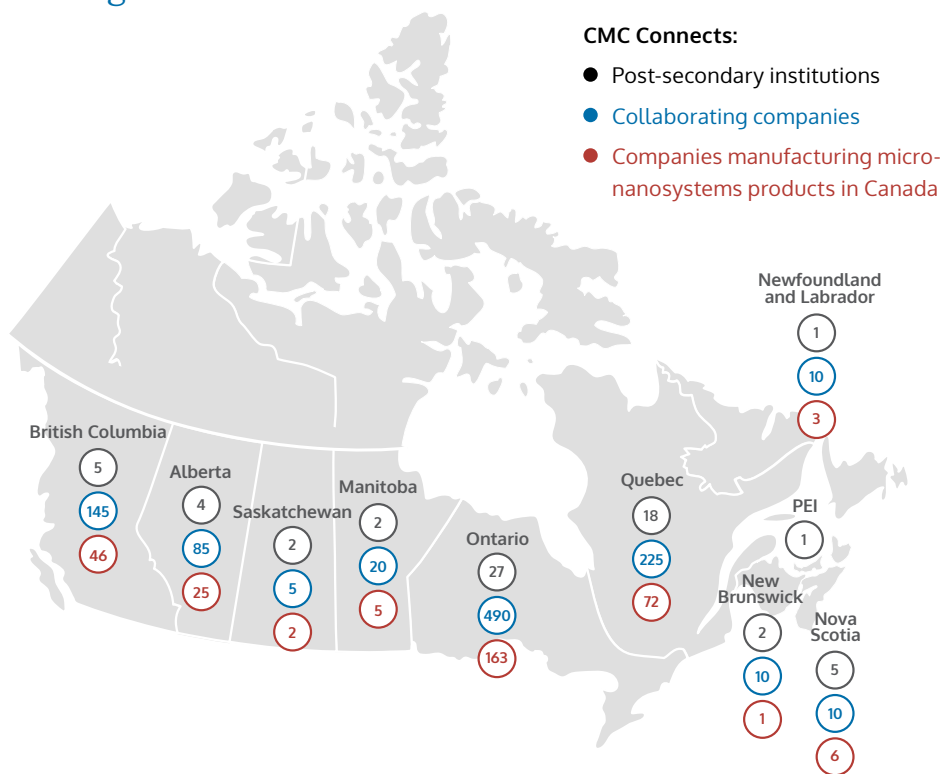
Government of Canada



By the Numbers

Canada's National Design Network

A national network of 10,000 academic participants and 1,000 companies developing innovations in micro-nanotechnologies. CMC manages CNDN.



A Growing Community of Over 10,000 Users

1,275

Professors including
150 Research Chairs

3,720

Undergrads

3,405

Graduate Students

200

College Students

510

Post-Doctoral Fellows

14

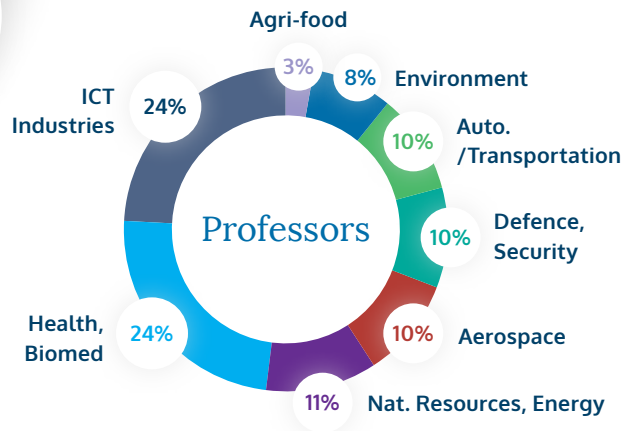
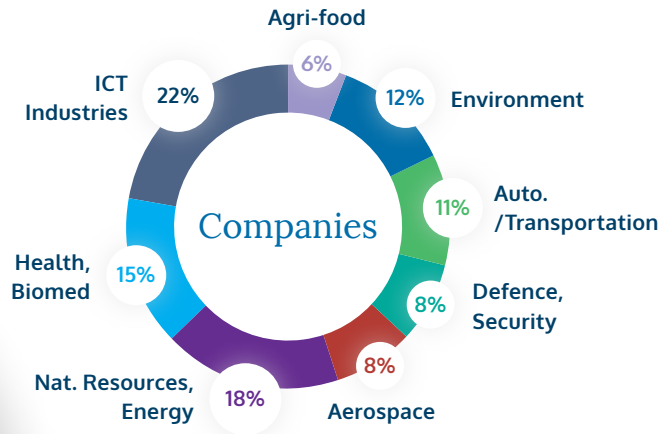
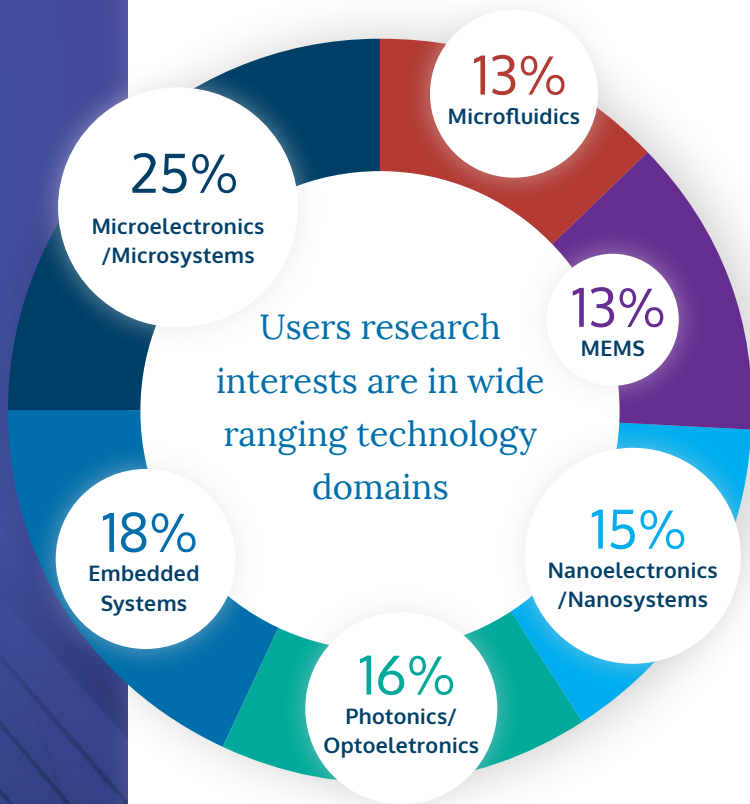
Companies and 3 Academics Outside
Canada Directly Used Services

