Workhorse Group Inc.
Form 10-K
March 14, 2018

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2017

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE EXCHANGE ACT

Commission file number: 000-53704

WORKHORSE GROUP INC.

(Name of registrant as specified in its charter)

Nevada	**26-1394771**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

100 Commerce Drive
Loveland, Ohio 45140 **513-360-4704**
(Address of principal executive offices) (Registrant's telephone number)

SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE EXCHANGE ACT:

Title of each Class:	**Name of Each Exchange**
Common Stock, $0.001 par value per share	The NASDAQ Stock Market LLC

SECURITIES REGISTERED PURSUANT TO SECTION 12(g) OF THE EXCHANGE ACT:

None.

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated

filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer		Accelerated filer
		Smaller reporting company
Non-accelerated filer	(Do not check if a smaller reporting company)	
		Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).
Yes No

As of June 30, 2017, the last business day of the Registrant's most recently completed second fiscal quarter, the market value of our common stock held by non-affiliates was $134,353,896.

The number of shares of the Registrant's common stock, $0.001 par value per share, outstanding as of March 8, 2018, was 41,828,474.

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Forward-Looking Statements

The discussions in this Annual Report contain forward-looking statements reflecting our current expectations that involve risks and uncertainties. When used in this Report, the words "anticipate", expect", "plan", "believe", "seek", "estimate" and similar expressions are intended to identify forward-looking statements. These are statements that relate to future periods and include, but are not limited to, statements about the features, benefits and performance of our products, our ability to introduce new product offerings and increase revenue from existing products, expected expenses including those related to selling and marketing, product development and general and administrative, our beliefs regarding the health and growth of the market for our products, anticipated increase in our customer base, expansion of our products functionalities, expected revenue levels and sources of revenue, expected impact, if any, of legal proceedings, the adequacy of liquidity and capital resource, and expected growth in business. Forward-looking statements are subject to risks and uncertainties that could cause actual results to differ materially from those projected. These risks and uncertainties include, but are not limited to, market acceptance for our products, our ability to attract and retain customers for existing and new products, our ability to control our expenses, our ability to recruit and retain employees, legislation and government regulation, shifts in technology, global and local business conditions, our ability to effectively maintain and update our product and service portfolio, the strength of competitive offerings, the prices being charged by those competitors and the risks discussed elsewhere herein and our ability to raise capital under acceptable terms. These forward-looking statements speak only as of the date hereof. We expressly disclaim any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in our expectations with regard thereto or any change in events, conditions or circumstances on which any such statement is based.

All references in this Form 10-K that refer to the "Company", "WORKHORSE GROUP", "Workhorse", "we," "us" or "our" a
WORKHORSE GROUP INC. and unless otherwise differentiated, its wholly-owned subsidiaries, Workhorse Technologies Inc., Workhorse Motor Works Inc and Workhorse Properties Inc.

PART I

ITEM 1. BUSINESS

Overview

We are a technology company focused on providing sustainable and cost-effective solutions to the commercial transportation sector. As an American manufacturer we design and build high performance battery-electric vehicles and aircraft that make movement of people and goods more efficient and less harmful to the environment. As part of our solution, we also develop cloud-based, real-time telematics performance monitoring systems that enable fleet operators to optimize energy and route efficiency. Although we operate as a single unit through our subsidiaries, we approach our development through two divisions, Automotive and Aviation.

Automotive

In March of 2013, we purchased the former Workhorse Custom Chassis assembly plant in Union City, Indiana from Navistar International (NAV: NYSE). With this acquisition, we acquired the capability to be an Original Equipment Manufacturer (OEM) of Class 3-6 commercial-grade, medium-duty truck chassis, to be marketed under the Workhorse® brand. All Workhorse last mile delivery vans are assembled in the Union City assembly facility. We believe that we are the only medium-duty battery-electric OEM in the U.S. and we will be expanding our product portfolio through introduction of the N-GEN electric cargo van, as well as the W-15 range-extended electric pickup truck in late 2018 and 2019.

We believe our battery-electric and range-extended battery electric commercial vehicles offer fleet operators significant benefits, which include:

Low Total Cost-of-Ownership vs. conventional gas/diesel vehicles

Competitive advantage to increase brand loyalty and last mile delivery market share

Improved profitability through:

- Lower maintenance costs

- Reduced fuel expenses

Increased package deliveries per day through use of more efficient delivery methods

Decreased vehicle emissions and reduction in carbon footprint

Improved vehicle safety and driver experience

The Company currently sells and leases its vehicles to fleet customers directly and through its primary distributor Ryder System, Inc. Ryder also is the exclusive maintenance provider for Workhorse, which provides fleet operators with access to Ryder's network of 800 maintenance facilities and nearly 6,000 trained service technicians across North America.

