



NFI Unveils Next Generation Hydrogen Fuel Cell-Electric Bus: The Lighter, More Efficient, Longer Range Xcelsior CHARGE FC™

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NFI's advanced hydrogen fuel cell-electric, zero-emission transit bus delivers increased range and reliability through simplified system integration and design, high-power batteries and streamlined battery packaging

NFI Group subsidiary New Flyer Xcelsior Charge fuel cell transit bus



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[YouTube video](#)

ST. CLOUD, Minn., Sept. 08, 2022 (GLOBE NEWSWIRE) -- (TSX: NFI, OTC: NFYEF, TSX: NFI.DB) NFI Group Inc. ("NFI"), a leading independent

bus and coach manufacturer and a leader in electric mass mobility solutions, today announced that its subsidiary New Flyer of America Inc. and New Flyer Industries Canada ULC (together “New Flyer”) unveiled its next generation, zero-emission hydrogen fuel cell-electric Xcelsior CHARGE FC™ heavy-duty transit bus.

The Xcelsior CHARGE FC™ uses environmentally friendly hydrogen and fuel-cell technology to create electricity and to charge batteries for zero-emission extended-range, saving 85-175 tons of greenhouse gas per year from tailpipe emissions compared to a traditional diesel bus. With a range of over 370 miles¹, the bus can be refueled in 6-20 minutes depending on the model and operating conditions and requires no overnight plug-in electrical re-charging. The only tailpipe output is clean water vapor.

Built on the proven Xcelsior® platform with over 16,000 buses delivered to date, New Flyer's battery-electric and fuel cell-electric models have surpassed over 15 million electric vehicle (“EV”) service miles. Drawing upon more than 20 years of experience producing fuel cell-electric buses for North American operators, New Flyer has applied the best of zero-emission design and innovative fuel cell technologies to develop its most advanced hydrogen fuel cell-electric bus yet.

New Flyer's Xcelsior CHARGE FC™ incorporates four distinct technology advancements to deliver a robust, long-range, high-performance hydrogen fuel cell-electric bus, including a lighter, simpler, and more efficient heavy-duty fuel cell power module that is easier to service; recyclable, high-power batteries delivering a longer range of over 370 miles of highway driving without refueling; a redesigned waterproof (IP 67 and IP 69 rated) battery enclosure providing improved serviceability; and a high-grade, electric drive traction system with up to 90% energy recovery.

“The Xcelsior CHARGE FC includes the latest technology innovations. The new streamlined design is easier to service and maintain, delivers longer range at highway speeds, improves energy recovery, and is smart city-capable, making it the most advanced hydrogen fuel cell-electric bus available on the market,” said Chris Stoddart, President, North American Bus and Coach, NFI. “With the Xcelsior CHARGE FC now added to NFI's market-leading EV and AV vehicle lineup, NFI is undeniably leading a new mobility era, delivering unmatched performance and sustainability benefits to transit operators.”

The new FCmove™-HD+ fuel cell power module from Ballard Power Systems introduces a more compact and robust design with lifecycle cost reductions achieved through lower maintenance requirements, higher reliability, and fewer parts. The integrated design houses all subcomponents in a single enclosure; it is smaller, lighter, and uses 50% fewer parts, making it easier to service and maintain. It offers over 97% fuel cell power availability while in service, and a wider operating range across a variety of climates.

New Flyer manufactures its energy storage system enclosures in its bus production facilities. The battery packaging, developed by New Flyer, utilizes a waterproof enclosure design that is lighter and easier to maintain, decreasing the number of parts by 90%. Its streamlined design enables technicians to simply “plug in” or “unplug” individual battery packs, significantly reducing bus downtime and allowing easy replacement.

High-power, rapid-charge batteries utilize an active liquid cooling system to maintain consistent temperatures and respond quickly to increases in power demand and environmental loads. The batteries are more efficient in demanding applications, offer 40% more energy, and deliver 44% more range at highway speeds without compromising quality. The batteries are also appropriate for Li-Cycle's closed-loop lithium-ion battery recycling program that facilitates full-circle sustainable mobility and material recapture through recovery of critical materials from lithium-ion batteries and reintroducing them into the supply chain.

Finally, the Siemens ELFA™ 3 traction system delivers up to 90% energy recovery through regenerative braking and weighs 69% less than ELFA™ 2 delivering a more efficient design through compact inverters and embedded drive controllers.

“More and more cities are making the commitment to 100% zero-emission fleets and Xcelsior CHARGE FC provides an ideal complement to battery-electric buses for agencies wanting to integrate the reliable long-range performance of hydrogen fuel cell-electric buses,” said Jennifer McNeill, Vice President of Public Sector Sales and Marketing, New Flyer and MCI. “The Xcelsior CHARGE FC also advances our effort to continue driving the adoption of zero-emission mobility with a safe, scalable, and streamlined approach to the zero-emission manufacturing process. In turn, we simplify training for our production teams and those of transit agencies across North America to continue supporting reskilling, upskilling, and workforce development to ensure successful zero-emission deployments.”

