



INO

2022 // 2023

Annual Report

OUR MISSION

Bring to life innovations that enable the industry from all over the country to be more productive and competitive.

OUR VISION

Establish ourselves, through light, as a world-class reference in translational innovation.

OUR VALUES

Listen, Understand, and Commit.

INO's activities are made possible through ongoing cooperation with our partners:



Développement
économique Canada
pour les régions du Québec

Canada Economic
Development
for Quebec Regions

Québec 

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MESSAGE FROM THE CHAIRMAN OF THE BOARD

Evolve and think big to transform the economy

Charles Darwin bequeathed to science his theory of evolution stating that all living species are in perpetual transformation. Consequently, adapting to a changing environment, and even launching major transformations, is essential for any organization working in innovation. In nearly 35 years, INO has therefore changed a great deal. It has become one of the best industrial innovation centres in the world and—above all—a strong driving force for economic development. Today, INO is everywhere, from agriculture to aerospace, as well as the fields of transportation, health, security, and manufacturing.

In addition, the organization has contributed greatly to changing the economic profile of Quebec by giving life to 35 technology companies, including Pavemetrics, CorActive, Teraxion, and Opsens. It is a local pride that has become an international reference from which so many local companies can benefit to increase their competitiveness on international markets.

Objective: \$700 M in economic benefits

According to independent studies, INO already generates nearly \$640 M in economic benefits in Canada. This is a lot, but the ambitions today are much greater. By now supporting its clients further in the steps of technological development, even up to the industrialization of their products, the potential for benefits is even higher. Turning knowledge into commercial success is really at the heart of our DNA, which is why INO aspires, through its work, to “boost” the Canadian gross international product by \$700M per year by 2026.

And more and more young tech companies will also be able to contribute to this increase in the GIP thanks to Quantino – the incubator powered by INO – particularly the eight startups that officially made their debut there in 2022-2023, thereby adding to the nine that were already supported there.

Modernization of governance and innovation

Under the impetus of its board of directors, INO has implemented the best governance practices to support the team in its choices of technologies and markets, establish a culture of innovation, optimize the employee experience, and adopt the most suitable financial audit mechanisms. Among the major new developments affecting the activities of the board of directors, it is important to note the reduction in the number of directors, the addition of a solid succession, the achievement of gender parity, and the establishment of three specialized committees reporting to the board. The latter offer forums of choice to the 11 directors so that the organization benefits even more from their contribution. Of these, the “Markets and Technologies” committee itself represents an innovation in terms of governance and touches the heart of INO’s activities. Its main purpose is to ensure that the capacities and technological investments are properly aligned with the needs of Canadian industry clients and markets. Furthermore, four directors, in addition to

“INO has become one of the best industrial innovation centres in the world and—above all—a strong driving force for economic development.”

the secretary and the treasurer of the corporation, hold the title of certified corporate director (ASC), a guarantee of know-how and know-how-to-be to lead the destiny of the largest optics/photonics industrial innovation centre in Canada.

Increase in the number of members

For its part, the new membership formula, officially launched this year, is already generating benefits. The improvements made – particularly access to funds to carry out collaborative projects and the creation of sectoral advisory committees – have helped to increase the number of member organizations from 11 to 22 in 2022-2023. This close collaboration between INO and companies from the sectors that it serves makes it possible to better orient the development activities so that they are directly related to the needs of the industry. The challenge is on: the board is aiming for 100 members by 2026!

Thank you

INO's recent successes are remarkable. First of all, thank you to the governments of Canada and Quebec, as well as to the City of Quebec, for their strategic financial support. And since humans are behind these great achievements, thank you to the directors for their involvement and to the 225 employees who make INO an international reference in high technology. Thanks to all of you, it is possible to develop more and more innovative solutions adopted by markets, carry out even more technology transfers, and create more spin-off companies that will employ thousands of people for the benefit of the economy.



A handwritten signature in black ink that reads "Jacques Topping". The signature is fluid and cursive.

Jacques Topping, FCPA, FCA, MBA, ASC
Chairman of the Board of Directors

MESSAGE FROM THE PRESIDENT AND CEO

Growth to innovate at industrial speed

Three words accurately describe the 2022-2023 fiscal year: motivation, performance, and results. Once again, INO played its role as a creator of socioeconomic value while accomplishing several important missions for its modernization. In this year when Quebec emerged from the pandemic with resolve, the results were impressive, which confirms that innovation is regaining its prime position in the priorities of companies. And this is immensely motivating!

On a financial note, the results are excellent, and for the second consecutive year, INO achieved a record number of orders. After clearing the \$20 M bar for the first time in 2021-2022, the team repeated the feat last year with \$25.4 M—a jump of over 20%. Revenue from operations also increased by 18% to reach \$50.2 M.

Good news for a spin-off company launched by two former employees

Proud of its history in business creation, INO saw Pavemetrics, which offers digital vision systems for the inspection of transportation infrastructure, take off again. This spin-off company perfectly illustrates the journey of a technological development that has reached the stage of a solution marketed all over the world and realized its potential. INO was at the heart of this success, having provided the R&D, manufactured the products for 12 years, and been a shareholder in the company until its sale this year. That Pavemetrics is passing into the hands of Previa, a leading Quebec high tech group, is excellent news that announces even more exciting prospects for this jewel born in the premises of INO. The story of Pavemetrics is also a striking example of the opportunities that INO can offer to employees who want to become successful entrepreneurs.

Business systems and infrastructure

INO's growth also requires business systems and physical infrastructure worthy of an international reference in industrial innovation. Two major initiatives are therefore underway. First of all, a \$3 M technology project to modernize and integrate several information systems was initiated to automate certain tasks, generate dashboards that will make it possible to better direct value creation efforts, and implement additional scalable cybersecurity measures.

“We believe in it: The purpose of our work is not R&D in itself, but the commercial and societal value created for our clients and the lasting benefits for communities.”

At the same time, the major building upgrade project was the subject of a very thorough needs analysis. This analysis revealed that it required a larger budget, particularly due to the inflationary context that is also affecting major public projects. A \$25 M phase, mainly for essential work to enhance the work and collaboration spaces and to make technical corrections to the building envelope and the mechanical rooms, will therefore begin in 2023-2024. For the more ambitious elements, the focus will be on continuing efforts to seek out additional funding and to evaluate alternatives, or even transfer certain activities to new facilities.

Creation of a “Development and Engineering” vice-presidency

In recent years, INO has added several areas of expertise in engineering and product industrialization to its team. That way, it can better support its clients in their quest to develop solutions that reach the commercial stage and generate more economic benefits in business. To better reflect this mandate that is largely incumbent on it, the “Operations” vice-presidency became the “Development and Engineering” vice-presidency. Since October 2022, it has been led by Marie-Claude Côté, who has more than 25 years of experience in product and application development in addition to a solid background in client relations.

Thank you for this exceptional year

Results show that, day by day, INO is highlighting its culture of innovation oriented toward clients and markets. Because we believe in it: The purpose of our work is not R&D in itself, but the commercial and societal value created for our clients and the lasting benefits for communities. Thank you to the team for believing in this shift and for applying its principles on a daily basis. This makes INO, more than ever, a force for economic development. The future is bright, and the prospects are limitless. With immense motivation, we are committed to bringing together the elements that will allow the team and clients to perform at the height of their creativity to grow the economy while playing an important role in order to give back to our community.



A handwritten signature in black ink, which appears to read 'Alain Chandonnet'. The signature is stylized and fluid.

Alain Chandonnet, Ph.D.
President & Chief Executive Officer

INO

22//23 AT A GLANCE

The largest optics/photonics industrial innovation centre in Canada, INO has created and developed custom solutions to meet the needs of Quebec and Canada companies in various business sectors since 1988.

With its innovations, the organization now generates new business activities that increase the country's Gross Domestic Product by nearly \$640 M per year.

18

PATENTS
OBTAINED IN
2022-2023

226

EMPLOYEES

180

CLIENTS
IN 2022-2023

77

TECHNOLOGY
TRANSFERS
TO DATE

35

SPIN-OFF
COMPANIES
TO DATE

5 BUSINESS UNITS



BIOMEDTECH



DEFENCE,
SECURITY, AND
AEROSPACE



SUSTAINABLE
RESOURCES,
AGRICULTURE, AND
INFRASTRUCTURE



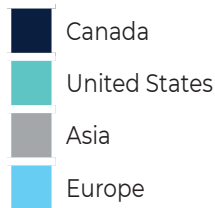
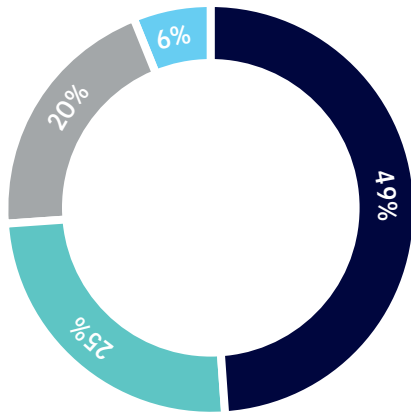
ADVANCED
MANUFACTURING



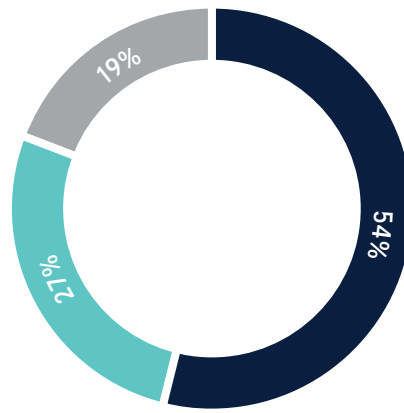
INDUSTRIAL
SOLUTIONS



Client Breakdown by Country / Continent (\$)

