

OPTONIQUE 2023
ANNUAL
REPORT 24

APRIL 1 TO MARCH 31

COR ACTIVE

2023
24

FIER MEMBRE DE
PROUD MEMBER OF
OPTONIQUE

LumIR
Mid-IR Fiber Lasers

ABB

MECADEMIX
next robotics

OMEGA
OPTICAL POLYMER

gentec-eo

ASENTECH
EAS

gentec-eo

clenax

LUMIÈRE

solliton

Looking for sustainable

innovative photo

compon

Power
Speed
Precision

Terion

For power, power, power

and



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ACKNOWLEDGEMENTS

OUR TEAM 2023-2024



**MADISON
RILLING, PH.D.**

EXECUTIVE
DIRECTOR



**JEAN-CHRISTOPHE
GAUTHIER, PH.D.**

DIRECTOR, COMMERCIALIZATION
& INDUSTRY PROMOTION



**FRANÇOISE
LEE, M.SC.**

ACCOUNTING AND BILLING
COORDINATOR



**ÉDITH
DUCHARME, M.SC.A.**

INNOVATION &
COLLABORATION SPECIALIST



**MATTHEW
POSNER, PH.D.**

WORKFORCE AND PHOTONICS
EDUCATION DIRECTOR

MESSAGE FROM THE PRESIDENT



Dear Optonique members,

The board of directors was proud to provide support and guidance to the Optonique team this year and impart its great ambition for our industry's future. This activity report provides just a glimpse of the outreach and mobilization work accomplished by Optonique on behalf of our unique and expertise-rich ecosystem. Although executive director Madison Rilling only joined us in 2022, she has already demonstrated her skill in selecting the right people to help reach the goals set together as we work toward our industry's success.

They say birds of a feather flock together, and 2023–2024 was definitely a year for coming together! In addition to international meetings in Munich and San Francisco, Optonique also paved the way for the Quebec's first photonics industry summit at the turning point to 2024–2025. Our day-to-day work generates similar and shared situations. We are not only connected by light, but also by common challenges, issues and opportunities. We are very fortunate to have a strategic cluster for our specific industry and sector!

As the president of the Optonique board, I speak for all the administrators when I say this: Dear members, thank you for your trust and your cooperation. Dear financial partners, your contribution is essential and appreciated; thank you. Dear satellite stakeholders, thank you for contributing to the success of the entire ecosystem. Thanks also to the Optonique team—an intelligent and passionate crew that's dedicated to their mission. After six rewarding years on the board, I must now pass on the torch, albeit with sadness for leaving my colleagues, just as the organization is enjoying great growth momentum.

As with exercise, you can't wait to have time to do it, you have to make the time. So I hope I will inspire others to get involved, too, in driving our industry to increase its market share. Optonique is able to do what we can't manage individually to increase the economic benefits here at home. According to John Lincoln of the Photonics Leadership Group, these benefits will reach over \$9.3 billion for Quebec by 2035, along with more than 50,000 jobs!

Enjoy the report and I look forward to seeing you again,

**MARIE-EVE
DUCHARME**

PRESIDENT

PRESIDENT OF THE OPTONIQUE BOARD

PRESIDENT & CEO OF NUVU CAMÉRAS

MESSAGE FROM THE EXECUTIVE DIRECTOR

Dear optics-photonics industry community,
dear partners,

THANK YOU is the first thing I want to say when I look back at the rewarding year we just experienced. On behalf of Optonique—your optics-photonics cluster—thank you for your involvement, your drive and your trust. The achievements presented in this report reflect your active involvement and continuing engagement that fortify the pillars of the economic and social future of Quebec's photonics industry. I am deeply proud to support start-ups, SMEs and large businesses, like yours. Optonique is truly privileged to witness your development and help fuel your growth.