360

Research Staff

By the Numbers

Research Interests



By the Numbers

Industrially Relevant Research

A strong national network delivering globally competitive, industrially relevant research and innovation.

Research Excellence



3,310

Publications



170

National and
International Awards

Industrial Impact



35

Licensed
Technologies



225

Patents
(applied for/issued)



10

Startups



475

HQP moved to
Industry in Canada

By the Numbers

Creating & Sharing Knowledge

Consistent growth in training aspiring research leaders and connecting industry with research.

Trained HQP



395

Graduate Courses



480

Undergraduate
Courses

Collaborative Initiatives



435

Collaborations
with industry
valued at \$29M



460

Inter-university
collaborations in
Canada and abroad



120

Collaborations with government
and not-for profit organizations

CAD | FAB | LAB

Capability to keep researchers at the leading edge



CAD

High-performance Computer Aided Design tools and environments for successful design from over 25 vendors

- ✓ **560 CAD tools and modules** available via desktop or through CMC Cloud
- ✓ **6,575 users**
- ✓ **420 user guides**, application notes, training materials and courses
- ✓ **20 training courses and events**
- ✓ **5 webinars**



FAB

Multi-project wafer services, value-added packaging and assembly services and in-house expertise for first time-right prototypes

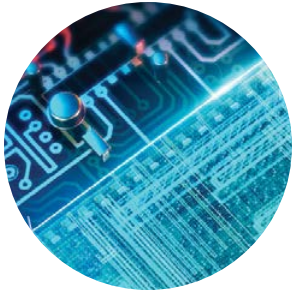
- ✓ **25 technology runs** through **9 foundries worldwide**
- ✓ **200 designs fabricated**
 - 150 were fabricated through CMC's global network of industry-scale fabrication foundries
 - 50 were developed through Canada's MNT network of 40 university-based labs



LAB

Device validation to system demonstration

- ✓ **675 programmable development systems**
- ✓ **80 pieces of test equipment for rent**
- ✓ Online support system with over **2000 cases closed annually**



New Additions to Support Novel R&D

CMC partnered with **GLOBALFOUNDRIES® (GF®)**, the world's leading specialty foundry, providing access to GF's advanced and specialized FinFET, RF SOI, FDX, SiGe, and Silicon Photonics platforms. Under the agreement, CMC customers can also access to the GF GlobalShuttle Multi-Project Wafer (MPW) program as well as dedicated prototype and production runs in GF technologies.