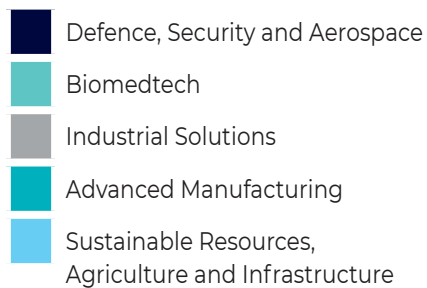
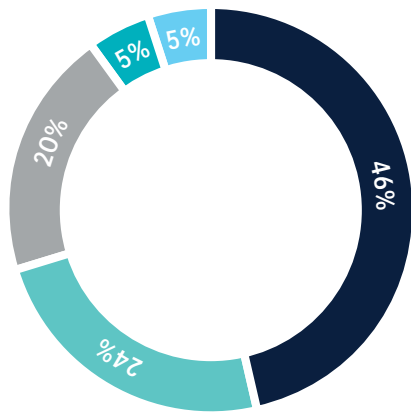


Distribution of Operating Revenues

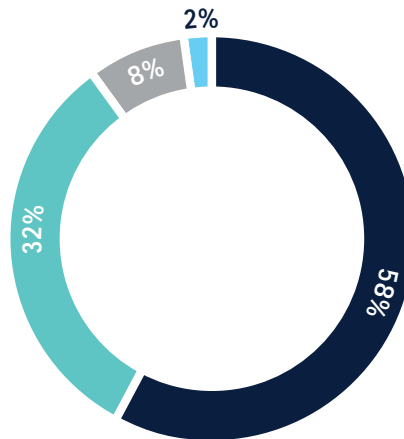


Excludes financial support related to tangible capital assets and related to the entrepreneurship assistance program

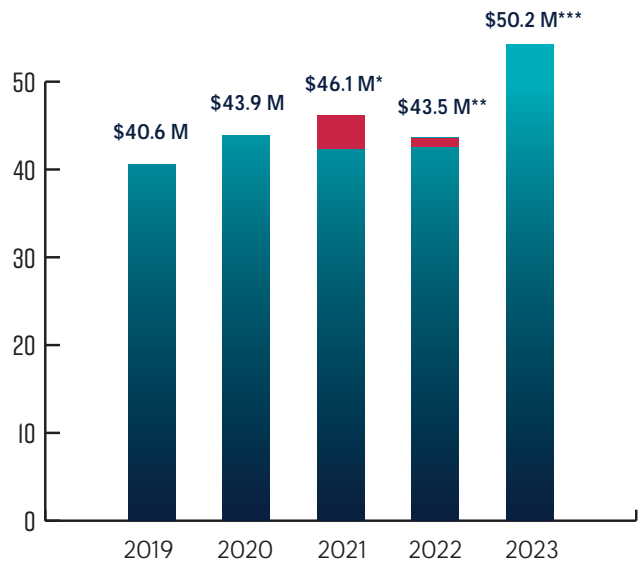
Distribution of Revenues by Business Unit



Distribution of Revenues by Client Category

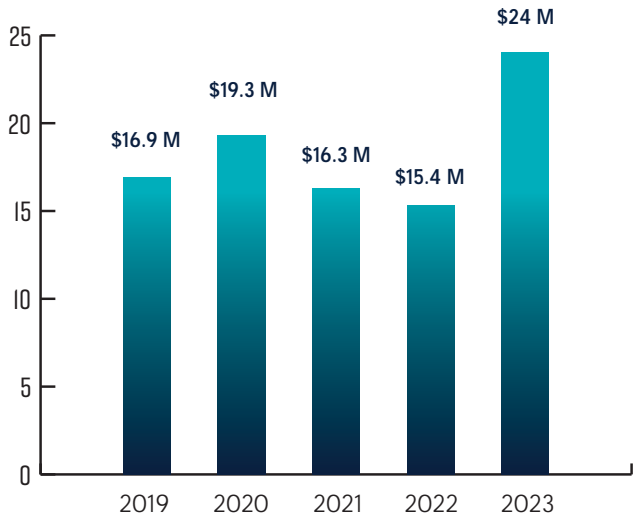


Changes in Total Earnings



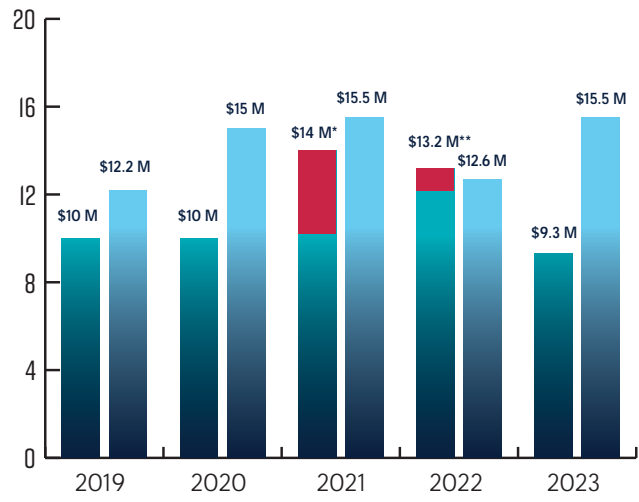
* Includes \$3.8 M of CEWS in 2020-2021
 ** Includes \$1.0 M of CEWS in 2021-2022
 *** Excludes a gain on disposal of investment of \$10.7 M

Changes in External Revenues*



* R&D Contracts, Sales, Transfer Considerations, Royalties and Dividends

Changes in Government Funding



Canada
 Québec

* Includes \$3.8 M of CEWS in 2020-2021
 ** Includes \$1.0 M of CEWS in 2021-2022

REVIEW OF TECHNOLOGICAL ACTIVITIES

Gains in continuity

The gains of a transformation are captured in the pursuit of the strategy and in the continuity of the actions undertaken. With its firmly established five-step approach to innovation, which makes it possible to move from taking charge of an R&D project to the industrialization and scaling of a product, INO persists in adding value for its clients with the introduction of an engineering culture. This aims for the mutual understanding of interdependencies as well as the early detection and mitigation of the problems and risks associated with any development, with the goal, of course, of reducing the industrialization times for a new product. A concrete example demonstrating the importance of integrating industrialization from the first stages of a technological development can also be found on page 22 of this annual report.

Added value streams

In addition to INO's engineering culture, there is a desire for agility in change management and decision-making through the implementation of a value creation system affecting all spheres of the organization's activities. To do this, the team has also accelerated its management by value stream, which began in the 2021-2022 fiscal year, to optimize:

- the **client experience**, by offering a personalized approach tailored to the needs of each client throughout their innovation journey;
- **project realization**, by supporting clients in such a way as to precisely understand their needs on an ongoing basis and by maximizing value creation through optimized and suitable solutions;
- **technology asset and infrastructure management**, by ensuring INO's ability to generate differentiated technological responses with high added value to address targeted industry issues;
- the **employee experience**, by encouraging structured personal and professional development – in a diverse, inclusive, and stimulating environment – where enjoyment and contribution are valued in order to accomplish INO's mission.

On the strength of these sustained actions, INO is already benefiting from significant gains in 2022-2023, as shown by these few figures:

- 1959 units produced for clients by the industrialization group;
- 81 projects delivered, including 27 in internal research and 54 for clients by the Development and Engineering team;
- 3 new platforms and 3 controlled elements added to the technology asset portfolio;
- 1 technology transfer associated with bolometer technology; and
- 18 invention patents obtained, in addition to 21 applications filed.



R&D projects that show INO’s efforts in terms of ESG criteria

In addition to the significant benefits presented on the previous page, INO is also very proud that 85.1% of its activities are included in its ESG (Environment, Social, and Governance) report in the “Positive impacts for the environment and society” section. Here are four examples of projects that illustrate this fact.

Earth observation satellites for the early detection of forest fires, agriculture, and soil temperature readings

As part of its internal research projects, INO has delivered a next-generation microbolometer infrared detector based on a new high-resolution reading circuit.

Its increased bandwidth, ideal for the early detection of forest fires, covers the region with molecular spectral fingerprints up to the thermal region of the spectrum (from 3 to 14 microns). The case, which is designed to withstand the shocks of orbital launches, can accommodate optical filters in order to tune a response to gases and molecules of interest for monitoring climate change. The impact of this work will take on its full meaning in the context of a major Earth observation satellite constellation project discussed on page 18.

Monitoring of fugitive dust emissions: Hosting of an entrepreneur in residence in the INO Studio program

For several years, INO has developed LiDAR technology. Among other uses, this technology makes it possible to map concentrations of dust and contaminants in the air, a current issue facing several industries and many major urban centres. The technology is now at the industrialization stage. Since March 2023, an entrepreneur in residence, hosted as part of the new INO Studio program, has been mandated to complete a business and marketing plan in order to realize the deployment of the solution while benefiting from INO’s support.

... continued

Leak detection in sterile intravenous fluid bags

The integrity and sterility of intravenous fluid bags are necessary to ensure patient safety in hospital settings. For several years, INO has therefore developed an imaging station and a leak detection method compatible with fluid bags and their overwrap in order to replace manual inspection methods and thereby reduce contamination risks. In 2022, INO was granted a Canadian patent for its leak detection method. The inspection bench, now transportable, and the images produced have made it possible to interest major manufacturing players and secure an initial agreement with a multinational integrator and a pharmaceutical company.

Orienting picker robots in real time

INO has been working on solutions to combat the agricultural labour shortage for several years. In October 2022, a first version of a new sensor was integrated into an open-field vegetable harvester from Univerco, a business partner in the context of an automated broccoli harvesting project. The sensor guides the harvester in real time to allow it to pick all the vegetables and thereby maximize the harvest. This year, the performance of the broccoli detection module, which is based on deep learning, could be evaluated in a real use context. This data will also contribute to the system's second training cycle for an extensive testing campaign in the summer of 2023.