Cargo Vans for Last Mile Delivery and Commercial Work Use

Workhorse E-100 battery-electric and E-GEN range-extended delivery vans are currently in production at our Union City, Indiana plant and are in use by our customers on daily routes across the United States. To date, we have built and delivered over 360 electric and range extended medium-duty delivery trucks to our customers. To our knowledge, we are the only American commercial electric vehicle OEM to achieve such a milestone. Our delivery customers include companies such as UPS, FedEx Express, Alpha Baking and Ryder System.

Data from our in-house developed Metron telematics system demonstrates our vehicles have logged more than 2,000,000 customer miles on the road and are averaging a 500% increase in fuel economy as compared to conventional gasoline-based trucks of the same size and duty cycle. In addition to improved fuel economy, we anticipate that the performance of our vehicles on-route will reduce long-term vehicle maintenance expense by approximately 50% as compared to fossil-fueled trucks. Over a 20-year vehicle life, we estimate that our E-GEN Range-Extended Electric delivery vans will save over $150,000 in fuel and maintenance savings. Due to this positive return-on-investment, we charge a premium price for our vehicles when selling to major fleet operators. We expect that fleet operators will be able to achieve a four-year or better total cost of ownership breakeven (without government incentives), which we believe justifies the higher acquisition cost of our vehicles.

Our goal is to continue to increase sales and production of our existing vehicle portfolio, while executing on a cost-down strategy in order to achieve sustained gross margin profitability of the last mile-delivery van platform. It is our intention that this strategy in combination with the development and launch of the N-GEN cargo van and W-15 pickup truck platforms, which target high-volume market segments, will drive further cost-down volume synergies across our supply chain.

U.S. Post Office Replenishment Program / Next Generation Delivery Vehicle Project

Workhorse, with our partner VT Hackney, is one of five awardees that the United States Postal Service selected to build prototype vehicles for the USPS Next Generation Delivery Vehicle (NGDV) project. The Post Office has stated that the number of vehicles to be replaced in the project is approximately 180,000. In September 2017, Workhorse delivered six vehicles for prototype testing under the NGDV Acquisition Program in compliance with the terms set forth in their USPS prototype contract. These vehicles continue to undergo testing in the field and at testing facilities. The Post Office has stated that they intend to test the prototypes and select a winning bid(s) following the testing process.

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N-GEN Electric Cargo Van

In 2017, Workhorse announced the development of its N-GEN electric cargo van, which leverages the existing ultra-low floor, long-life commercial delivery vehicle platform that was developed for the USPS, as well as our extensive customer experience gained from working with our E-GEN and E-100 customers. The N-GEN incorporates lightweight materials, all-wheel drive, best in class turning radius, 360º cameras, collision avoidance systems and an optional roof mounted HorseFly delivery drone.

The Workhorse N-Gen electric cargo van platform will be available in 450, 700 and 1,000 cubic feet configurations. We intend to initially launch the 450 cubic foot and 1,000 cubic foot configurations with the goal of competing with conventional market leaders, including the Mercedes Sprinter, Ford Transit and Dodge Promaster gasoline/diesel vans for both last-mile delivery and other service-oriented applications such as telecommunications. We expect these vehicles to achieve a fuel economy of approximately 60 miles per gallon equivalent (MPGe), and offer fleet operators the most favorable total cost-of-ownership of any comparable conventional van utilizing an internal combustion engine that is available today.

W-15 Range-Extended Electric Pickup Truck

In May 2017, we unveiled a working prototype of our W-15 range-extended electric pickup truck to address the specific needs of commercial fleet work truck operators, including utilities, municipalities, construction, airports and service businesses. We believe that the W-15 has the potential to transform the pickup truck market for fleet operators in the United States, estimated at 250,000 new vehicle purchases per year. The performance specifications of the Workhorse W-15 pickup include a true all-wheel drivetrain and two electric engines that generate up to 460 horsepower and provide a top acceleration time from 0 to 60 MPH of 5.6 seconds. The W-15 also has a fuel-economy rating of 75 MPGe and a range of 80 miles in all-electric operation. A gasoline-powered range extender also comes standard on the truck to extend the driving range to 300 miles on a single tank of gas by continuously charging the batteries during operation.

We have secured letters-of-intent for more than 5,500 trucks, amounting to nearly $300 million from corporate fleets representing the utility, municipality and automotive logistics sectors. We have established a Leadership Council comprised of seasoned fleet experts from our LOI partners, who will be piloting our production intent vehicles prior to launch in late 2018.

We intend to produce the W-15 at our existing 250,000 square foot facility in Union City, Indiana. This plant has the capability to produce more than 60,000 vehicles per year. The battery packs for all Workhorse vehicles will be built in our Loveland, Ohio battery pack plant using Panasonic cells produced in Japan.