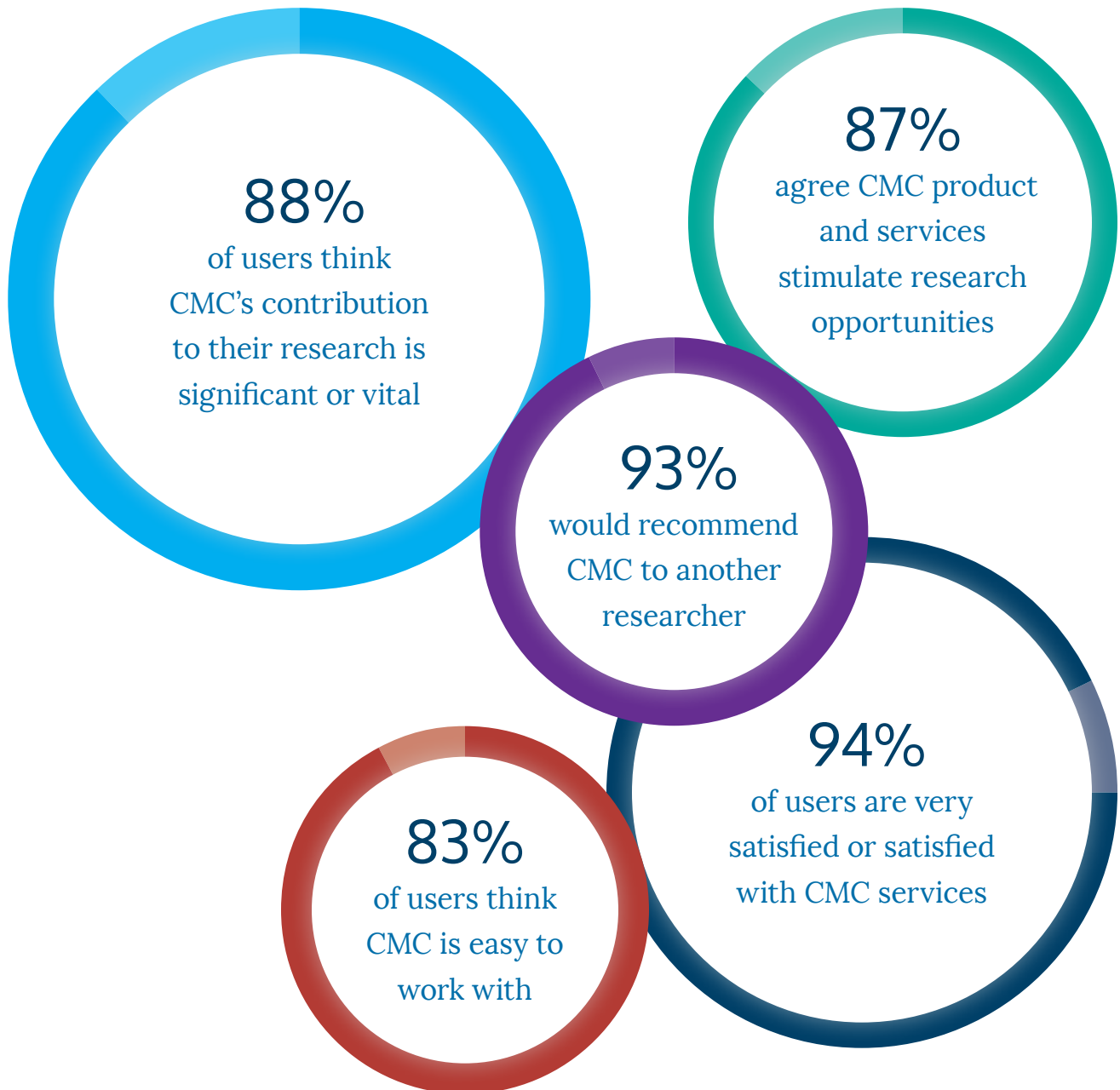
CMC partnered with **Advanced Micro Foundry (AMF)** of Singapore with European support from **Circuits Multi-Projets (CMP)** of France to facilitate silicon photonics wafer runs. CMP will be promoting AMF manufacturing services to its European client base in universities, research laboratories, and industrial companies.



“With a quantum science sector erupting out of Sydney, and with new MEMS, medical, sensing and optoelectronic technologies being developed within ANFF's locations across Australia, this is the perfect time for us to strengthen international ties with world-leaders in the field of enabling commercialisation such as CMC.”