This project is the subject of a more comprehensive presentation on page 24.

Another success: high-powered lasers

The development of high-powered lasers is becoming increasingly important at INO. Significant gains made for two years in modelling, characterization of fibre optics, and optimization of high-powered splices now allow INO to offer custom laser solutions over one kW with unparalleled beam quality.

INO has also delivered its first 1.5 kW high-powered laser with two polarization-maintaining outputs at the same wavelength of 1064 nm with a beam quality approaching the diffraction limit ($M^2 < 1.3$).

35 years of realizing innovations that allow companies across the country to be more productive and competitive

INO will celebrate its 35th anniversary in 2023. This technological report is the opportunity to recall the incredible contribution of a diverse team – where 19 nationalities are represented – that develops solutions that spark the imagination, propel businesses, stimulate the economy, and change lives.



*“What would light be without
the beings that perceive it?”*

— Philippe Montillier



INO

A FEW

ACHIEVEMENTS

This year, the INO team carried out numerous internal and external projects that help generate significant economic and social benefits.

At INO, shedding light is our promise that any innovation journey will be well defined, structured, transparent, and a source of real value.

Because nothing about innovation should be left to chance.





EARTHDAILY

A satellite constellation for a better understanding of the Earth and climate change

For many years, INO has been recognized for its expertise in the design and manufacture of infrared sensors. And this year EarthDaily Analytics, working on a constellation of Earth observation satellites, called on INO to outfit them with thermal cameras. It's INO's biggest assignment in the space sector.

The scope of the project is significant. The constellation of ten super-spectral satellites provides daily coverage of the entire Earth and supplies value-added information for use in agriculture, the environment, insurance, disaster prevention and recovery, and commodities trading. The satellites will be launched by SpaceX and should be fully operational sometime in 2024.

For this application, INO has developed a new generation of bolometers and electronic boards certified for use in space. Compared to conventional sensors, which require cooling, INO's have wider spectral coverage, can operate at room temperature, use less energy, cost less, and are much smaller, making them ideal for satellites where every cm³ counts.

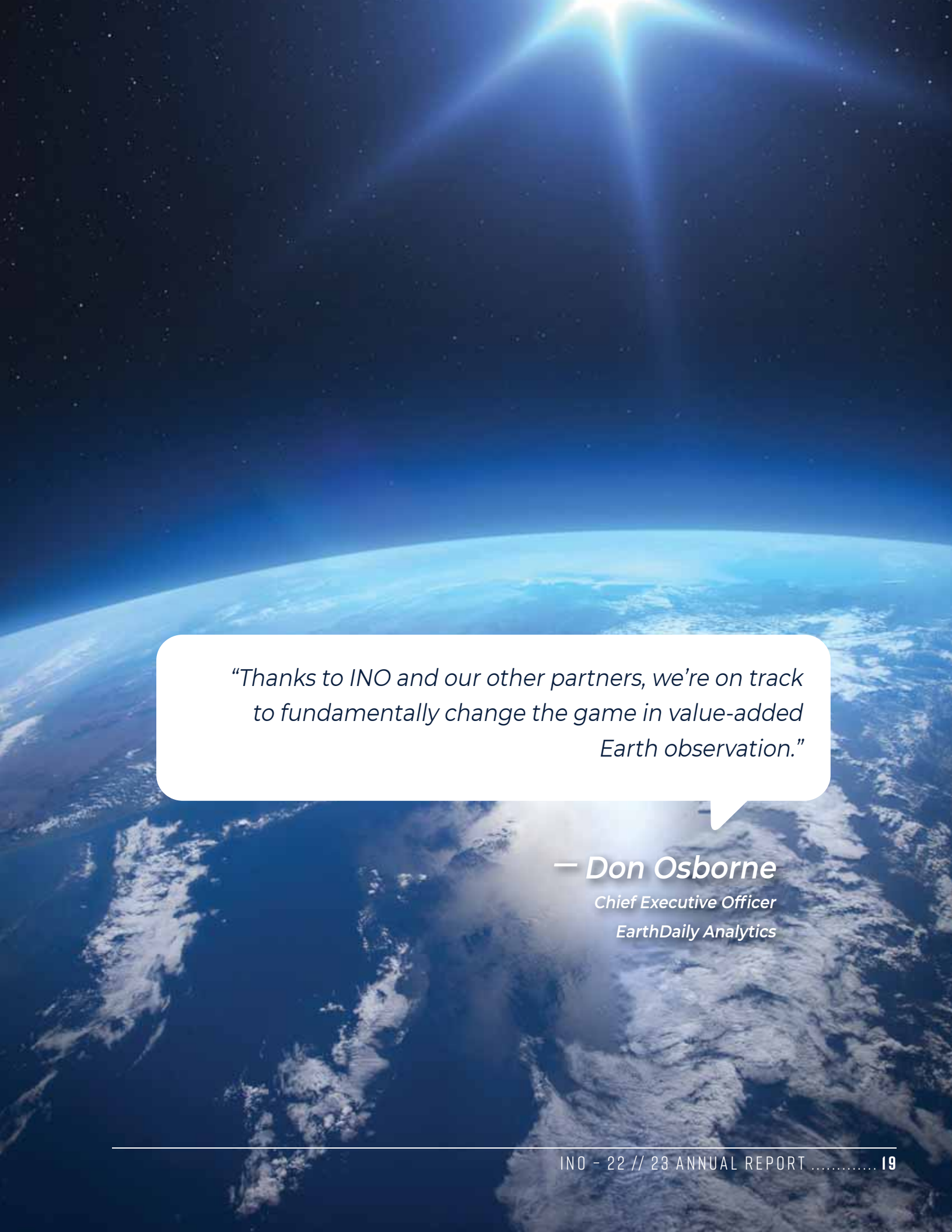
A total of 20 thermal cameras will be delivered based on INO-produced components. They'll be used for advanced monitoring of thermal phenomena such as ground and sea surface temperatures, identification of anomalies, and forest fire detection and tracking.

The data gathered can also be used in precision agriculture. Thermal cameras can provide farmers with accurate information on ground temperatures and soil moisture levels so they can adjust cultivation practices for increased yields.

Quebec in space

Along with INO, EarthDaily Analytics has brought in additional partners Quebec-based partners: Xiphos and ABB's Quebec City division.

There's no doubt that 2022–2023 will go down in history as the year that INO really found its place on the international aerospace scene.



“Thanks to INO and our other partners, we’re on track to fundamentally change the game in value-added Earth observation.”

— Don Osborne
*Chief Executive Officer
EarthDaily Analytics*

INO

NATIONAL RESEARCH COUNCIL CANADA

Accurately measuring the energy consumption of high-speed trains using optics


The fuel consumption of a vehicle in the city or on the highway is a concept that is well known to automotive retailers and consumers. What is a little less known is that high-speed train manufacturers must also comply with strict standards and accurately demonstrate the energy consumption of their vehicles. The problem is that, until now, the tests had to be conducted in the almost total absence of wind, which is never guaranteed and can lead to the outright rejection of the results obtained during a testing session... a huge waste of time and money for the teams that must then start everything again from scratch. What if it were possible to accurately measure the wind and quantify its effects using optical technologies? This is the challenge that was set by the National Research Council Canada (NRCC), and which has been met thanks to the partnership with INO.

INO and the NRCC were the ideal choices to succeed in this mission, because their collaboration from 2013 to 2018 had given rise to the very first laser anemometer for road vehicles. In 2021, the foundations were therefore well established to meet the needs of a major European high-speed train manufacturer. Based on this experience, INO developed a laser anemometer last year that measures the speed of aerosols driven by the wind in front of a moving train in real time through the Doppler effect. The apparent wind speed and direction are calculated by aerodynamic post-processing software developed by the NRCC. In this way, the validity of the tests is guaranteed.

Given that a test is scheduled from two to three months in advance, costs approximately \$100,000, and monopolizes at least six experts in addition to a train, the time and money saved may be considerable when the validity of the results is guaranteed in advance. In addition, it greatly accelerates deliveries to clients.

After trains, buses?

The technology developed jointly by INO and the NRCC could be deployed elsewhere in the field of transportation, particularly to improve the aerodynamic performance and reduce the energy consumption of buses. In this era when public transportation is "in the wind", this innovation might soon "have the wind in its sails".

The background of the page is a dynamic, blurred image of two high-speed trains, likely Shinkansen, moving from left to right. The trains are white with blue and red accents. The background is a mix of teal and orange streaks, suggesting motion and speed. A white speech bubble is positioned in the upper left quadrant, containing a quote. The text is in a serif font, with the quote itself in italics.

“Financially, it’s extremely beneficial for manufacturers, since it allows them to conduct tests with the certainty of returning to the factory with valid data.”

— **Bernard Tanguay**

*Researcher at the aerodynamics laboratory
National Research Council Canada*



EIKON THERAPEUTICS

Moving from prototype to industrial product to develop new breakthrough medications

Eikon Therapeutics is creating and implementing innovative technologies to analyze how proteins in living cells behave and interact. This groundbreaking technology is providing novel insights along the drug discovery process with the end goal of creating new medicines with the potential to address serious illnesses. Eikon joined forces with INO in 2021 for its expertise in precision optomechanics.

INO and Eikon collaborated closely to develop the three-beam laser illumination module that is integral to the Eikon technology. The alignment and thermal stability of the three beams was a key requirement, and through modelling, development, and testing, INO and Eikon developed a solution that achieved the alignment, thermal management and stability needed for successful implementation. The Eikon solution incorporates a variant of INO's QuickPOZ technology, self-positioning optomechanical mounts providing unparalleled precision and repeatability, as well as vibration resistance.

Creating a prototype for an innovative new technology is only the first step in improving research capabilities. After jointly developing the design, INO's task was to ensure that the module could be manufactured at scale and be stable, precise and reliable.