This last year was a high-voltage one, featuring large-scale initiatives and partnerships that enabled us to take action on all our strategic fronts: workforce, promotion, marketing and innovation. Here is just a sample of the forward-looking projects conducted by the cluster to support the needs of industry members: promoting industry jobs to high school students, a cross-Canada study on the skills needed by the industry, technical-commercial missions and training, and representation on international committees in the industry.

The team at Optonique is dedicated to making Quebec's photonics industry a benchmark for innovation and excellence, both at home and abroad. You should consider this team—with its technical, entrepreneurial, educational, commercial and political expertise—your team as well. We act on behalf of and at the service of Optonique's members to unify our community across the province and to drive common projects that lay the groundwork for our sector.

In the coming year, our ambition will continue to grow in step with yours. We will move full speed ahead to make Quebec a reference in photonics, both locally and internationally.

We look to the coming year with the aspiration that, one day, we as a Quebecois industry and society will celebrate the full potential that shines here.

**MADISON
RILLING, PhD**

EXECUTIVE DIRECTOR



MEMBERS OF THE BOARD

ELECTED AT THE 2023 AGM



**MARIE-EVE
DUCHARME**
PRESIDENT

PRESIDENT & CEO
NUVU CAMERAS



XAVIER GODMAIRE
VICE-PRESIDENT

CEO LASERAX



SIMON DUVAL
TREASURER

CTO AND CO-FOUNDER FEMTUM



LOUIS MARTEL
SECRETARY

VP BUSINESS DEVELOPMENT
AND PARTNERSHIP INO



ALESSANDRO GASPARINI
ADMINISTRATOR

EXECUTIVE VP AND CHIEF
COMMERCIAL OFFICER IMMERSION



ANNIE DROUIN
ADMINISTRATOR

CEO SIMBOL TEST SYSTEMS



FRÉDÉRIC GIRARD
ADMINISTRATOR

GENERAL MANAGER MEGATECH

OBSERVERS



**JEAN-FRANÇOIS
MORNEAU**

ECONOMIC DEVELOPMENT
ADVISOR

VILLE DE QUÉBEC

MÉLISSA ROY

STRATEGIC CLUSTER
AND AREA DEVELOPMENT ADVISOR

MINISTÈRE DE L'ÉCONOMIE, DE L'INNOVATION
ET DE L'ÉNERGIE DU QUÉBEC

CAROLINE TASCHEREAU

DIGITAL TECHNOLOGY COORDINATOR

MINISTÈRE DE L'ÉCONOMIE, DE L'INNOVATION
ET DE L'ÉNERGIE DU QUÉBEC

ABOUT

Optonique was created in 2017 through the merger of the Quebec Photonic Network and the Créneau d'excellence optique-photonique de la Capitale-Nationale. Quebec's optics and photonics industry members and researchers wanted to join forces in a single organization in order to showcase the optics-photonics industry's capacity for production and innovation.

> Mission

Quebec's Photonics Cluster exists to invigorate Quebec's photonics ecosystem and provide it with representation; to increase its capacity for foundational and value-added projects; and to foster innovation, creativity and competitiveness.

> Vision

That in the future, Quebec's photonics sector will be a source of inspiration, for its employment opportunities, sustainable technologies and innovations that benefit society.

> Mandate

Its mandate is to mobilize businesses in the optics and photonics sector and their public sector economic partners and align their actions around common goals and intervention strategies.

> Description of the ecosystem

25,000+
jobs

250+
companies

\$3.6 billion
approximate contribution
to the GDP in 2023

OUR STRATEGIC FOCUS AREAS:

WORKFORCE

PROMOTION

MARKETING

INNOVATION

OPTONIQUE IN 2023–2024

“The year 2023–2024 was my first full one with Optonique. Our role here allows us to play a part in our industry's success and to witness that success first-hand. As a spectator and fan from the very beginning, it has been a pleasure to see the advances my colleagues have made, building on the work of recent years. The many trade missions, local conferences and trade fairs really cemented our industry's position as a world leader. These resounding successes can be chalked up to the participation and involvement of an enthusiastic industry. As someone involved, 2023–2024 allowed me to take ownership of several Optonique projects—many of which were launched at the very start of 2024–2025, and to strengthen my knowledge of our vast industry, driven by a desire to serve you better.”