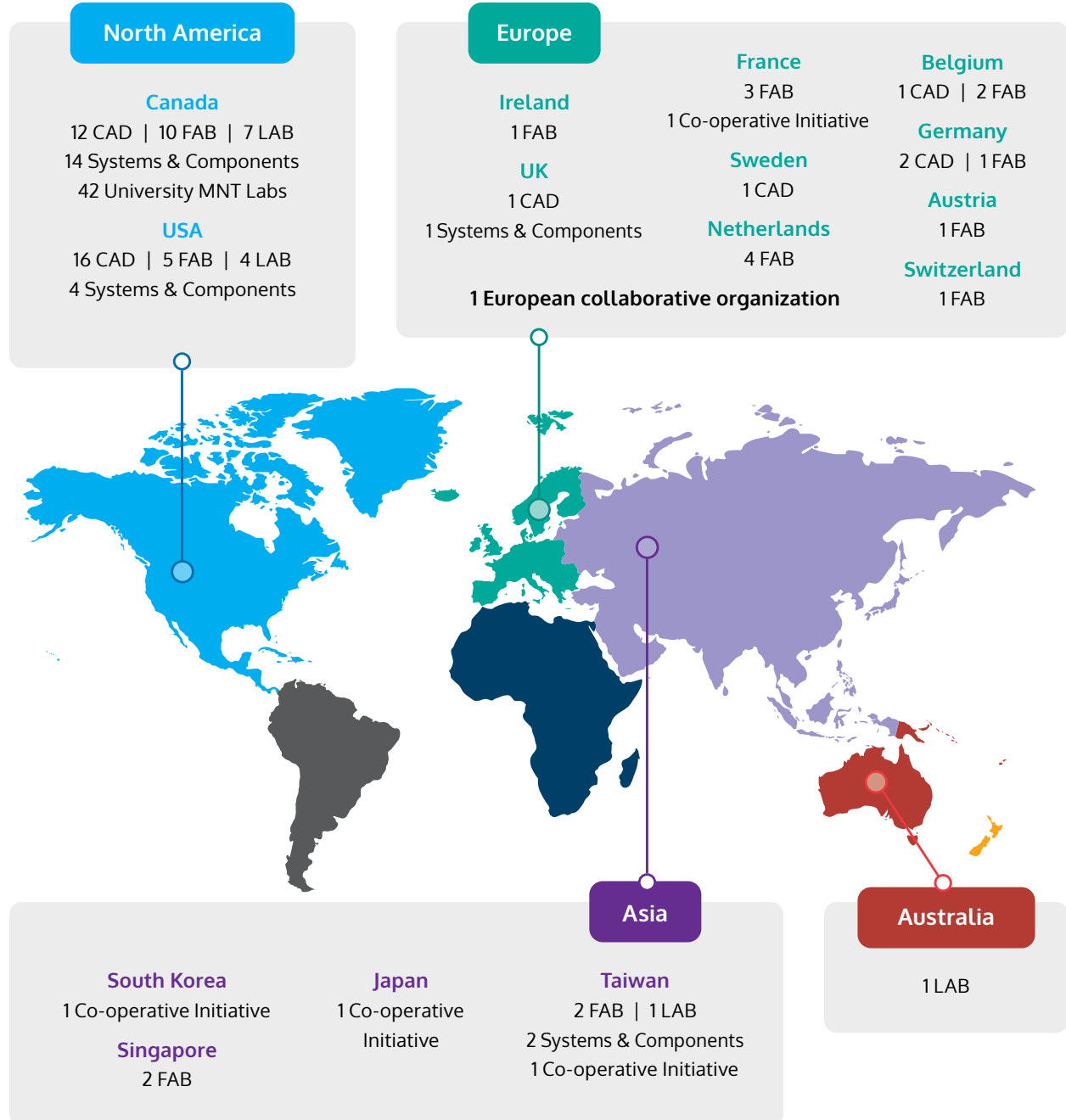
– DR. IAN GRIFFITHS, CEO, AUSTRALIAN NATIONAL FABRICATION FACILITY (ANFF)

Our Community of Researchers Values CMC's Contributions



Global Partners

CNDN's worldwide industrial supply chain – supporting research excellence



International Relationships

Facilitating R&D collaboration through membership in strategically aligned organizations.

- ✓ AIoT
- ✓ AnySilicon
- ✓ C2MI
- ✓ CANARIE
- ✓ CATAlliance
- ✓ D&R - Design & Reuse
- ✓ EPIC
- ✓ Life Sciences Ontario
- ✓ NanoCanada
- ✓ NanoOntario
- ✓ OpenHardware Group
- ✓ Optonique
- ✓ OSA-OIDA
- ✓ Photons Canada
- ✓ PRIMA Quebec
- ✓ RISC-V
- ✓ SEMI
- ✓ SPIE
- ✓ TECHNATION (formerly ITAC)

Working with international peers to advance the global potential of micro-nanotechnology.

ANFF Australian National Fabrication Facility
AUSTRALIA

CMP Circuits Multi-Projets
FRANCE

EUROPRACTICE and NEXTS
eXtended Technologies and Services
BELGIUM, GERMANY, UK

IDEC Integrated Circuit Design Education Centre
SOUTH KOREA

imec Interuniversity Microelectronics Centre
BELGIUM, GERMANY, UK

STFC Science & Technology Facilities Council
UNITED KINGDOM

TSRI Taiwan Semiconductor Research Institute
(formally CIC)
TAIWAN

Tyndall National Institute
IRELAND

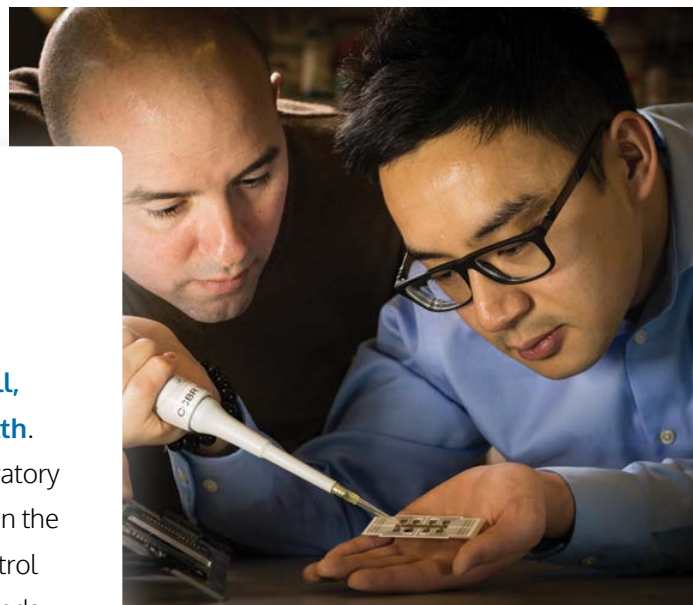
VDEC VLSI Design and Education Center
JAPAN