Breaking down complexity for future production

Assembling a device this complex presents significant challenges. The most important task is breaking down the assembly drawing into simple and properly sequenced steps, some of which can be performed independently, to facilitate production and long-term maintenance. In today's world, also provisioning for supply problems is an essential part of the planning.

Embracing industrialization pays off

INO's industrialization team is involved in the ideation phase of many collaborations, as decisions made early on can have significant implications during the development stage. Anticipating the industrialization of a product from the earliest stages of technological development also makes it easier to obtain international certifications, and INO is well-equipped to guide its clients who wish to manufacture locally and export globally. Over the years, the team has worked with companies in diverse fields, including the biomedical industry, security, material inspection, geomatics and even entertainment.

For INO, the true meaning of innovation is accelerating discoveries to create value for society.

“INO’s thoughtful approach that considered industrialization early in the project has delivered the stability and reliability Eikon was looking for in our drug discovery efforts.”

– Shung Chieh

*VP of Hardware
Eikon Therapeutics*



INO

UNIVERCO

Contributing to food autonomy in Quebec through artificial intelligence

The labour shortage is a reality that is severely impacting Quebec agriculture. It is leading producers to take double bites, rely on foreign labour, or—unfortunately—reduce their production. Concerned with being at the heart of solutions, INO has been involved for several years in automated harvesting projects. And more than ever, the team was literally “in the field” during the summer of 2022.

INO began work in 2018 for crops as varied as mushrooms, cucumbers, and broccoli. Depending on the variety, the work took place both in the greenhouse and in the field. However, although the solutions differ, they consistently involve artificial intelligence. INO therefore captures images and “trains” an intelligent model to analyze them. Once the model is “experienced,” the system accurately recognizes vegetables, provides their position in three dimensions, and analyzes their ripeness level to give (or not) the instruction to an automated system to pick them.


In 2022, a manufacturer, Univerco, joined the adventure by providing its expertise in the design and manufacture of agricultural machinery, and with a view to marketing the new product once development was complete. In a sense, INO therefore provides the “eyes,” while Univerco provides the “brain” and “hands” to carry out the picking.

While the initial work was done on broccoli, the solution also has potential for several other crops, such as cauliflower, cabbage, and asparagus.

The follow-up in the summer of 2023

The breakthroughs in 2022 lived up to expectations, which is why, in 2023, the team will conduct tests with a major vegetable farmer located in Southern Québec to validate the reliability and strength of the system and to ensure that it meets industry harvesting standards. It will then be possible for Univerco to deliver copies... and possibly one in Tasmania for further testing in collaboration with a partner established in several countries.

Thanks to technology, it is now therefore possible to replace pickers, resources that are as rare these days as... Tasmanian devils! In this way, local producers will be able to maintain or even increase their production capacity, thereby contributing to Quebec's shift toward food autonomy.



“Democratization of automation in agriculture will contribute to the sustainability of local agricultural businesses.”

— Alain Grégoire
*Chief Executive Officer
Univerco*



HARDLY TWO YEARS OLD AND ALREADY VERY BIG



Tempus fugit... It's time to look back on an amazing journey. If Quantino were a child, we could say that it is developing at top speed and that we have to renew its wardrobe, because it will soon be a little too tight in its clothes! And this is another piece of good news that marked the year.

The Quantino team has grown, especially with the addition of innovation advisors to support businesses even better, and its mandate has been enhanced thanks to the collaboration with the CERVO Research Centre. This alliance has made it possible to expand Quantino's offerings – initially dedicated to startups working in optics, photonics, hardware, and quantum technologies – to the fields of neuroscience and mental health. This is in addition to another agreement concluded in 2021 with the Institut universitaire de cardiologie et de pneumologie de Québec to support companies developing solutions aimed at preventing, diagnosing, and treating cardiovascular and respiratory diseases, as well as type-2 diabetes and obesity. Today, Quantino is therefore one of the only support structures in life sciences recognized by the Ministère de l'Économie, de l'Innovation et de l'Énergie (MEIE), and it obtained \$1.5 M in dedicated funding from the latter for the next three years.

Other funding and recognition

In addition to a strong mandate to support companies developing medical technologies, Quantino also stands out in quantum breakthroughs. To that end, the MEIE has also invested \$500 k to make Quantino one of the only two incubators certified in quantum technologies.

On the strength of its achievements, its growing number of incubatees, and its multiple collaborations to provide a complete portfolio of infrastructure and support services, Quantino has also received a great mark of confidence from the City of Québec. Following negotiations conducted during the year, the latter has just granted it, via its Entrepreneurial Vision 2026, \$3 M in funding over a three-year period so that Quantino can provide favourable conditions for the startup, growth, and expansion of young technology companies.



Physical infrastructure operated at full capacity

Quantino's popularity has allowed it to host an impressive range of companies working in a wide variety of fields: agriculture, mining, medical technologies, clean technologies, geomatics, advanced materials, environment, security, sports, etc. This year alone, eight new startups made their official entry. Efforts to expand or create a satellite space dedicated to medical technology are therefore underway.

The first incubatees leave the nest

It is not only Quantino that is growing. Incubated companies are on their way to flying on their own, including ABCDust and Ictek, which have just inaugurated facilities to manufacture and assemble their products. Like a parent, Quantino is happy to see them flourish. The team will therefore follow their adventure to commercial success with great interest, and always ready to lend a helping hand.

Major events to bring together the business community and the next generation of scientists

In addition to providing direct services to incubated companies, the team has organized four major events that have had a massive effect on the business ecosystem and with the general public. In November, a "Demo Day" brought together 112 participants, investors, sponsors, and collaborators in order to highlight the incubatees and their products, and thereby raise venture capital or generate new business partnerships.

Finally, the Musée de la civilisation was the host of the Inspiration series by Quantino, which aimed to demystify science with the general public by covering the subject from different angles, such as popular culture, the arts, or sports. In total, 685 people attended conferences notably featuring Laurent Duvernay-Tardif and Farah Alibay. In addition, since the sciences can be an important social lever, especially for young people living in disadvantaged settings, Quantino and the speakers also visited elementary schools in Quebec City to meet nearly 750 students. This is exciting and heralds a promising future for Quantino as well as for the entire innovation support ecosystem. More than ever, young companies have access to the best resources to revolutionize the industries of today to create those of tomorrow!

THE NEW INCUBATEES FOR 2022-2023



DéteXion

DéteXion aims to reduce the consequences of infectious diseases and antibiotic resistance by developing portable biosensors that speed up diagnosis and allow clinicians to prescribe more appropriate treatments.

Domely

Domely Technologies develops smart solutions for proactive building management. The company now monitors more than 15,000 buildings in the country thanks to its products combining artificial intelligence and the Internet of Things in order to prevent problems and disasters.

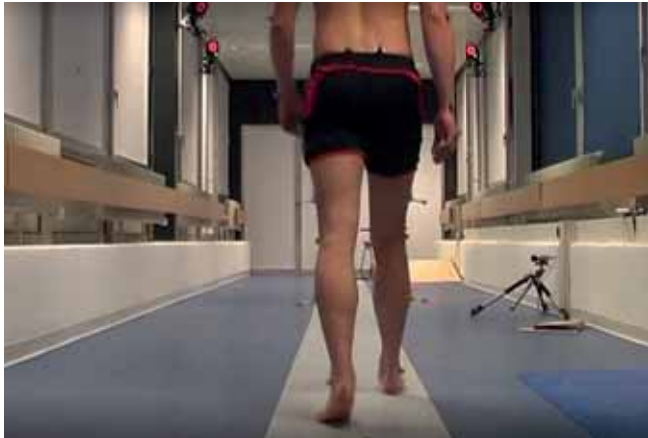


Instrumentation Icetek

Icetek designs, sells, and installs frost detection and protection systems intended for wind farms. Its solutions allow its clients to better understand weather events and optimize energy efficiency.

Medscint

Medscint develops measurement tools based on optical technologies to revolutionize the world of radiotherapy and radio-oncology. These tools aim to improve current treatments, develop and validate new treatment methods, and ultimately improve treatment effectiveness and patient quality of life.



Moveck Solution

Moveck Solution is a company that specializes in the development of software allowing clinicians, biomechanics, and trainers, among others, to view, process, and analyze the movements of patients in rehabilitation. Based on the data acquired, mathematical models are created to aid in decision-making.



Orel Medical

Orel Medical develops therapeutic lasers to combat obesity for medical and cosmetic purposes. Its solution releases fat from fat cells to allow for weight loss in a minimally invasive procedure that does not destroy interstitial tissues.



Point Laz

Point Laz has developed a smart monitoring system for mining companies. This system makes it possible to continuously monitor the state of a shaft in order to facilitate maintenance planning while guaranteeing the safety of the personnel and minimizing interruptions.



SciencePerfo

SciencePerfo has developed a speed sensor and data processing software to quantify the performance of a sprint athlete, establish their profile, and optimize their development by creating a customized training program.

A TEAM THAT PAYS IT FORWARD

At all times, INO actively supports the community in order to contribute to its social dynamism and economic vitality.

For example, by developing solutions that improve the environmental record of major companies, often driving forces for economic development in remote areas, INO plays a crucial role for communities by indirectly contributing to access to goods and services, to improving working conditions, and to developing a local economy. And on a daily basis, INO is also involved in causes related to its activities that aim to develop the next generation of scientists, help young companies take off, or promote entrepreneurship. At INO, we believe that innovating also means growing our community.



Fighting poverty, exclusion, and social inequalities with Centraide

Each year, the employees participate in the annual campaign held by Centraide Québec et Chaudière-Appalaches. In this way, the team financially supports 215 community organizations and projects to provide the basics, break down social isolation, and build unifying living environments, among other goals. In total, the 2022 campaign helped raise \$65,000 that will be used to improve the quality of life of the most vulnerable people and communities. Congratulations!