**ÉDITH
DUCHARME**

INNOVATION &
COLLABORATION
SPECIALIST



“As Optonique's director of commercialization and industry promotion, I know how central exports are to the photonics industry. For that reason, we are working actively to increase the presence and recognition of Quebec photonics internationally and to amplify the growth and success of our local players. Optonique also invested an enormous amount of effort in 2023–2024 to enable its members to accelerate their marketing and capture new markets.

Through trade missions organized by Optonique, solid relationships were forged with Singapore and the Netherlands, two strategic regions known for their dynamic photonics ecosystems. A memorandum of understanding was signed with the local organizations LUX Photonics and PhotonDelta.

Optonique also played a part in attracting and organizing international delegations in Quebec, notably from France, Finland and the European consortium EPIC. The business discussions held and people I got to meet personally were especially inspiring and made my work even more rewarding.

I look forward to continuing our momentum to promote the driving forces within Quebec even more, both internationally and within the province.”

**JEAN-CHRISTOPHE
GAUTHIER**

DIRECTOR, COMMERCIALIZATION
& INDUSTRY PROMOTION



THE YEAR 2023–2024

Organized
26
MAJOR PROJECTS

Mobilized
121
COMPANIES AND
ORGANIZATIONS DURING
OPTONIQUE ACTIVITIES

57
COMPANIES/
ORGANIZATIONS
benefited from consulting
and support services

ATTENDED, PARTICIPATED
IN AND CONTRIBUTED TO:

133
activities and initiatives
on market development,
sales and promotion

126
training sessions and activities
on best business practices and
the workforce

26
activities and initiatives
on supply chains


65
members

81
linkages
made

24
trade
missions


13
newsletters



Over **600 new** LinkedIn
subscribers in 2023–2024



3.541 subscribes
as of March 31, 2024

WORKFORCE FOCUS

The talent and skills alignment needed to support the growth and productivity of Quebec's photonics industry

The challenges faced are both great and many, for instance recruiting labour to support growth, continuing education and requalification, and the shortage of technologists. This is why Optonique's activities in this area cover the whole spectrum, including promoting optics and photonics to high school students, offering training to the industry and having a strong presence in photonics-related undergraduate programs. Here's an overview of Optonique's involvement in 2023–2024.

Activities

- Partnerships with strategic organizations to offer supplementary training at a discount
- Participation and support
 - + 5 à 7 networking with the physics engineering department at Laval University and at Polytechnique Montréal
 - + Career fair for graduate and postdoctoral students from STARaCom, COPL and ReSMIQ
- Partner of the Jeux de la physique and the Québec Engineering Competition (QEC)



500
GRADUATE
AND POST-GRADUATE
STUDENTS

AT
8
UNIVERSITIES



WORKFORCE FOCUS

SHAPING THE WORKFORCE OF TOMORROW

THE CASE OF JEUNESXPLO

It will take a sustained effort to supply the workforce needed for our sector's growth, starting at the high school level. JeunesExplo is an organization that encourages young people to stay in school and make the right career choices in the last three years of high school. To do this, it provides resources for youth as well as school personnel.

Optonique was able to partner with JeunesExplo for a third year, thanks to the involvement of INO, ITF Technologies, Thorlabs, Gentec-EO and Laserax. In response to the need of photonics companies, we emphasized a career as a technologist working in optics-photonics. This partnership encourages interest in professions in the science of light to high school students and school staff. In addition to the one-day placement in April, the partnership with Jeunes Explos offers the following:

- An exclusive one-day placement in the sector in the fall
- One week of studying the science of light, featuring webinars and promotional material
- Shooting a video on the career of technologist in physics engineering

This year, 43 young people participated in one-day placements. Additionally, 3 out of 4 students are planning to enter this field at the postsecondary level. The ongoing investment by Optonique and its members is bearing fruit!