Delivery As A Service (DAAS) and Future Platform Development

Last mile delivery is considered the most expensive, inefficient, and pollution generating segment of transport, in addition to being the largest growing segment of the trucking market, according to Datex Corp. and NTEA (2018). Driven by the growth in e-commerce, this is expected to double to 26 billion parcels over the next 10 years. McKinsey & Company estimates that 80% of all home deliveries will transition to driver assisted and autonomous models, driven by driver labor shortages, urban congestion, and consumer demand.

As part of continued efforts to advance our last mile delivery platform technologies, in the fourth quarter of 2017, Workhorse initiated a pilot of its Delivery As A Service offering, which provides turn-key electric last mile delivery for conventional brick and mortar and e-commerce businesses. Through our DAAS program, Workhorse electric vehicles, drivers and dispatchers as well as potentially drones provide an asset-light opportunity for businesses to offer zero-emission last mile delivery services to their customers. Workhorse's DAAS is currently operating in one major metropolitan market, with plans to expand to additional cities in conjunction with our pilot customers, in 2018.

Aviation

Delivery Drones

Our HorseFly™ Delivery Drone is a custom-designed, purpose-built drone that is fully integrated with our electric trucks. We have a patent pending on this architecture and we believe we are the only company in the world with a working drone/truck system. The HorseFly delivery drone and truck system is designed to work within the FAA Rule 107 that permits the use of commercial drones in U.S. airspace under certain conditions.

To date, we have conducted two demonstration deliveries with large multi-national corporations, including UPS. UPS conducted a successful real-world test with us in February 2017 and it received worldwide news coverage. The knowledge we have gained in building electric delivery trucks for last-mile delivery has led us to believe that a drone/truck delivery system can have significant cost savings in the growing last mile delivery market.

UPS has estimated in a press release dated February 21, 2017 that a reduction of just one mile per driver per day over one year can save UPS up to $50 million. Rural delivery routes are the most expensive to serve due to the time and vehicle expenses required to complete each delivery. In this test, the drone made one delivery while the driver continued down the road to make another. We believe that this truck/drone architecture represents significant cost savings for delivery fleets and that we are first to market with such a system. We continue to work closely with the FAA as we strive to bring the system to the point of daily drone deliveries across rural America.

SureFly™ Multicopter

SureFly is our entry into the emerging vertical take-off and landing (VTOL) market. It is designed to be a two-person, 400-pound payload aircraft with on a hybrid internal combustion/electric power generation system. Our approach in the design is to build the safest and simplest to fly rotary wing aircraft in the world. We believe it is a practical answer to personal flight, and has additional applications in the commercial transportation segments, including air taxi services, agriculture and others.

The FAA to date has granted three separate Experimental Airworthiness Certifications, registered as N834LW, for the aircraft. These certifications come after an extensive design review and inspection of the aircraft with each renewed certificate.

Our SureFly Aerospace team continues to further develop the SureFly platform and routinely performs test cards, including testing the aircraft's power systems, executing tethered high-power ground tests and manned flights.

In December 2017, we initiated the process of spinning off our SureFly operations into a separate publicly traded company, Surefly, Inc.

Surefly, Inc. will encompass all of SureFly's aerial technology and expertise, including property related to the personal helicopter, but it will not own the assets related to the package express-related HorseFly drone, which will be retained by Workhorse. Workhorse granted SureFly a royalty-free, perpetual license to utilize the HorseFly drone except with respect to deliveries implemented from a ground-based vehicle focused on package express.

The initial steps of the spin-off, which we took in December 2017, provided for a capital infusion of $5 million into Workhorse in the form of a Senior Secured Note which is expected, although not guaranteed, to be exchanged into equity of SureFly concurrent with the spin-off.

At the spin-off date, Workhorse expects to retain a portion of SureFly's common stock and distribute a portion as a dividend to existing Workhorse shareholders. After the spin-off, expected during 2018, we intend to evaluate all of our options relating to the SureFly equity we have retained.

To facilitate the spin-off, Workhorse expects to enter into, among other things, a transition services agreement with SureFly to provide certain services not anticipated to be provided immediately by employees of SureFly.

The completion of the spin-off will enable us to focus all of our resources on our core automotive business. We believe the decision to spin-off SureFly into a separate entity will better position both companies for sustained long-term growth. The spin-off will improve the operational focus and financial outlook for Workhorse's core business while creating new opportunities for SureFly.

The spin-off transaction will be subject to the receipt of regulatory approvals, the execution of inter-company agreements, arrangement of adequate debt and/or equity financing, the effectiveness of a registration statement, final approval by Workhorse's board of directors, and certain other customary conditions. The spin-off will not require a shareholder vote and is expected to be completed by the end of 2018, but there can be no assurance regarding the ultimate timing of the spin-off or that the spin-off will ultimately occur.