Awaken the passion for science in the next generation of women

The next generation in science, technology, engineering, and mathematics is one of the cherished causes at INO, which is why the team has been involved in the *Les filles et les sciences* event series since its launch in 2013. This year's edition, organized by *Boîte à sciences*, took place at Université Laval and attracted 148 young participants. Experts from INO hosted workshops there and set up a booth where a THz camera and some INO achievements were featured.





Pedalling to fight cardiovascular, respiratory, and obesity-related diseases

On September 11, 2022, at an employee's initiative, the INO-Quantino team once again participated in the Cyclo-Défi organized by the *Institut universitaire de cardiologie et de pneumologie de Québec*. The team of 25 cyclists raised \$5240 travelling the routes of the Portneuf region!

The next generation visits INO

The end of health measures in 2022-2023 was synonymous with the return of student visits at INO. This year, the team was pleased to welcome groups from, among others, *Collège Saint-Charles-Garnier*, *Cégep de Sainte-Foy*, *Cégep de La Pocatière*, Polytechnique Montréal, and Université Laval.



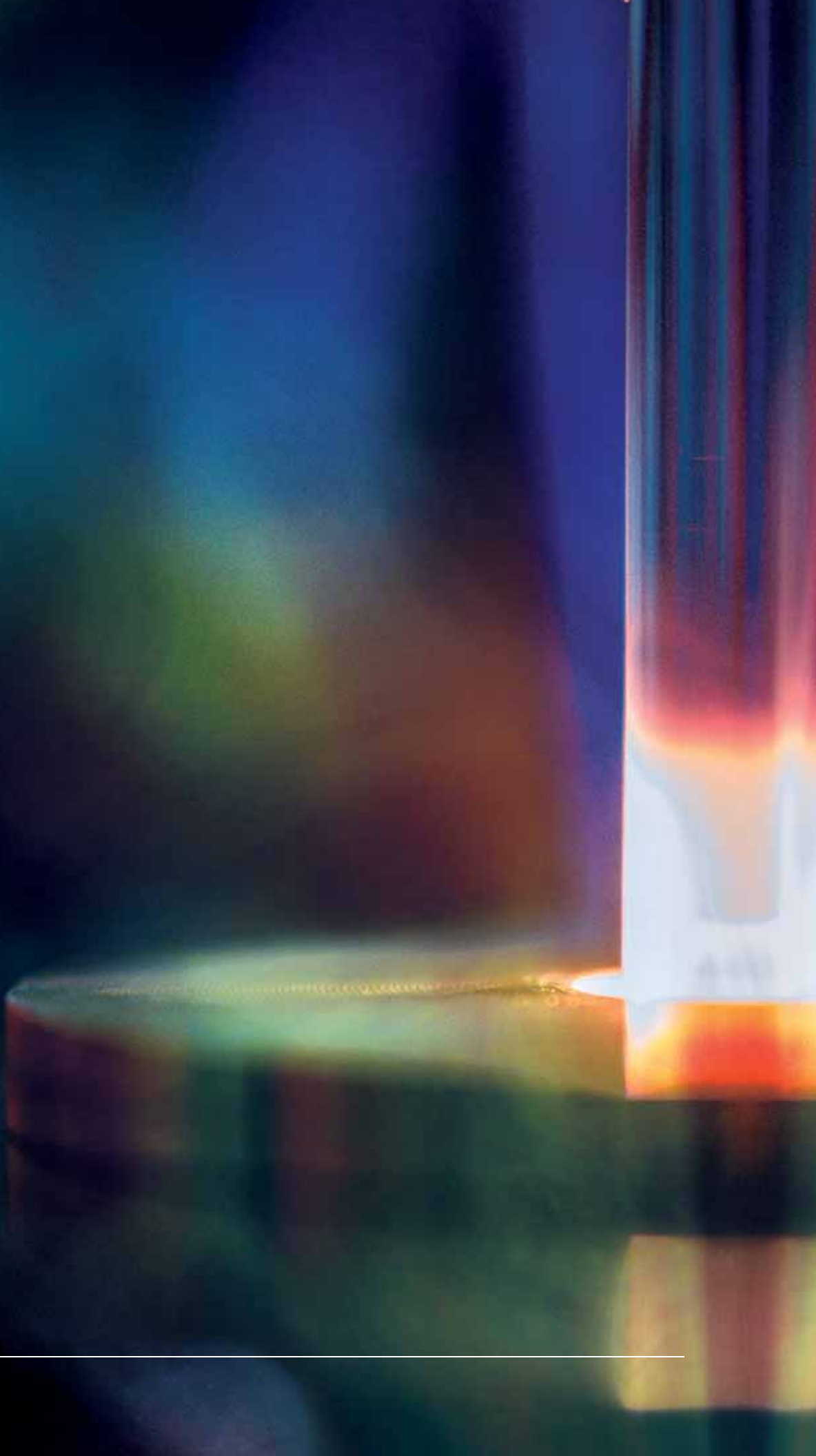
The hopes of cycling in training at INO

For several years, INO has loaned its parking lot to the *Club Cycliste Espoirs Premier Tech* so that it can set up its base camp there and gather for its rides. The *Club Cycliste Espoirs Premier Tech* is a non-profit organization that aims to develop the next generation of cyclists in the Quebec City region under the supervision of qualified coaches. Every Tuesday and Thursday, around forty young people aged 18 or younger can therefore gather before and after their training in a wide-open and secure location.



Support for several scientific events

INO actively supports the community in various ways in order to promote its social dynamism. It therefore contributed financially to several scientific activities in the past year, including the symposium on lasers at the *89^e congrès de l'Association francophone pour le savoir*, the *Expo-Sciences Hydro-Québec*, the *Jeux de la physique* at Polytechnique Montréal, and many initiatives of Université Laval, such as the *Jeux de la photonique*, the *Coupe de science*, and the *Avion-Cargo project* of the students of the Faculty of Science and Engineering.



The INO logo is rendered in a bold, white, sans-serif font. The letter 'I' is a simple vertical bar, 'N' is formed by two vertical bars with a horizontal bar connecting them, and 'O' is a solid circle. The background is a dark blue gradient with a blurred, glowing light source on the left side, creating a bokeh effect with soft, out-of-focus light spots in shades of blue and green.

INO

COMMITTEES AND ECOSYSTEM

BOARD OF DIRECTORS



Jacques Topping
Corporate Director
Chairman



Kathy Baig³
Vice-President, Business
Development and Operations
Leader, Transportation, Stantec



Caroline Boudoux³
Professor,
Department of Engineering Physics,
Polytechnique Montréal



Alain Chandonnet
President and CEO, INO



Hélène Chartier^{3*}
Corporate Director



Denis Faubert³
Corporate Director
and Consultant



François Giroux^{1*}
President and CEO, Gentec



Vanessa Grondin¹
Chief Operating Officer, Lü



Sébastien Proulx²
Lawyer and Strategic Advisor in Public
Law and Relations with the State,
GBV Avocats



Véronique Proulx^{2*}
President and CEO, Manufacturiers
et exportateurs du Québec
Senior Vice-President, Canadian
Manufacturers & Exporters



Hugues St-Pierre^{1,2}
Corporate Director
President, MAXXAB

^{1*} Chair, Audit Committee

¹ Member, Audit Committee

^{2*} Chair, Governance and Human Capital Committee

² Member, Governance and Human Capital Committee

^{3*} Chair, Innovation Committee

³ Member, Innovation Committee

MANAGEMENT TEAM



Alain Chandonnet
President and CEO



Philippe Boivin
Vice-President,
Corporate Affairs



Marie-Claude Côté
Vice-President,
Development and Engineering



André Fougères
Vice-President,
Chief Technology Officer



Martin Larrivée
Vice-President,
Finance



Louis Martel
Vice-President,
Business Development
and Partnership



Karine Romain
Vice-President,
Human Experience and Culture

MEMBERS

STRATEGIC MEMBERS

- Bell Canada
- Coractive High-Tech inc.
- Delfland inc.
- Desjardins Entreprises – Québec-Capitale
- Rio Tinto

INSTITUTIONAL MEMBERS

- Corem
- ÉTS Montréal
- IRDA
- Medtech Canada
- UQÀM
- Agtech Zone

INDUSTRIAL MEMBERS

- ABB
- ABCDust
- Aurius Medical Canada
- EXFO
- Gentec Electro-Optics
- LR Tech
- Meta Vision Sensors
- NGC Aerospace
- RinnoVision
- Telops
- Teraxion

SECTORAL ADVISORY COMMITTEES

In 2022-2023, INO has created sectoral advisory committees comprising representatives from different industrial sectors. Their primary role is to contribute to better align the R&D activities with industry needs. The committees are still in formation. Here are the members as of March 31st, 2023.