Our members who hosted a student placement in 2023–2024:

ABB AEAPONYX CASTOR OPTICS EXCELITAS
ÉCOLE DE TECHNOLOGIE SUPÉRIEURE GENTEC-EO
LASERAX ITF TECHNOLOGIES INO
INRS – ÉNERGIE MATÉRIAUX
TÉLÉCOMMUNICATIONS RESEARCH CENTRE
OPTECH THORLABS POLYTECHNIQUE MONTRÉAL

Thank you for participating in recruiting the workers of tomorrow!

Canadian Photonics Skills Survey

OPTONIQUE

WORKFORCE FOCUS



Thank you to our partners for their support



SURVEY ON THE SKILLS

NEEDED BY THE CANADIAN PHOTONICS INDUSTRY

Under Optonique's supervision, four graduate students—Harry Cai of the University of Toronto, Mustafa Hammood of the University of British Columbia, and Daniel Hutama and Ozan Oner, both of the University of Ottawa—conducted Canada's first survey on the photonics skills required by the industry. Their mission was to identify the skills essential to photonics companies.

A web-scraping algorithm analyzed the photonics job offers across the country. The resulting data therefore reflect the job market. This highly innovative methodology is able to take the pulse of the industry and was initiated at the very hands of the up-and-coming generation!

The results were unveiled in May 2023 at the Education and Training in Optics and Photonics (ETOP) conference and were widely disseminated throughout the photonics industry and at universities.

This project was realized through a collaboration with:

MCGILL UNIVERSITY

CMC MICROSYSTEMS

UNIVERSITY OF OTTAWA

UNIVERSITY OF TORONTO

UNIVERSITY OF BRITISH COLUMBIA



While I was a graduate student, my classmates and I were interested to know which competencies would be important for us to have for transitioning into careers in photonics. At the same time, we wanted to help push our photonics industry forward by better matching university curricula with industry requirements. More importantly, we wanted validation that we could pursue those careers in Canada.

When we discussed this idea with the team at Optonique, they were immediately supportive and additionally offered to fund a project to map the Canadian photonics industry and its human resource requirements. Optonique was instrumental to the project's success by mobilizing multiple photonics stakeholders across Canada, including CMC Microsystems, Photons Canada, McGill University, the University of British Columbia, University of Toronto, and University of Ottawa.

For myself, working with Optonique highlighted the importance and effectiveness of goal cohesion and collaboration across multiple organizations. As a researcher, these lessons were crucial for bringing new discoveries to publication. In my new technical business development role, these lessons have been, and continue to be, invaluable for bringing new Canadian semiconductor technologies to market.



DANIEL HUTAMA

III-V BUSINESS DEVELOPMENT

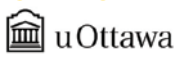
Canadian Photonics Fabrication Centre
National Research Council of Canada



HARRY CAI



OZAN ONER



MUSTAFA HAMMOOD



PROMOTION FOCUS

The optics and photonics industry's contribution to Quebec's economy and shaping a better society and greener future

Singing the praises of optics and photonics is one of Optonique's goals. To highlight the industry's value, Optonique promotes the science of light to a broad audience, from children to grandparents. After all, thousands of Quebecers are working on developing photonics, contributing each day to making the province a hub of scientific innovation. Photonics would not be such a big industry in Quebec without the support of more than 20 years of government programs... and ultimately, its citizens. The time has come to give the population an opportunity to enjoy the fruits of its labour.

This focus also involves promoting the photonics industry itself. Quebec's photonics sector plays an important role in the province and the country's economy. Local expertise is unquestionably an added value that deserves to be recognized as such.

Whether promoting the field to school-aged youth or serving on strategic committees, promotion was the resounding focus of Optonique's activities in 2023–2024.