Success Stories

Simple diagnostic tools for the world's most vulnerable

Alphonsus Ng and supervisor Dr. Aaron Wheeler, University of Toronto, **used digital microfluidics to develop a simple, small, yet precise diagnostic tool with a big impact for public health.**

Their innovation enables researchers to carry out diagnostic laboratory procedures on some of the world's most vulnerable populations in the developing world. Working with the U.S. Centres for Disease Control and Prevention (CDC) and other agencies their team tested hundreds of children and their caregivers for infectious disease at the Kakuma Refugee Camp in Kenya, after a camp-wide immunization campaign.



A deeper understanding of light, one photon at a time

Université de Sherbrooke's Dr. Jean-François Pratte and his team, including Frédéric Vachon, are advancing the power and sophistication of imaging technologies. They developed **ultra-sensitive light detection techniques that give us a better understanding of photons** – the individual particles of light. **Pratte's work was recognized with the IEEE's prestigious Radiation Instrumentation Early Career Award.**

Their work has applications from PET scan technology to big-science endeavours such as neutrino detection and particle physics.



“Without CMC support, Canadian researchers could not compete with the rest of the world.”

– DR. JEAN-FRANÇOIS PRATTE, UNIVERSITÉ DE SHERBROOKE

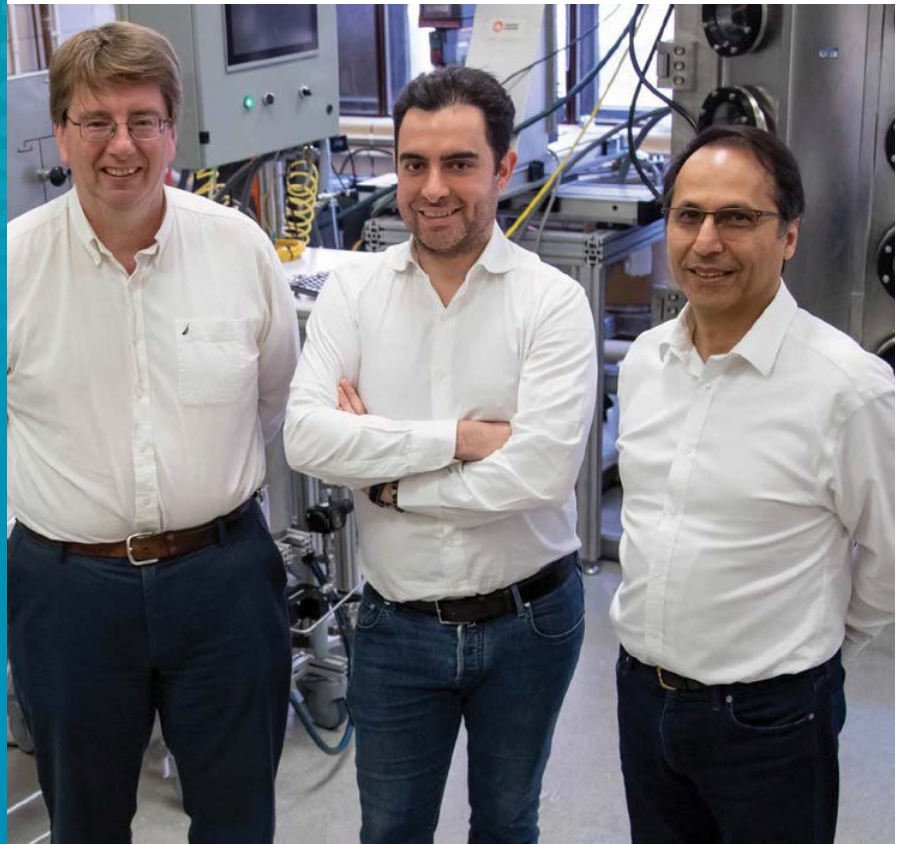
Sizing up an industrial solution from an everyday product