- **Suzie Dufour**
INO
- **Benoît Larose**
Medtech Canada
- **Éric Trudel**
INO



- **Antoine Proulx**
INO
- **Yves Taillon**
INO
- **François Trépanier**
Teraxion



- **François Blanchard**
École de technologie supérieure
- **Caroline Côté**
Research and Development Institute
for the Agri-Environment
- **Olivier Demers-Dubé**
Zone Agtech
- **Claude Gagnon**
Corem
- **Jean-Philippe Gagnon**
INO
- **Donald Prévost**
INO



- **Jean-Pierre Blanchet**
Université du Québec à Montréal
- **Sylvain Gatti**
INO
- **Jean Giroux**
Telops
- **Philippe Lagueux**
INO
- **Sylvio Laplante**
ABB
- **Patrice Topart**
INO



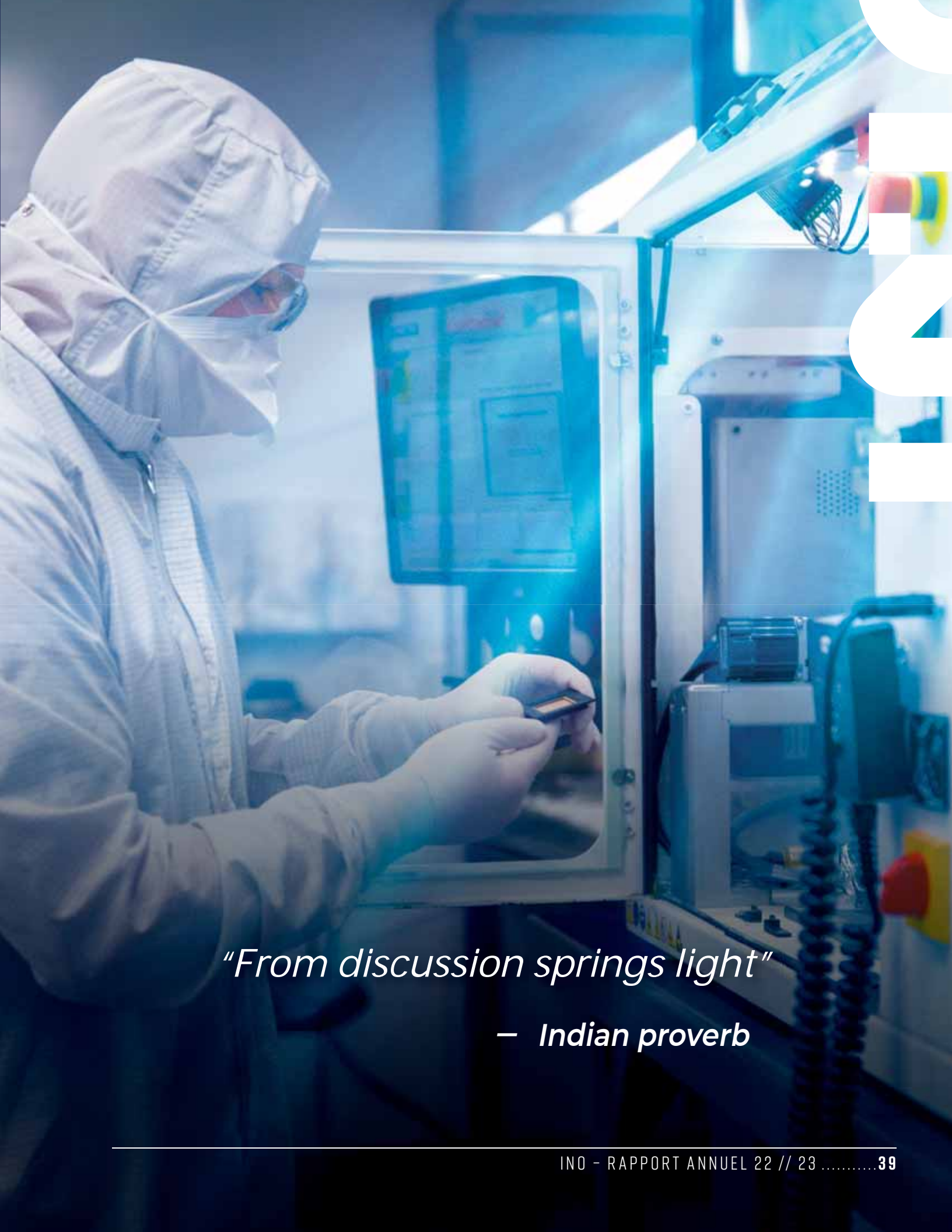
- **Jean-François Cormier**
INO
- **André Fougères**
INO
- **Éric Laplante**
Rio Tinto
- **Samuel Toledo**
ABCDust

ASSOCIATE RESEARCHERS

- **Ali Bahloul**
Institut de recherche Robert-Sauvé
en santé et sécurité au travail
- **Chloé Bois**
Printability and Graphic
Communications Institute
- **Martin Bolduc**
Université du Québec à Trois-Rivières
- **Clothilde Brochot**
Concordia University and Institut de
recherche Robert-Sauvé en santé et
sécurité au travail
- **Athyna Cambouris**
Agriculture and Agri-Food Canada
- **Tricia Carmichael**
University of Windsor
- **Karem Chokman**
Institut national de la recherche
scientifique
- **Samuel René De Cotret**
Université de Sherbrooke
- **Yves De Koninck**
Université Laval
- **Martine Dorais**
Université Laval
- **Caroline Duchaine**
Université Laval
- **Costel Fluerau**
National Research Council Canada
- **Tigran Galstian**
Université Laval
- **Fyrial Ghozayel**
Printability and Graphic
Communications Institute
- **Étienne Grondin**
Université de Sherbrooke
- **Philip Jackson**
Université Laval
- **Mohamed Khelifi**
Université Laval
- **Denis Laurendeau**
Université Laval
- **Boris Le Drogoff**
Institut national de la recherche
scientifique
- **Mario Leclerc**
Université Laval
- **Marit E. Meyer**
NASA
- **Jean-François Morin**
Université Laval
- **Jason Olfert**
University of Alberta
- **Christophe Py**
National Research Council Canada
- **Nafiseh Sang-Nourpour**
University of Calgary
- **Benjamin Sumlin**
NASA
- **Mirko Torres**
Printability and Graphic
Communications Institute
- **Grégoire Tremblay**
Defence Research and Development
Canada
- **Nathalie Turgeon**
Institut universitaire de cardiologie
et de pneumologie de Québec -
Université Laval
- **Alex Walker**
National Research Council Canada
- **Mariia Zhuldybina**
École de technologie supérieure

SPIN-OFF COMPANIES

- **UmanX, 2019**
Optical sensor for security robot
- **Lynx Inspection, 2018**
Digital imaging system for industrial inspection
- **DxBioTech, 2017**
Compact cytometer
- **Swiftsure, 2017**
Optronics processor for synthetic aperture radar
- **FlyScan, 2016**
Lidar for benzene detection
- **RaySecur, 2015**
Terahertz technology for letter bomb detection
- **Technologies et services INOOXX, 2013**
Lidar measurement and laser triangulation technology to measure truck load volume
- **Handyem, 2011**
Compact cytometer
- **OptiRythmix, 2011**
Virtuo library
- **Company in the environmental field (confidential), 2010**
- **Pavemetrics, 2009**
Machine vision systems for the inspection of transportation infrastructures
- **RealTraffic Technologies, 2008**
Image analysis
- **Hedzopt, 2007**
Thermal weapon sight
- **LeddarTech, 2007**
LEDs for distance detection and measurement
- **Quantum BioMedical (QBM), 2006**
Endoscopic probe for intravascular diagnosis
- **IRphotonics, 2004**
Fluoride fibres and glasses
- **Neoptix, 2004**
Temperature sensors
- **OpSens, 2004**
Fiber optic sensors
- **Optosecurity, 2004**
Optical correlator
- **PyroPhotonics Lasers, 2004**
PEFL laser technology
- **Cybiocare, 2003**
Hypoglycemia monitor and glucose meter
- **Obzerv Technologies, 2002**
Vision systems
- **NEKS Technologies, 2001**
Colour-based gingival tartar detection
- **TeraXion, 2000**
Optical network components
- **CorActive High-Tech, 1998**
Specialty optical fibers
- **Pierre Langlois Consultant, 1997**
Diffractive optics consulting
- **P&P Optica, 1995**
Optics engineering shop
- **FISO Technologies, 1994**
Fiber optic sensors
- **Doric Lenses, 1994**
Microlenses
- **Optiwave Corporation, 1994**
Integrated optics software
- **AEREX Avionics, 1993**
Optoelectronics consulting
- **I/FO Technologies, 1993**
Fiber optic technology consulting
- **Optel Vision, 1992**
Optical instrumentation
- **Instruments Régent, 1990**
Optical instrumentation
- **Nortech Fibronic, 1989**
Optical instrumentation



"From discussion springs light"

– Indian proverb

TECHNOLOGY TRANSFERS

- **ABB**
Pyramid wavefront sensor
- **American Company**
Auto-centering technology
- **American Company**
Diamond marking
- **American University**
Bolometer electronic circuit
- **Arcane Technologies**
Computing library – Amazone
- **Asian Company**
Bolometers (2X)
- **Asian Company**
CO2 laser cleaving
- **Asian Company**
Fiber components
- **Asian Company**
Reading circuit
- **Asian Company**
Terahertz imaging
- **Asian Integrator**
MOPAW laser
- **Asian Research Institute**
Bolometers
- **Autolog**
3D imaging calibration software
Source code
Planovision
- **Avensys/Bragg Photonics**
All-fiber photo-induced filters
- **Brio Conseils**
Managerial innovation in the development process
- **Bristol Aerospace**
Infrared detector
- **Canadian Company**
Infrared imaging
- **Communications Research Centre Canada**
Integrated processes system (IPS)
- **CorActive**
Triple-clad specialty optical fibers
- **CTEX**
Bolometers
- **Cybiocare**
Hypoglycemia sensor and glucose meter
- **Dellux Technologies**
LED lights
- **Doric Lenses**
Graded refractive index microlenses
- **DxBioTech**
Compact cytometer
- **European Company**
Lens auto-centering technology
- **European Company**
Bolometers
- **FISO Technologies**
Fiber optic sensors for temperature, stress, and pressure
End-of-service indicator for breathing apparatus
- **Flyscan**
Lidar for benzene detection
- **Gentec Electro-Optics**
Holographic beam sampler
- **Handyem**
Flow cytometry
- **Hedzopt**
Thermal weapon sight
- **iOmniscient**
Classification module
- **IRphotonics**
Fluoride fibers
- **Krispy Kernels**
Hyperspectral vision system for quality control
- **Lasiris**
Diffractive optical elements
- **LeddarTech**
LEDs for distance detection and measurement