Coming in 2024: **Lumière: The photonics industry summit**

The Optonique team turned the idea of a photonics industry summit into a reality in 2023–2024. The beginning of a long tradition!



PROMOTION FOCUS

REPRESENTING THE INDUSTRY

HERE AND ABROAD

Involved in 17 provincial and national committees

- Advisory Committee, Centre for Optics, Photonics and Lasers (COPL)
- Strategic Committee, Semiconductor Industry Leadership and Innovation Canada Action Network (SILICAN)
- National Advisory Committee, Advanced Laser Light Source (ALLS) Laboratory, a unique laser infrastructure in Canada
- Board of Directors, CMC Microsystems

Involved in 8 international committees

- Industry Engagement Committee, IEEE Photonics Society
- Strategic Committee on Public Policy, SPIE
- Global Photonics Alliance



NATIONS UNIES
UNITED NATIONS



OPTICA

QED-C



SPIE.

TECHNO
COMPÉTENCES





PROMOTION FOCUS

JEUX PHOTONIQUES

Jeux Photoniques (photonic games) is a friendly competition held to teach secondary 5 students about the science of light. Each year, a few hundred students take part in the two-day event at the Université Laval.

As a propulsion partner, Optonique boosts business recruitment for the event by enhancing their monetary contribution. This support ensures that this 100% student-led initiative can continue each year.

Five industrial partners benefited:

- > Previa
- > Laserax
- > INO
- > Festo Didactic
- > TeraXion
- > LR Tech

70
VOLUNTEERS

More than
300
STUDENT
PARTICIPANTS

Volunteers
from
9
UNIVERSITY
PROGRAMS

5
INDUSTRY
PARTNERS

PROMOTION FOCUS

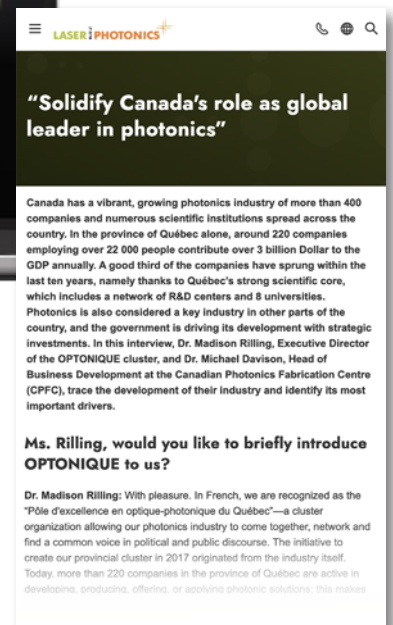
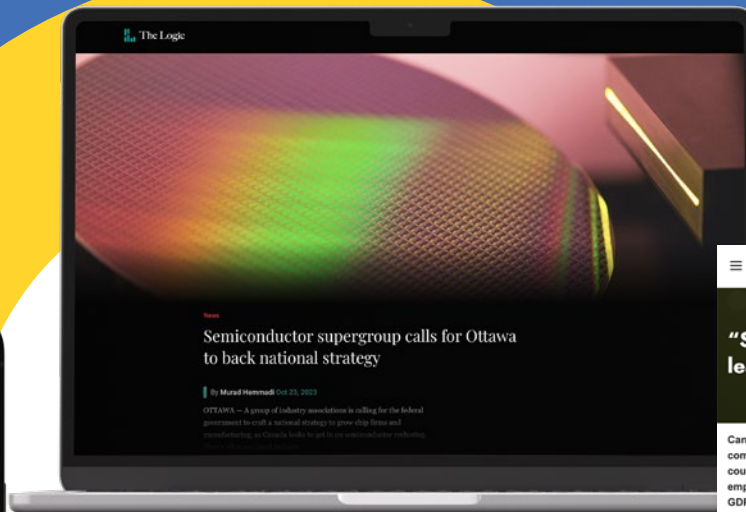
OPTONIQUE IN THE MEDIA

8
press
articles

16
appearances

3
podcasts

3
articles
on **SILICAN**



MARKETING FOCUS

The importance of marketing internationally and diversifying export markets

Exportation is of utmost importance in the marketing efforts of photonics businesses, for large companies as well as start-ups. There are many challenges involved in finding and breaking into new markets abroad, not to mention the circumnavigation required by export processes (regulatory, logistics, etc.). And yet there are few opportunities to tackle these common issues.

