




QUÉBEC,
A LEADER IN
TRANSPORTATION
ELECTRIFICATION



29TH WORLD ELECTRIC VEHICLE
SYMPOSIUM AND EXHIBITION (EVS 29)
MONTRÉAL, JUNE 19-22, 2016

ENSEMBLE  *on fait avancer le Québec*

Québec 



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ENERGY EXPERTISE INNOVATION

TRANSPORTATION ELECTRIFICATION

is one of the means preferred by the Gouvernement du Québec to fight climate change and develop a prosperous low-carbon economy.

This commitment is part of a prevailing global trend. Sales of electric vehicles are growing rapidly and substantially, from 5,685 units sold in 2010 to 477,000 in 2015. By the end of 2015, over 1,150,000 electric vehicles were on the road around the world.

The electric vehicle sector represents a true collective wealth-creation engine for Québec, thanks to several major **advantages**:

- » electrical energy 99.5% derived from a renewable source, available in large quantities at a competitive cost;
- » a powerful, reliable and extensive electrical grid;
- » a dynamic and innovative ecosystem within a diversified ground transportation industry, including about 650 companies, both agile SMEs and leading multinationals: Bombardier Recreational Products, Bombardier Transportation, Nova Bus, Paccar, Prévost Car;
- » expertise in cutting-edge fields, such as electric motorization, batteries, power electronics and charging systems;

- »»» a culture of intercompany and intersector innovation and collaboration, sustained by a well-established research network with about 30 university research centres or college technology transfer centres, specializing in economic sectors related to electric transport and future transportation modes (smart, autonomous);
- »»» large reserves of raw materials used for battery manufacturing, such as lithium, graphite, titanium, phosphate and cobalt;
- »»» competitive financial assistance thanks to programs earmarked for the development of the industry, and personalized coaching and support for investors.

QUÉBEC ELECTRIC is:

- > about 9,800 light electric vehicles (plug-in hybrid and 100% electric) on the road (April 2016);
- > the top ranking for electric vehicles sales in Canada;
- > the biggest network of public charging stations in Canada, Electric Circuit;
- > over 1,200 public charging stations in service, including about 40 fast-charging stations spread out in 6 charging networks: Azra, Electric Circuit, Doc borné, VERnetwork, Sun Country Highway and Tesla;
- > about 40 companies specializing in the development and assembly of electric or plug-in hybrid vehicles intended for the ground transportation markets (individual, mass transit or heavy vehicles) or their components;
- > 3,000 direct or indirect jobs;
- > research and development capabilities in world-class battery materials. In all, 100 patents and 15 licences held by the Institut de recherche d'Hydro-Québec (IREQ).





GOVERNMENT ACTION

With its 2015-2020 Transportation Electrification Action Plan, the Gouvernement du Québec confirms its position as a leader in electric transportation and has set targets for 2020: reach the number of 100 000 registered electric and plug-in hybrid vehicles, reduce Québec's annual transportation-related greenhouse gas emissions by 150,000 tonnes, reduce the number of litres of fuel consumed annually by 66 million in Québec, generate \$500 million in investments and create 2,000 jobs.

This action plan includes a series of measures that particularly seek to encourage the use of electric vehicles, whether individually, in mass transit and in transportation of goods, intensify research and development efforts, support commercialization, export of innovative Québec products and investments, and train a skilled workforce capable of apprehending the sector's challenges.

By creating an environment favourable to the achievement of these ambitious objectives, this action plan provides the necessary tools to take advantage of Québec's technological and economic potential, in addition to contributing to the reduction of greenhouse gas emissions in Québec.

Transportation electrification is thus a way to stand out by advancing strong values, such as respect for the environment, collaboration and knowledge, and the will to increase the public's prosperity and well-being.

The 2015-2020 Transportation Electrification Action Plan can be consulted at the following address: www.transportselectriques.gouv.qc.ca.



**EXHIBITORS FROM THE
QUÉBEC ELECTRIC VEHICLE
INDUSTRY ATTENDING
THE EVS 29**

CTA

CENTRE DE TECHNOLOGIES AVANCÉES



UNIVERSITÉ DE
SHERBROOKE

BOOTH
1615

CENTRE DE TECHNOLOGIES AVANCÉES BRP - UNIVERSITÉ DE SHERBROOKE

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The Centre de technologies avancées (CTA) is a public-private nonprofit research centre that specializes in tomorrow's vehicles. Its fields of expertise encompass electrification, lightweighting, noise and vibration (NVH) management, mechatronics and connectivity. The CTA's philosophy is to help its clients reduce their time-to-market and R&D costs through 3 elements:

1. Predictive engineering
2. In-house characterization and testing facilities
3. A unique combination of dedicated industry and university employees

Most of its work qualifies for subsidies.



BOOTH
1109

COMMUNAUTO

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Communauto, the oldest car-sharing company in North America, was the first such organization on the continent to make fully electric vehicles available to members, and to offer two types of service (round-trip and free-floating). To do so, the company relies on its 2500 cars available for sharing.