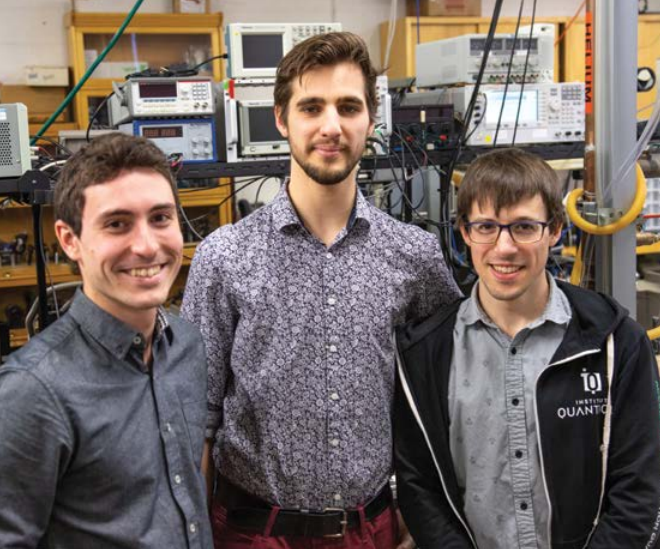
Spray nozzles are used in many industrial processes, from painting cars on assembly lines to coating tablets in pharmaceutical manufacturing. They are an essential tool in agriculture, aerospace and other sectors – but their effectiveness is limited by the characteristics of the minuscule droplets that they diffuse. Dr. Pierre Sullivan and Dr. Nasser Ashgriz, of the University of Toronto, have developed **a device-the DropSizer-that uses machine-learning and statistical analytics to assess whether droplets produced by nozzles are the right size and flowing at the right speed for optimum control and efficiency.**

Together with optical engineer and their former graduate student Dr. Amirreza Amighi, they have founded **Mazlite**, a Toronto-based start-up that works with automakers and pharmaceutical companies to improve their processes.

“CMC Microsystems has played an important role in commercializing our work. They gave us a lot of the design tools, including access to fluid-modeling software and expertise.”

– DR. PIERRE SULLIVAN,
UNIVERSITY OF TORONTO





Using diamonds to find more diamonds

Dr. David Roy-Guay and his Université de Sherbrooke students Vincent Halde and Olivier Bernard, developed a **quantum sensor for the mining sector**. By detecting changes in Earth's magnetic field with lasers, microwave circuits, and photodetectors, their innovation is sensitive enough to detect potential diamond deposits. Beyond mining, possible applications extend to monitoring integrity of vital structures here on Earth, all the way to outer space. As he prepares his technology for space, Roy-Guay is continuing to develop his magnetometer for other applications through his aptly named new company, **SB Technologies**.

“Without CAD solutions and access to simulation and design licenses provided by CMC, this “[quantum sensor project]” never would have happened.”

– DR. DAVID ROY-GUAY, UNIVERSITÉ DE SHERBROOKE

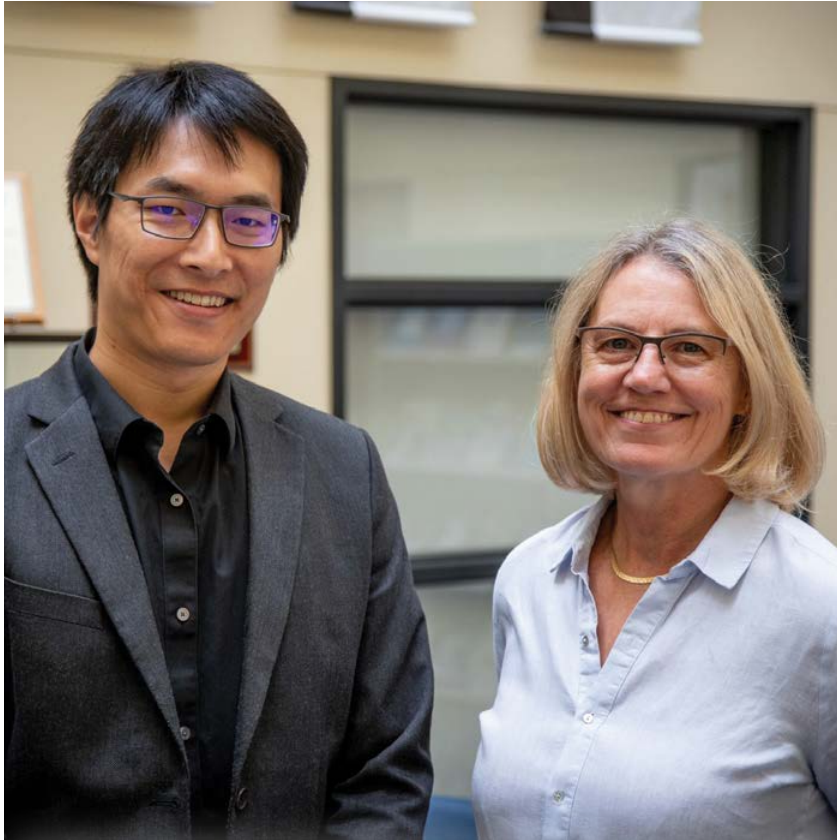
Creating intelligent antennas for the Internet of Things

University of Alberta professor Pedram Mousavi and research scientist Rashid Mirzavand developed a **self-powered sensor for smart antennas, capable of operating in challenging settings**. The technology is “zero power” in the sense that it does not need a battery – power can be harvested from radio frequency ambient power around the device. They founded spin-off firm **SenZIoT** to bring their innovation to market, and are working with Reza Nasseri, CEO of Edmonton-based **Landmark Homes**, in his efforts to offer “Net Zero” homes integrating many features to minimize energy consumption and costs.