Optonique supports export marketing in two ways: first, by sparking opportunities through trade missions and trade fairs; and second, by offering targeted training on the common issues encountered.

Notable activities

- > Hosted four trade missions
 - + Tour of four companies by the Délégation générale du Québec à Munich **MAY 16, 2023**
 - + Edmund Optics delegation **JUNE 9, 2023**
 - + EPIC delegation of 9 foreign companies involving 22 Quebec companies **JUNE 12 TO 16, 2023**
 - + Welcome of two delegates from Photonics Finland **JANUARY 23 TO 26, 2024**
- > Digital marketing cohort



MARKETING FOCUS

PHOTONICS WEST AND LASER MUNICH

AN INTERNATIONAL PRESENCE

Photonics West and Laser World of Photonics Munich are two trade fairs everyone in the industry is talking about. After the pandemic measures were lifted, Optonique has focused on these two events by organizing targeted pavilions for Quebec or Canada.

- Photonics West in 2024: January 30 to February 1
- 20.000 participants and nearly 1.400 exhibitors

Like every year, San Francisco hosted a large Quebec delegation as part of the annual Photonics West conference. A total of 39 Quebec companies took part. Ten had a booth in the Quebec Pavilion organized by Optonique: Megatech, M2 Innovation, EXFO, IBM, Castor Optics, CMC Electronics, A2 Surfaces, Mecademic, INRS EMT and Femtum. Optonique also organized the following events:

- Quebec breakfast with the Québec Government Office in Los Angeles and the Québec Trade Office in Silicon Valley
- Optonique's signature reception at the Quebec Pavillion
- The Photonics for Quantum Supply Chain B2B networking event

The Laser World of Photonics Munich trade fair and congress, held from June 27 to 30, had record participation in 2023, with more than 1.300 exhibitors and 40.000 attendees. A Quebec delegation of 20 companies had the opportunity to meet, including 7 who had booths in the Canada Pavilion organized by Optonique: A2 Surfaces, CMC Electronics, INO, ITF Technologies, MPB Communications, NRC – Canadian Photonics Fabrication Centre and Raytheon Optical Tech (Ontario). The Quebec delegation also took part in a series of visits to the booths of international groups and renowned companies. All were able to benefit from exclusive networking sessions.

Once again, this year was a great success!



MARKETING FOCUS

PHOTONICS WEST OUTCOMES

Results of the satisfaction survey

- 367 qualified leads identified by respondents
- 22 non-disclosure agreements signed by respondents
- 26 possible new collaborations in the works
- \$3.05M in estimated potential sales, from 121 contracts
- \$453,500 in firm sales by respondents
- \$815,000 in planned purchases
- 5 potential new employees identified

The quantum networking evening organized with QED-C

17

POTENTIAL
LEADS

4

POTENTIAL SALES
CONTRACTS
ESTIMATED AT
\$320K

3

POTENTIAL
COLLABORATIONS
identified by respondents,
representing a third of Quebec
companies with a commercial
offering





global
photonics
alliance

MARKETING FOCUS

GPA & ARIZONA PHOTONICS DAYS

Global Photonics Alliance (GPA) est le regroupement des *clusters* internationaux en optique-photonique. Près de 60 organisations sur les cinq continents en font partie. Depuis 2023, Optonique a repris son rôle de leader aux côtés d'*OptoNet e.V* (Allemagne) et d'*Arizona Optics Valley* (États-Unis). En plus de la coordination des rencontres trimestrielles, Optonique se positionne comme point d'ancrage sur la scène internationale.