The Communauto network extends from Montréal to Ottawa-Gatineau, Sherbrooke, Québec, Halifax (Nova Scotia) and Paris, France. The company has a social, environmental and urban focus.



BOOTH
901

CONCEPT GEEBEE INC.

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The GEEBEE is a new two-wheel single-seat electric vehicle in the individual sustainable mobility market. With a GEEBEE you can ride over medium distances thanks to its 50 km operating range and a maximum speed of 32 km/h.

Choosing a GEEBEE to move around town is a new alternative, easy and convenient, zero emission and noiseless. You can also use your GEEBEE for your leisure activities during the weekend as it allows off-road riding. The GEEBEE is designed and manufactured in Sherbrooke, Québec. Quality does really matter for us.



BOOTH
917

ECOTUNED AUTOMOBILE

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Ecotuned Automobile specializes in the conversion of polluting light trucks into electric vehicles with the first reusable powertrain system in the world. With a useful life of 1 million kilometres, the system can be installed and reused up to 5 times in 85% of the light trucks on the market. The technology is designed to be easily installed, with only standard tools, in most car workshops in North America. The Ecotuned solution extends the life of light trucks and reduces greenhouse gas emissions resulting from fuel combustion, scrapping and the manufacturing of new vehicles.



BOOTH
901

ELMEC INC.

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Elmec has operated in the electromechanical industry for over 25 years. Elmec makes its expertise available to equipment manufacturers to meet their needs. It is the instigator of the CANMobile2project. Thanks to this wireless technology, equipment can be monitored remotely while operating the associated systems efficiently. Also, Elmec is becoming a leader in the development of residential, commercial and industrial charging stations. Elmec also manufactures the popular EVDuty Charging Station.



BOOTH
1218

FIAREX AND CEM, TESTING LABORATORIES

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With recognized technical expertise and state-of-the-art facilities, FIAREX and EMC Testing Laboratories specialize in the validation of manufactured products. Our environmental, mechanical and electromagnetic compatibility testing processes stand out for our competent staff, who will guide you in the validation or qualification of your products.

We offer a wide range of services related to product development, analysis and prediction of reliability. Our effective solutions allow considerable reduction of the development time of your products and allow you to predict potential failures before they appear.

Compliance with electromagnetic compatibility (EMC) standards is also a required step before marketing of electrical and electronic products. Our EMC Testing Laboratory supports you throughout the EMC homologation process, from prototype development to certification of your products in good and valid form. The EMC Testing Laboratory also offers a consulting service that optimizes development time and makes the certification process efficient.



BOOTH
1214

FLO PRESENTED BY ADDENERGIE

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FLO is the largest electric vehicle charging network in Canada. Presented by AddEnergie, the Canadian leader in charging solutions for electric vehicles, FLO provides access to more than 2000 charging stations from coast to coast. FLO offers complete charging services for all segments of the market (public, employer, multiple-unit residential, fleet, small residential, etc). Previously known as VERnetwork, FLO is interoperable with Electric Circuit, Hydro-Quebec's network in Québec.



gentec

BOOTH
901

GENTEC INC.

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Gentec designs and manufactures solutions and products in the sector of high technology electronics, power systems and energy management, which are tailored to the customer's applications. Reliability and robustness are the hallmark of all Gentec products.

Thanks to the competence of highly qualified personal, Gentec has been identified since 1959, as a leader in energy conversion and control, as well as battery chargers for stationary and vehicular applications.



Institut du véhicule innovant
Innovative Vehicle Institute

BOOTH
901

INNOVATIVE VEHICLE INSTITUTE

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IVI's mission is to support businesses and organizations in applied research, development, assessment and implementation of innovative vehicle technologies. The goal of IVI services is to support its client in order to develop innovative and technologically advanced products. Our projects target transport electrification and automation, vehicle energy efficiency and greenhouse gas (GHG) emission reduction in the transportation sector.



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901

INNOVÉE INNOVATION EN ÉNERGIE ÉLECTRIQUE

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InnovÉE's mission is to support the development and financing of collaborative R&D projects in relation to the electrical and transportation electrification, by pooling the expertise and resources of multiple academic and industrial partners and research establishments. In particular, we offer access to grants for R&D projects addressing the development of new technologies associated with transportation electrification and optimized electric power generation, transmission, distribution, storage and utilization.

kargo

BOOTH
417

KARGO

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Designed by Services PRECICAD, a Québec company, and assembled in Alma, the KARGO vehicle exists in different configurations, easily adapted for transportation of passengers or freight. To date, several large-area industrial sites use KARGO to ensure the movement of passengers and goods within their facilities. KARGO is also present in several international markets, including Bahrain and Europe.

KARGO's mission is to offer the industrial and institutional sectors a solution adapted for the use of multipurpose vehicles with high aluminum content. KARGO is primarily interested in the market for aluminum smelters, mining companies, municipalities and recreational tourist centres, offering a product that adequately meets their specific needs. KARGO comes from an idea and a joint project with Aluminerie Alouette in Sept-Îles.