- **Lynx Inspection**
3D imaging system
- **Maibec**
Feature detection of cedarwood shingles
- **Microsphere**
Optical correlator for inspection of plastic components
- **MPB**
Infrared spectrometer
- **NEKS Technologies**
Colour-based gingival tartar detection
- **Netcorp**
Optical switch
- **Normand PROJEX**
Inspection system for 3D verification of hardwood floor mortise and tenon dimensions
- **Nortech Fibronic**
Fiber optics temperature sensors
Tunable fiber laser
- **Obzerv Technologies**
DALISTM laser illuminator
- **Oil Sector Company**
Fiber sensor technology
- **OptiRythmix**
Virtuo library
- **Optiwave Corporation**
Integrated optics software
- **Optosecurity**
INOsegmenter - Image segmentation software
Numerical optical correlator technology
Optical correlator
- **Oxford University**
Bolometer electronic circuit
- **Pavemetrics**
Machine vision systems for the inspection of transportation infrastructures
Machine vision systems for a new scope of application
- **PyroPhotonics Lasers**
PyFI fibre laser unfolded cavity configuration
PEFI laser technology
- **Quantum Biomedical (QBM)**
Endoscope for intravascular diagnosis
- **RaySecur**
Terahertz technology
- **RealTraffic Technologies**
Image analysis
- **Régent Instruments**
Optical instrumentation
- **Searidge Technologies**
Video monitoring technology
Video surveillance and detection technology and source codes
- **Seastar Optics**
Erbium fibre laser
- **Solvision**
Structured light projector
- **STAS**
Hydrogen fluoride detector
- **Swiftsure**
Optronic processor for synthetic aperture radar
- **SyGIF International**
Integrated processes system (IPS)
- **Symbiotech Medical**
Intra-arterial analysis and detection
- **Teledyne Dalsa**
Bolometers
- **Telops**
Integrated processes system (IPS)
- **Western Canadian Oil Sector Company**
Fibre optic sensors



INO

FINANCIAL
STATEMENTS

SUMMARY FINANCIAL STATEMENTS

INDEPENDENT AUDITORS' REPORT

To the members of National Optics Institute

OPINION

The summary financial statements of National Optics Institute (the «Entity»), which comprise:

- the summary statement of financial position as at March 31, 2023
- the summary statement of operations for the year then ended
- the summary statement of changes in net assets for the year then ended
- the summary statement of cash flows for the year then ended
- and related notes

(hereinafter, the «summary financial statements»),

are derived from the audited financial statements of National Optics Institute as at and for the year ended March 31, 2023 (the «audited financial statements»).

In our opinion, the accompanying summary financial statements are consistent, in all material respects, with the audited financial statements, in accordance with the criteria disclosed in Note 1 in the summary financial statements.

SUMMARY FINANCIAL STATEMENTS

The summary financial statements do not contain all the disclosures required by Canadian accounting standards for not-for-profit organizations. Reading the summary financial statements and the auditors' report thereon, therefore, is not a substitute for reading the Entity's audited financial statements and the auditors' report thereon.

The summary financial statements and the audited financial statements do not reflect the effects of events that occurred subsequent to the date of our report on the audited financial statements.

THE AUDITED FINANCIAL STATEMENTS AND OUR REPORT THEREON

On our report dated June 13, 2023, we have issued an unmodified opinion on the audited financial statements for the year ended March 31, 2023.

MANAGEMENT'S RESPONSIBILITY FOR THE SUMMARY FINANCIAL STATEMENTS

Management is responsible for the preparation of the summary financial statements in accordance with the criteria disclosed in Note 1 in the summary financial statements.

AUDITORS' RESPONSIBILITY

Our responsibility is to express an opinion on whether the summary financial statements are consistent, in all material respects, with the audited financial statements based on our procedures, which were conducted in accordance with Canadian Auditing Standards 810, Engagements to Report on Summary Financial Statements.

Québec, Canada

June 13, 2023

The logo for KPMG LLP, featuring the letters 'KPMG' in a bold, sans-serif font, followed by 'LLP' in a smaller font, with a horizontal line underneath.

* CPA auditor, CA, public accountancy permit No. A125181

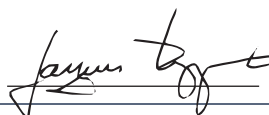
SUMMARY STATEMENT OF FINANCIAL POSITION

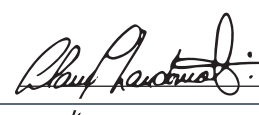
March 31, 2023, with comparative information for 2022

	2023	2022
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	\$ 6,803,074	\$ 11,664,058
Accounts receivable	6,494,119	3,233,744
Financial support receivable related to tangible capital assets and intangible assets (note 2(b))	-	522,161
Financial support receivable related to the entrepreneurship assistance program (note 2(c))	360,000	28,361
Inventories	2,616,570	1,621,524
Research contracts in progress	1,587,074	511,375
Prepaid expenses	1,086,323	752,390
Current portion of investments	29,801,680	15,496,230
	48,748,840	33,829,843
Investments	35,909,526	49,928,040
Investments in private companies	492,213	721,443
Tangible capital assets	26,643,858	27,859,826
Intangible assets	493,554	301,834
	\$ 112,287,991	\$ 112,640,986
LIABILITIES AND NET ASSETS		
CURRENT LIABILITIES		
Bank loans	\$ 250,975	\$ -
Accounts payable and accrued liabilities	9,396,859	6,164,434
Deferred revenues and deposits on contracts	2,437,184	3,554,921
Callable debt	1,576,642	2,294,290
Deferred financial support related to internal research program (note 2(a)(ii))	11,600,000	13,700,000
	25,261,660	25,713,645
Employee future benefits obligations	9,683,085	1,669,514
Deferred financial support related to tangible capital assets and intangible assets (note 2(b))	36,860,259	38,300,763
Deferred financial support related to internal research program (note 2(a) ii))	23,900,000	34,600,000
	95,705,004	100,283,922
NET ASSETS	16,582,987	12,357,064
Commitments (note 5)		
	\$ 112,287,991	\$ 112,640,986

See accompanying notes to summary financial statements.

On behalf of the Board

 , Director

 , Director

SUMMARY STATEMENT OF OPERATIONS

March 31, 2023, with comparative information for 2022

	2023	2022
REVENUES		
Financial support related to internal research program (note 2(a))	\$ 21,700,000	\$ 22,700,000
Financial support related to tangible capital assets and intangible assets (note 2(b))	2,131,477	2,074,647
Financial support related to the entrepreneurship assistance program	892,589	398,468
Sales and contracts	22,713,175	14,548,186
Investment income	964,737	1,595,067
Technology transfer agreements	901,320	-
Dividend income	-	587,466
Rent and other revenues	471,320	328,577
Royalties	350,135	238,043
Members' contributions	69,000	30,000
	50,193,753	42,500,454
EXPENSES		
Salaries and fringe benefits	\$ 29,446,144	\$ 24,683,865
Cost of goods and services pertaining to project completion	6,845,465	6,292,586
Other operating expenses	9,411,853	8,258,860
Foreign exchange loss (gain)	(220,922)	112,865
Interest on callable debt	87,870	77,319
Interest and bank charges	66,235	120,680
Depreciation of tangible capital assets	3,119,398	3,020,647
Amortization of intangible assets	142,705	167,001
	48,898,748	42,733,823
OTHER REVENUES AND EXPENSES		
Canada Emergency Wage Subsidy	-	1,012,027
Gain on disposal of investment in a private corporation	10,675,118	-
Other than temporary decline in value on investments in private companies	-	(241,433)
EXCESS OF REVENUES OVER EXPENSES FOR THE YEAR	\$ 11,970,123	\$ 537,225

See accompanying notes to summary financial statements.

SUMMARY STATEMENT OF CHANGES IN NET ASSETS

March 31, 2023, with comparative information for 2022

	2023	2022
NET ASSETS, BEGINNING OF YEAR	\$ 12,357,064	\$ 11,238,439
Adoption of new accounting standard (note 4)	(6,208,200)	-
	6,148,864	11,238,439
Excess of revenues over expenses for the year	11,970,123	537,225
Remeasurements and other items (note 3)	(1,536,000)	581,400
NET ASSETS, END OF YEAR	\$ 16,582,987	\$ 12,357,064

See accompanying notes to financial statements.

SUMMARY STATEMENT OF CASH FLOWS

March 31, 2023, with comparative information for 2022

	2023	2022
CASH PROVIDED BY (USED IN)		
OPERATING		
Excess of revenues over expenses for the year	\$ 11,970,123	\$ 537,225
Items not involving cash:		
Depreciation of tangible capital assets	3,119,398	3,020,647
Amortization of intangible assets	142,705	167,001
Amortization of premiums and discounts on coupons and bonds	47,257	24,247
Adjustment related to employee future benefits	269,371	(424,444)
Financial support related to tangible capital assets and intangible assets (note 2(b))	(2,131,477)	(2,074,647)
Deferred financial support recognized in revenues (note 2(a))	(12,800,000)	(11,641,883)
Gain on disposal of investment in a private corporation	(10,675,118)	-
Other than temporary decline in value on investments in private companies	-	241,433
Changes in non-cash working capital items (note 12(a))	(3,359,843)	1,911,118
	\$ (13,417,584)	\$ (8,239,303)
FINANCING		
Net change in bank loans	250,975	-
Increase in callable debt	-	612,000
Repayment of callable debt	(717,648)	(685,911)
Financial support used (notes 2(b))	690,973	865,717
	224,300	791,806
INVESTING		
Acquisitions of tangible capital assets	(1,903,430)	(2,159,170)
Acquisitions of intangible assets	(334,425)	-
Disposal of investment in a private corporation	10,904,348	-
Acquisition of investments	(26,663,716)	(60,973,936)
Disposal of investments	26,329,523	4,401,289
	8,332,300	(58,731,817)
Decrease in cash and cash equivalents during the year	(4,860,984)	(66,179,314)
Cash and cash equivalents, beginning of year	11,664,058	77,843,372
CASH AND CASH EQUIVALENTS, END OF YEAR	\$ 6,803,074	\$ 11,664,058

See accompanying notes to financial statements.