In 2023–2024:

- Two in-person gatherings at Laser Munich and Photonics West
- Two virtual networking events

Each year, our counterpart organization, Arizona Optics Valley, hosts the Arizona Photonics Days conference. Optonique attends to develop commercial and collaborative ties with this leader of the U.S. photonics industry, while also supporting its member companies. A2 Surfaces and Gentec-EO attended this year.



In 2023:

- Presentation of the Quebec optics-photonics industry ecosystem by Jean-Christophe Gauthier
- Product presentations for Gentec-EO and A2 Surfaces

INNOVATION FOCUS

OPTONIQUE

Pôle d'excellence en optique-photonique du Québec
en collaboration avec

OPTEL

RIORPOL
AOFI



ABB ciena **CREAFORM** **EXFO** **INO** **LASERAX**

Sharing resources and ideas to catalyze innovation, branding and excellence in optics and photonics

Innovation is without a doubt the cornerstone of Quebec's optics and photonics ecosystem. Optonique acts as a catalyst by bringing together a set of industry players: students, innovation support organizations and universities, from here and abroad, as well as industry members. After all, innovation is sparked by encounters, collaboration and a strong, united community. By offering opportunities to meet and by encouraging the sharing of experiences, lessons learned and resources, Optonique helps create an environment conducive to innovation.

Activities

- Montreal Photonics Networking Event
- Focus sur l'économie verte (focus on the green economy)
- Forum des innovateurs de Québec (Québec City innovators' forum)
- Presentation of the cluster in the Innovation Québec book
- Key role in organizing conferences and trade fairs

International Optical Design Conference

JUNE 4-8, 2023

Photonics North

JUNE 12-15, 2023

Inside Quantum Technology

JUNE 20-22, 2023

Optonique is a major ally of the Centre for Optics, Photonics and Lasers (COPL). This partnership helps mobilize and stimulate networking between academic research and industrial sectors with the aim of consolidating a high-performance research and innovation ecosystem that positions Quebec as a leader in the development of optical sciences and the adoption of photonic technologies.

This continuous research and innovation cycle is driven by ongoing collaboration between the respective communities of researchers and entrepreneurs, research enhancement corporations and technology transfer specialists. Since its inception, Optonique has invested time and effort into promoting Quebec's photonics industry and research internationally. There is no doubt that Optonique is helping magnify this technology sector's impact on Quebec's social development and economic growth.

**PROF.
SOPHIE
LAROCHELLE**
COPL DIRECTOR



INNOVATION FOCUS

PIC SUMMIT

Optonique organized a technical-commercial trade mission to consolidate Quebec's photonics integrated circuit (PIC) ecosystem and build on the collaboration with Photon Delta (the Dutch PIC cluster).

Centred around the 2023 PIC Summit Europe, the mission brought together some 30 companies from the PIC ecosystem in the Netherlands. The delegation was made up of 21 organizations, including 5 Quebec companies (Aeponyx, Exfo, Femtum, Fonex, One Silicon Chip Photonics) and 3 Quebec research and innovation support organizations (C2MI, INO, Optech).

Each representative was able to meet with 5 to 10 Dutch organizations or companies. The aim was to facilitate networking: between the Quebec and Canadian companies present on the one hand, and between the Quebec and Canadian delegation and the Dutch ecosystem on the other. The goal? Stimulate innovation both at home and abroad.