“There are fewer opportunities for this kind of partnership in Canada, which makes CMC's role all the more important.”

– DR. PEDRAM MOUSAVI, UNIVERSITY OF ALBERTA





“CMC’s tools, services and expertise were critical to our success. None of this would have been possible without them.”

– DR. LESLIE RUSCH,
UNIVERSITÉ LAVAL

Ordinary material, extraordinary performance

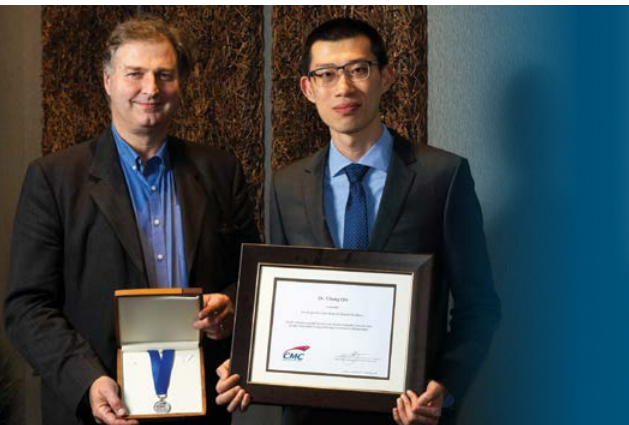
The relentless drive for better and faster IT infrastructure can make semiconductor devices expensive and difficult to process. Researchers often turn to exotic materials which increases costs and manufacturing complexity. Université Laval professors Dr. Leslie Rusch and Dr. Wei Shi were able to achieve superior performance of unusual compounds with a more commonplace material – silicon. They devised an economical option for **enhancing the flow of light signals across their modulator using an advanced format called quadrature amplitude modulation (QAM) to improve signal detection**. Their all-silicon modulator fabricated with standard industry techniques reached 100 Gigabaud, the fastest-ever transmission on silicon photonics.

Celebrating Innovation

Established in 1994 in honour of the founding president of CMC Microsystems, The Douglas R. Colton Medal for Research Excellence recognizes substantive microsystems or nanotechnology contributions.

Dr. Qin set out to develop a low-cost solution to a global problem: how do resource-limited communities know their water is safe to drink?

Dr. Yiheng Qin was recognized for his research into nanofabrication of novel materials leading to the development of an electrochemical microsensor for low-cost, real-time water quality monitoring. Key to his designs was using readily available, affordable materials and making the devices user-friendly so that they can be both manufactured and operated in low-resource communities and underdeveloped countries.



TEXPO 2019

Graduate student competition recognizing novel research with industrial relevances. **Congratulations to our award winners!**

Brian L. Barge Award for Microsystems Integration

Tejinder Singh, University of Waterloo

(supervisor Dr. Raafat Mansour)

“Miniaturized mmWave Chalcogenide PCM GeTe-Based Switch Matrices for Wireless and Satellite Communications Systems”

Judges praised his novel microwave switch networks, offering applications in telecommunications and consumer electronics.

Sponsored by CMC Microsystems



Micro-Nanosystems Design Award

Soroush Rasti Boroujeni, University of Waterloo

(supervisor Dr. Safieddin Safavi-Naeini)

“A Highly Efficient Bi-CMOS Ka-Band MMIC for Emerging Millimeter-Wave Communications Systems Phased-Arrays”

Highly efficient, compact and low-cost, his innovative monolithic microwave integrated circuit was cited by judges for its significant advantage in power consumption and market potential.

Sponsored by Teledyne DALSA





Community Involvement



CMC's network of researchers and partners stretches across Canada, but we are always looking to connect with the best talent right in our back yard and home community of Kingston. We were delighted to welcome Royal Military College (RMC) Electrical and Computer Engineering students to our facilities to learn the latest in nanotechnology. We look forward to working with Canada's finest well into the future.

Royal Military College (RMC) Electrical and Computer Engineering students led by Dr. Rachid Beguenane.



NANOverner

Co-hosted with NanoCanada in Edmonton, Alberta, these three complementary events convened more than 100 attendees from academia, industry, and government organizations to explore initiatives, resources, and research enabling innovation and technology for the future of living.



Highlights of the event include the biennial Lab2Fab workshop –a forum for micro-nanotechnology fabrication centres; workshops on advanced materials and nanotechnologies for Health explored the state-of-the-art in nanomedicine, and training on microfabrication process engineering using XperiDesk.

In Memoriam

CMC lost two friends, Dr. Pedram Mousavi and Dr. Mojgan Daneshmand on January 8, 2020. Pedram and Mojgan worked closely with CMC and made significant contributions to advancing research in their adopted country of Canada that they held in such high regard. In their honour, CMC was proud to financially support *The Mojgan Daneshmand, Pedram Mousavi and Victims of Flight PS752 Memorial Fund* at the University of Alberta which has created two graduate level scholarships for students to pursue their aspirations.