The Xcelsior CHARGE FC™ is available in 40-foot and 60-foot lengths, and both models meet the Federal Transit Administration Model Bus Testing Program at Altoona, Pennsylvania. New Flyer remains the only North American manufacturer to offer both 40-foot and 60-foot fuel cell-electric models that qualify for federal funding.

To provide workforce development on Xcelsior CHARGE FC™ technologies, New Flyer will host a no-cost virtual training session on November 10, 2022, through the [Vehicle Innovation Center](#) (“VIC”). To register for the VIC session or to learn more about the Xcelsior CHARGE FC™ fuel cell-electric bus, visit [newflyer.com/FC](#).

NFI is a leader in zero-emission mobility, with electric vehicles operating (or on order) in more than 110 cities in six countries. NFI offers the widest range of zero-emission battery and fuel cell-electric buses and coaches, and its vehicles have completed over 70 million EV service miles.

Today, NFI supports growing North American cities with scalable, clean, and sustainable mobility solutions through a four-pillar approach that includes buses and coaches, technology, [infrastructure](#), and workforce development. NFI also operates the VIC, the first and only innovation lab of its kind dedicated to advancing bus and coach technology and providing workforce development. Since opening in late 2017, the VIC has hosted over 300 interactive events, welcoming 5,000 industry professionals for EV and infrastructure training.

About NFI

Leveraging 450 years of combined experience, NFI is leading the electrification of mass mobility around the world. With zero-emission buses and coaches, infrastructure, and technology, NFI meets today's urban demands for scalable smart mobility solutions. Together, NFI is enabling more livable cities through connected, clean, and sustainable transportation.

With 7,500 team members in nine countries, NFI is a leading global bus manufacturer of mass mobility solutions under the brands New Flyer® (heavy-duty transit buses), MCI® (motor coaches), Alexander Dennis Limited (single and double-deck buses), Plaxton (motor coaches), ARBOC® (low-floor cutaway and medium-duty buses), and NFI Parts™. NFI currently offers the widest range of sustainable drive systems available,

including zero-emission electric (trolley, battery, and fuel cell), natural gas, electric hybrid, and clean diesel. In total, NFI supports its installed base of over 105,000 buses and coaches around the world. NFI's common shares trade on the Toronto Stock Exchange ("TSX") under the symbol NFI and its convertible unsecured debentures trade on the TSX under the symbol NFI.DB. News and information is available at www.nfigroup.com, www.newflyer.com, www.mcicoach.com, www.nfi.parts, www.alexander-dennis.com, www.arbocsv.com, and www.carfaircomposites.com.

About New Flyer

New Flyer is North America's heavy-duty transit bus leader and offers the most advanced product line under the Xcelsior® and Xcelsior CHARGE® brands. It also offers infrastructure development through NFI Infrastructure Solutions™, a service dedicated to providing safe, sustainable, and reliable charging and mobility solutions. New Flyer actively supports over 35,000 heavy-duty transit buses (New Flyer, NABI, and Orion) currently in service, of which 8,600 are powered by electric motors and battery propulsion and 1,900 are zero-emission. Further information is available at www.newflyer.com.

Forward-Looking Statement

This press release may contain forward-looking statements relating to expected future events and financial and operating results of NFI Group that involve risks and uncertainties. Although the forward-looking statements contained in this press release are based upon what management believes to be reasonable assumptions, investors cannot be assured that actual results will be consistent with these forward-looking statements, and the differences may be material. Actual results may differ materially from management expectations as projected in such forward-looking statements for a variety of reasons, including market and general economic conditions and economic conditions of and funding availability for customers to purchase buses and to purchase parts or services; customers may not exercise options to purchase additional buses; the ability of customers to suspend or terminate contracts for convenience; production may be delayed or production rates may be decreased as a result of the pandemic or ongoing and future supply chain disruptions and shortages of parts and components, shipping and freight delays, and disruption to labor supply; and the other risks and uncertainties discussed in the materials filed with the Canadian securities regulatory authorities and available on SEDAR at www.sedar.com.

Due to the potential impact of these factors, the NFI Group disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, unless required by applicable law.

A photo accompanying this announcement is available at <https://www.globenewswire.com/NewsRoom/AttachmentNg/4b9933b8-5197-4dae-91f9-5f97db92a8ac>

A video accompanying this announcement is available at <https://www.globenewswire.com/NewsRoom/AttachmentNg/c830196b-ee10-4cc2-938e-3c2067151982>

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¹ Estimated based on real-world duty cycle.