BOOTH
1523

LION BUS INC.

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Lion Bus is the only electric school bus manufacturer in North America that manufactures 100% electric school buses. Based in Saint-Jérôme, Québec, Lion Bus offers a full range of school and commercial buses with diesel, CNG and electric powertrains. Lion Bus has over 65 employees at its Saint-Jérôme facility and is responsible for over 300 indirect jobs in Québec.



BOOTH
901

LTS MARINE / LTS EPROPULSION

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Created in spring 2009, LTS Marine took on the mission of bringing green energy to pleasure boaters and commercial vehicle operators by offering electric and hybrid powertrains tailored to their needs.

Combining state-of-the-art automotive technology with their knowledge of the industry, LTS Marine brings to the industry a wide range of solutions adapted to several types of applications. LTS Marine systems, designed and manufactured at our Montréal shops, are the fruit of many years of research and development and can be found on a wide range of vehicles.



BOOTH
901

MAYA HEAT TRANSFER TECHNOLOGIES LTD

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MAYA is a mechanical engineering simulation software product reseller, integrator, and developer – as well as an engineering services and training provider. We offer Siemens PLM Software products and development services to extend the capabilities of these tools.

Going far beyond traditional computer-assisted engineering players, MAYA offers solutions adapted to the specific needs of your application, manufacturing process, organization, and available resources. We help our clients reduce product costs, improve quality, and speed up time-to-market for the design and prototyping stages.



BOOTH
1219

MOGILE TECHNOLOGIES INC. (MAKERS OF CHARGEHUB)

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ChargeHub, by Mogile Tech, is a platform with mobile and web interfaces that aggregates the information for all the electric vehicle charging infrastructure in the United States and Canada in one place.

ChargeHub:

- Supplies licensed data and market intelligence to industry and governments in the form of reports, API access and white label solutions.
- Offers automotive manufacturers and dealerships a turnkey solution to help with the EV and plug-in hybrid sales process by taking care of the entire charging aspect from A to Z, via interactive kiosks installed in dealerships.



PIT Group
by FPinnovations

BOOTH
901

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Our group designs, manufactures and markets innovative electric shuttles for passenger transportation. Our innovative business model is to design customized iconic compact vehicles in small production runs to allow an organization, an institution or a municipality to stand out and offer an extraordinary customer experience.

Our vehicles can be adapted and integrated in all kinds of environments and can easily be deployed, since they do not require any specialized infrastructure.

If you would like to rethink the mobility of your environment, our vehicles will meet your highest selection criteria.



BOOTH
1716

PMG TECHNOLOGIES

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PMG Technologies (PMG) manages Transports Canada's Motor Vehicle Test and Research Centre (MVTC) since 1996. It is the only test facility of its kind in Canada and the best equipped in North America. With its expertise and major Transports Canada investments, PMG has become a renowned test and research centre with international influence.

In 2012, PMG was awarded the "Crash Test Facility of the Year" as well as "Most Accurate Crash Test Facility in the World" by *Automotive Testing Technology International*, a United Kingdom publication, recognizing PMG as the most accurate and reliable test facility in the world.



QUEBEC GROUND
TRANSPORTATION
Cluster

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901

QUEBEC GROUND TRANSPORTATION CLUSTER

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The Quebec Ground Transportation Cluster brings together all of Québec's industrial, technical, scientific and government stakeholders playing a key role in the ground transportation value chain.

The Cluster has a strong expertise in international markets and collaborative innovation. Committed to supporting its member transportation equipment manufacturers and helping them market their products, the Cluster offers:

- Activities of international scope
- Export and innovation opportunities
- Funding for collaborative innovation projects
- Economic missions outside Québec

The Cluster also maintains close relationships with various economic development organizations around the world.



PRECICAD

DESIGN | GÉNIE | SIMULATION

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901

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PRECICAD was founded in 1993 and located in Parc technologique du Québec métropolitain (Metropolitan Québec Technology Park). In 2001, the firm joined the Carrefour de la Nouvelle Économie (CNE), a major cluster of companies specialized in high technology. Recognizing its clientele's wide range of product development needs, PRECICAD over the years has integrated specialized resources and technological tools enabling PRECICAD to upgrade the overall offering to its clientele. This is why most of our new clients are referrals by our existing clientele.

PRECICAD is a key partner in your product development. Our team of industrial designers, developers and engineers:

- pays close attention to your needs
- develops innovative solutions

Our professionals, our knowhow and our tools on the technological cutting edge are a pledge of your products' success.



BOOTH
1101

TM4 INC.

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A wholly owned subsidiary of Hydro-Québec, TM4 designs and manufactures electric motors, generators, power electronics and control systems suitable for the commercial, passenger, marine, mining, rail, motorsports and recreational vehicle markets. TM4 contributes to the highest possible energy conversion efficiencies thanks to its expertise in permanent magnets motors, thermal management, coil winding, outer-rotor topology, and control algorithms.