The Canadian delegation in numbers:

- 2 days at the PIC Summit
- 1 exclusive event – PIC in Canada
- 8 industrial tours and tours of research facilities
- 11 representatives from Dutch companies



« I have been to many missions and this one is one of the best-organized »

- PARTICIPANT

A look back at the mission

- Satisfaction rate of 4.75/5
- 5 to 10 qualified meetings per representative
- 20 non-disclosure agreements signed
- Meeting with major investors
- Estimated downstream sales of \$500K to \$1M



SCIENCE AND FICTION:

SITUATING AN INNOVATION ZONE IN QUEBEC'S OPTICS-PHOTONICS INDUSTRY

ROBIC
1892

**FRED VENNE,
M.SC.A.**

DIRECTOR, PATENT AGENT
ROBIC IP AGENCY LP



Optics and photonics is one of the biggest industries in Quebec. What would an innovation zone (IZ) look like in this sector? Here are some ideas that came out of the discussion held on the topic at Optonique's annual general meeting on September 27, 2024.

Where should the innovation zone in optics and photonics be located, geographically? In Quebec, expertise in the science of light is very delocalized, both academically and industrially. There is no geographically delineated place for all the important players in this industry.

Could patent mapping in the field of optics-photonics direct us to the most suitable location for an IZ? The main conclusions of this analysis are as follows:

> Nature of the developed technologies

Companies outside the greater Québec City area are more active in measuring instruments and equipment. Companies within the greater Québec City area are more active in telecommunications. Thus, the IZ would have different technological aims depending on its location.

> Business maturity

Companies in the greater Québec City area are more mature than those located elsewhere in the province. An IZ in the Québec City area would therefore support businesses that are much more established. Then again, less-mature companies might benefit more from the support of an IZ.

> International strategy

All Quebec companies, regardless of where they are located, have roughly the same intellectual property strategy internationally and are targeting markets outside Canada. The main markets of interest are the United States, China and Europe.

The chosen geographic location of the IZ in optics-photonics would determine which technological directions would benefit. As IZs are still taking off, their long-term impact on companies and research centres still remains to be assessed, both on the strategic development directions and on their commercial success. One thing is certain, Quebec's optics-photonics industry has been doing well for decades. All the factors are in place to maintain the momentum.

Innovation zone

"Innovation zones are defined geographical areas (adjoining lands within a single municipality or across several neighbouring municipalities) where stakeholders in research, innovation, industry and entrepreneurship come together and collaborate to create a culture of innovation, while also showcasing sustainable competitive advantages of the area or region"

OUR MEMBERS IN THE SPOTLIGHT IN 2023–2024

- Coractive inaugurates its new plant in the Espace d'innovation Michelet technopark **MAY 2023**
- Castor Optics wins the Imaging Innovation Award at Laser Munich **JUNE 2023**
- TeraXion acquires Swiss company Exalos, enhancing the innovative LiDAR offer for the automotive industry **SEPTEMBER 2023**
- TeraXion gets a new president: Mathieu Drolet **SEPTEMBER 2023**
- Quebec plant ABB celebrates half a century of innovation and analytical solutions **OCTOBER 2023**
- Castor Optics wins the award for innovation through public research at the ADRIQ gala **NOVEMBER 2023**
- ABB looks to fight greenhouse gases from space, with plans to add optical sensors to four more GHGSat satellites for GHG monitoring **NOVEMBER 2023**
- Zilia's retinal camera is approved by the FDA **NOVEMBER 2023**
- LumIR Lasers co-founder, Louis-Philippe Pleau, is named one of Forbes 30 under 30 (Manufacturing & Industry) **NOVEMBER 2023**
- Nüvü Camēras and SBQuantum receive funding from the NRC as part of the Canada-UK quantum science collaborations **DECEMBER 2023**
- Femtum raises more than \$5M to boost its expansion into laser manufacturing for the semiconductor industry **JANUARY 2024**
- Laserax receives \$1M from Canada Economic Development (CED) to market new laser-welding equipment that will produce electric vehicle batteries more quickly **FEBRUARY 2024**



OUR MEMBERS

2023 - 2024





In partnership with



THANK YOU

TO OUR FINANCIAL
PARTNERS



Canada Economic
Development
for Quebec Regions

Développement
économique Canada
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