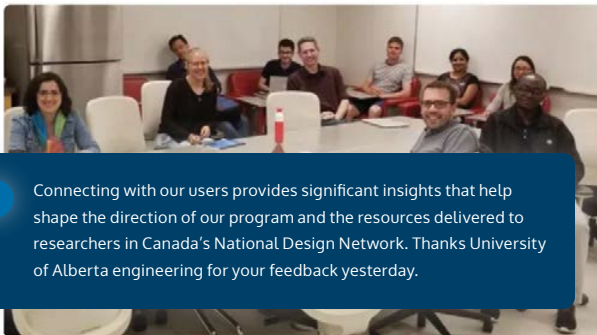
We also honour and remember other friends of CMC, Iman Aghabali and Mehdi Eshaghian, PhD students from McMaster; and Mojtaba Abasnezhad, PhD candidate in Toronto, for contributing their skills and insight in support of the entire microsystems community in Canada.

On the ground with our stakeholders

Connecting with our users provides significant insights that help shape the direction of our program and the resources delivered to researchers in Canada's National Design Network. We are proud to have visited institutions, partners, and clients across Canada to learn more about our users and how to better support them.



Connected with our @UCalgary community in Alberta yesterday! Great discussion about #microelectronics #research activities and where @CMCMicrosystems can assist. 7 site visits remain, more to come. We hope you can join us!



Connecting with our users provides significant insights that help shape the direction of our program and the resources delivered to researchers in Canada's National Design Network. Thanks University of Alberta engineering for your feedback yesterday.



In Toronto, Thursday, July 4th, to meet and discuss CMC's positive future, available services, and to learn more about your research needs. Thanks Ryerson University and University of Toronto.



Great discussion with professors at University of Alberta today! Learned more about their micro-nanotechnology research activities and the role CMC Microsystems plays. #NeedMyCMC



Great discussions with researchers in BC this week. Thanks to the University of British Columbia and Simon Fraser University for your valuable insights. For more information about how CMC can boost your research, visit us at www.CMC.ca



In Thunder Bay next week visiting Lakehead University on Wednesday, November 20th, to discuss research needs and available support!

Financial Summary

CMC delivers on its mission through the support of several financial stakeholders. In 2019-20, total revenues of \$10.2 million came from a variety of sources including federal government grants, user fees, industrial sponsorship, contract management services, and R&D consulting. The most significant source was CFI’s Major Science Initiatives (MSI) program, with significant new funding secured and extended to 2023. CMC also continues to earn contract management revenues by delivering and implementing a CFI-funded infrastructure project (“ADEPT”) for Canada’s National Design Network. Total expenditures of \$10.9 million are lower than the previous period. With federal government funding now secured, significant efforts to stimulate use of fabrication services and R&D activity are underway and a positive impact on spending in CAD, FAB, and LAB business units is expected in 2020-21.

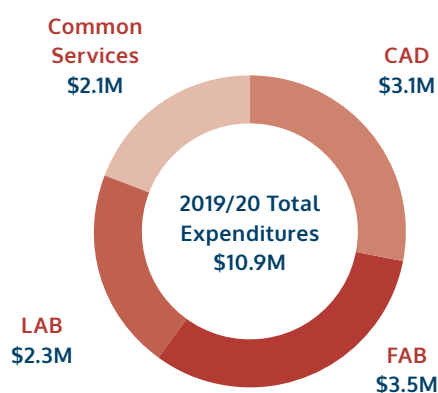
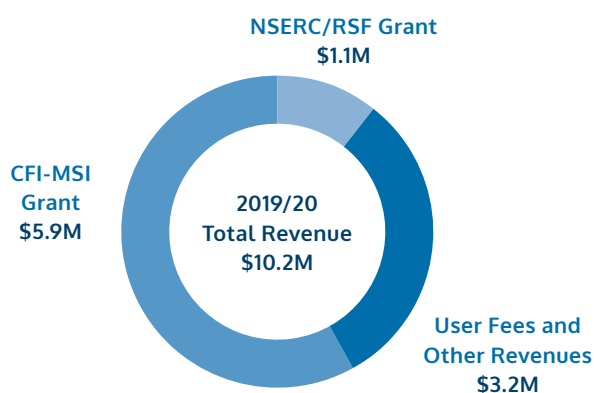
Statement of Financial Position as at March 31, 2020

Assets	2020	2019
Current Assets	7,328,253	6,749,215
Long-term Assets	597,217	502,992
	\$7,925,470	\$7,252,207

Liabilities & Net Assets	2020	2019
Current Liabilities	2,552,652	1,466,893
Net Assets	5,087,307	5,785,314
	\$7,925,470	\$7,252,207

Statement of Revenue and Expenditure for Year Ended March 31, 2020

Operations	2020	2019
Revenues	10,234,432	12,194,428
Expenditures	10,900,020	11,911,955
	(\$665,588)	\$282,473



www.CMC.ca/Corporate-Reports
for our complete audited financial statements



Let's Connect!



www.CMC.ca



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