NOTES TO SUMMARY FINANCIAL STATEMENTS

Year ended March 31, 2023, with comparative information for 2022

The National Optics Institute («INO») was incorporated on December 31, 1985 under Part II of the Canada Business Corporations Act and continued on September 11, 2013 under the Canada Not-for-profit Corporations Act. Its mandate is to bring to life innovations that enable the Canadian industry to be more productive and competitive.

As a non-profit organization, INO is exempt from income tax.

1. BASIS FOR PRESENTATION

INO elected to prepare the summary financial statements based on the following criteria:

- a) Presentation of a set of financial statements which includes a summary financial position, a summary statement of operations, a summary statement of changes in net assets, and a summary statement of cash flows;
- b) Use of the same presentation for the summary financial statements as for the audited financial statements, except for cross-references to notes disclosures;
- c) Exclusion of notes to financial statements, unless their omission would prevent the financial statements users from having a clear understanding of economic resources and obligations at a period-end or their evolution during the period then ended.

INO's complete set of financial statements are available upon request from management.

2. FINANCIAL SUPPORT

- a) Financial support - internal research program:

The financial support that INO receives as part of the internal research program is as follows:

			2023
	Total support	Remaining support balance available as at March 31, 2022	Revenues
Government of Canada Canada Economic Development	\$ 50,000,000	\$ 29,100,000	\$ 8,900,000
Government of Québec	55,000,000	35,500,000	12,800,000
Financial support - internal research program	\$ 105,000,000	\$ 64,600,000	\$ 21,700,000

2. FINANCIAL SUPPORT (CONTINUED)

a) Financial support - Internal Research Program (continued)

			2022
	Total support	Remaining support balance available as at March 31, 2022	Revenues
Government of Canada Canada Economic Development	\$ 50,000,000	\$ 38,000,000	\$ 12,000,000
Government of Québec	80,000,000	48,300,000	10,700,000
Financial support - internal research program	\$ 130,000,000	\$ 86,300,000	\$ 22,700,000

i) Government of Canada

In July 2021, the Government of Canada, through the Business and Regional Growth Program of Canada Economic Development, granted INO financial support of up to \$50,000,000 over a five-year period ending on March 31, 2026, for INO's internal research program. As of March 31, 2022 and 2023, the receivable amount is nil.

ii) Government of Québec

In March 2017, the Government of Québec granted INO additional financial support in an amount of \$25,000,000 for the period from April 1, 2017 to March 31, 2022 to carry out research activities and develop expertise in the areas of IoT (Internet of Things), advanced robotics and 3D printing, as well as to establish an office in the Montréal area. This financial support had been received in full as at March 31, 2017, and an amount of \$4,000,000 was used during the year ended March 31, 2022.

In March 2021, the Government of Québec granted INO financial support in an amount of \$55,000,000 for the period from April 1, 2021 to March 31, 2026 for INO's internal research program. This financial support had been received in full as at March 31, 2021 and an amount of \$12,800,000 was used during the year ended March 31, 2023 (2022- \$6,700,000).

NOTES TO SUMMARY FINANCIAL STATEMENTS (CONTINUED)

2. FINANCIAL SUPPORT (CONTINUED)

a) Financial support - Internal Research Program (continued)

Deferred financial support under the internal research program is as follows:

	2023	2022
Balance, beginning of year	\$ 48,300,000	\$ 59,941,883
Amount recognized in revenues during the year	(12,800,000)	(11,641,883)
	35,500,000	48,300,000
Less: current portion	11,600,000	13,700,000
BALANCE, END OF YEAR	\$ 23,900,000	\$ 34,600,000

b) Support program related to tangible capital assets and intangible assets:

- i) In September 2018, the Government of Québec granted INO financial support of up to \$3,992,816 to reimburse INO directly for 80% of the acquisition cost of research equipment. Financial support is paid as disbursements are made by INO. As at March 31, 2023, the receivable amount is nil (2022 - \$399,281).
- ii) In September 2019, the Government of Québec granted INO financial support of up to \$1,024,000 for major work on the building. Financial support is paid as disbursements are made by INO. As at March 31, 2023, the receivable amount is nil (2021 - \$122,880).
- iii) In March 2021, the Government of Québec granted INO financial support of up to \$20,000,000 for the period from April 1, 2021 to March 31, 2026 to reimburse INO directly for 80% of the cost of major work on the building. Financial support had been received in full as at March 31, 2021, and an amount of \$330,398 was used during the year ended March 31, 2023 (2022 - \$265,812).
- iv) In April 2022, the Government of Canada granted INO financial support of up to \$2,796,000 to reimburse INO directly for 40% of the acquisition cost of research equipment and 80% of the acquisition cost of information technology equipment. Financial support is paid as costs are incurred and invoiced. As at March 31, 2023, and an amount of \$266,347 had been received in advance.
- v) In February 2023, the Government of Québec granted INO financial support of up to \$985,016 to reimburse INO directly for 40% of the acquisition cost of research equipment. Financial support is paid as disbursements are made by INO. As at March 31, 2023, and an amount of \$394,032 had been received in advance.

The deferred financial support to tangible capital assets and intangible assets is as follows:

	2023	2022
Balance, beginning of year	\$ 38,300,763	\$ 39,509,693
Financial support related to the purchase of tangible capital assets and intangible assets for the year	690,973	865,717
Transfer to revenues to offset the corresponding depreciation and amortization	(2,131,477)	(2,074,647)
BALANCE, END OF YEAR	\$ 36,860,259	\$ 38,300,763

2. FINANCIAL SUPPORT (CONTINUED)

c) Financial support related to the entrepreneurship assistance program:

- i) In January 2020, the Government of Québec granted INO financial support of \$375,000 for a three-year period ending March 31, 2023 to support assistance activities for start-up entities. As at March 31, 2023, an amount of \$122,144 is payable (2022 - \$215,051 received in advance).
- ii) In March 2020, the City of Québec granted INO financial support of \$1,400,000 for the period from October 19, 2019 to March 31, 2023 in order to set up an incubator dedicated to optics-photonics technology. As at March 31, 2023, an amount of \$100,000 was receivable (2022 - \$28 361)..
- iii) In March 2020, the Government of Québec granted INO financial support of \$500,000 for a three-year period ending March 31, 2026 to support assistance activities for start-up entities. As at March 31, 2023, the receivable amount is nil.
- iv) In March 2023, the Government of Québec granted INO financial support of \$1,500,000 for a three-year period ending March 31, 2026 to support assistance activities for start-up entities. As at March 31, 2023, the receivable amount is nil.

d) Financial assistance relating to the support program for research-innovation projects:

In March 2020, the Government of Québec granted INO financial support of \$600,000 for a three-year period to support the completion of an industrial research program in quantum photonics. As at March 31, 2023, a balance of \$60,000 was receivable (2022 - \$326,000 had been received in advance).

In March 2023, the Government of Québec granted INO financial support of \$400,000 for a three-year period to support the completion of an industrial research program in quantum photonics. As at March 31, 2023, an amount of \$200,000 was receivable.

3. EMPLOYEE FUTURE BENEFITS:

INO offers employee future benefit plans, including a defined benefit plan guaranteeing the payment of pension benefits to some of its employees. The benefits are based on years of service and final average salary.

a) Defined benefit pension plan:

The most recent complete actuarial valuation of the pension plan was performed on December 31, 2019 and was extrapolated as at March 31, 2023. The funded status of the defined benefit plans is as follows:

	2023	2022
Defined benefit obligations	\$ (59,710,300)	\$ (50,887,100)
Fair value of plan assets	50,135,600	49,428,600
Defined benefit liability	\$ (9,574,700)	\$ (1,458,500)

NOTES TO SUMMARY FINANCIAL STATEMENTS (CONTINUED)

b) Other employee future benefits:

The decrease in the provision relating to these obligations had no effect in salaries and fringe benefit expenses for the years ended March 31, 2023 and 2022.

As at March 31, 2023, the employee future benefits obligations were as follows:

	2023	2022
Defined benefit pension plan	\$ 9,574,700	\$ 1,458,500
Other employee future benefits	108,385	211,014
	\$ 9,683,085	\$ 1,669,514

Remeasurements and other items of \$1,536,000 (2022 - \$581,400) have been allocated directly to net assets.

4. ADOPTION OF NEW ACCOUNTING STANDARD

On April 1, 2022, the company adopted the provisions of an amendment to the standards applicable to private enterprises, Section 3462 of the CPA Handbook (which also applies to Section 3463) – Employee future benefits. The amendment adds a requirement that all components of the funding valuation, such as the Quebec stabilization provision, must be included in the valuation of the defined benefit obligation.

The adoption is applicable prospectively and therefore had the effect of increasing the defined benefit obligation by \$6,208,200 and reducing the net assets by the same amount as at April 1, 2022. Subsequent changes in the provision for stabilization will be accounted for under Revaluations and other items in the statement of changes in net assets

5. COMMITMENTS

INO is committed under lease agreements expiring between February 2024 and June 2027 to rent office spaces and a vehicle. INO has also committed, under a service contract expiring in January 2025, to receive cybersecurity services. In addition, INO has agreed to use the services of two service companies to proceed with the integration of new enterprise resource planning and product life cycle management software. The minimum payments required over the next five years are as follows:

2024	\$ 887,859
2025	218,982
2026	52,455
2027	52,455
2028	13,114

6. COMPARATIVE INFORMATIONS:

Some comparative informations have been reclassified in order to comply with the current period's presentation.