Technology

Batteries Are Key

The battery pack is key to the design, development, and manufacture of advanced electric-vehicle powertrains. Where some other electric vehicle (EV) manufacturers purchase their batteries in a plug-and-play pack, we build our own battery packs. This keeps the intellectual property related to the design and production of the pack in-house and avoids the issues that occur when a battery supplier fails. It also enables us to pay less for our battery packs than our competitors, thus our all-electric truck is less expensive than competitive vehicles. We use the Panasonic 18650 cells and design the pack around these commodity cells.

In-House Software Development is Essential

Our powertrains encompass the complete motor assemblies, computers, and software required for vehicle electrification. We use off-the-shelf proven components and combine them with our proprietary software.

Innovation is the Future

Additionally, we have developed a cloud-based, remote management system to manage and track the performance of all of the vehicles that we deploy in order to provide a 21st Century solution for fleet managers.

The telematics system and associated hardware installed in the Workhorse vehicles is designed to monitor the controller area network (CAN) traffic for specific signals. These signals are uploaded along with GPS data to a Workhorse server facility where the data signals are tracked at ten second intervals while driving and during the electricity generating process and at sixty seconds during a plug-in charge. The real-time data is stored in a database as it arrives and delivers updates to clients connected through the web interface.

Clients are given login credentials (username and password) to the telematics website where they can monitor the performance and location of the vehicles. Group privileges can be configured to limit access to client-specific vehicles securing the vehicle data so clients can only view their vehicle data. Administrator privileges allow all data for all clients to be monitored and viewed.

As a parameter-based system, we can set route-specific parameters to better manage the battery-provided power with the additional power generated through the E-GEN process (not applicable to E-100). In an upcoming release, we will add the ability to integrate Metron Telematics with the client's internal telematics system and automatically update the parameters each day with information about the route. This enhancement will result in a "SMART-GEN" vehicle that will maximize efficiency by automating the process to determine the ideal times and locations to use the E-GEN to add electricity to the batteries.

Locations and Facilities

Our company headquarters and R & D facility is located at 100 Commerce Drive, Loveland, Ohio, a Cincinnati suburb. We occupy a 45,000 sq. ft. facility that allows for the manufacture of 5,000 electric powertrain kits per year. Powertrains are delivered to the Workhorse facility in Indiana or shipped to our dealer network for onsite installation in conversion vehicles. On October 28, 2016 the Company purchased its operating facilities in Loveland, Ohio. The total purchase price was $2.5 million with $1.7 million financed with a financial institution. The note carries an interest rate of 6.5% accruing monthly with a maturity date of November 1, 2026.

Our truck assembly facility is located in Union City, Indiana. This facility consists of three buildings with 250,000 square feet of manufacturing and office space on 47 acres.

In March of 2013, we purchased the former Workhorse Custom Chassis assembly plant in Union City, Indiana. With this acquisition, we became an Original Equipment Manufacturer (OEM) of Class 3-6 commercial-grade, medium-duty truck chassis marketed under the Workhorse® brand.

Ownership and operation of this plant enables us to build new chassis with gross vehicle weight capacity of between 10,000 and 26,000 pounds.

At the same time, the Company intends to partner with engine suppliers and body fabricators to offer fleet-specific, custom, purpose-built chassis that provide total cost of ownership solutions that are superior to the competition.

In addition to building our own chassis, we design and produce battery-electric powertrains that can be installed in new Workhorse chassis or installed as repower packages to convert used Class 3-6 medium-duty vehicles from diesel or gasoline power to electric power. Our approach is to provide battery-electric powertrains utilizes proven, automotive-grade, mass-produced parts in its architecture coupled with in-house control software that it has developed over the last five years.

The Workhorse Custom Chassis acquisition included other important assets including the Workhorse brand and logo, intellectual property, schematics, logistical support from UpTime Parts (a Navistar subsidiary).

Marketing

Our sales team is focused on the goal of securing purchase orders from commercial transportation companies. These purchases will give us additional data toward chassis demand related to electric and extended range electric vehicles.

Our priority is to establish the commercial delivery van as our core business. We intend to be the best choice for a vehicle in this segment regardless of the fuel type that the customer chooses. Our sales plan is to meet with the top potential customers and obtain purchase orders for new electric and extended range electric vehicles for their production vehicle requirements.

As the last mile delivery service space expands and non-traditional customers enter, Workhorse is reaching to those potential new customers as part of their supply chain enhancement. This market is comprised of a higher quantity of smaller delivery vehicles, such as the Workhorse N-GEN platform.

Finally, since our competitive advantage in the marketplace is our ability to provide purpose-built solutions to customers that have unique requirements at relatively low-volume, we have submitted proposals to companies for purpose-built vehicle applications.

Strategic Relationships

Panasonic: Workhorse Group has signed an agreement with the rechargeable battery division of Panasonic Industrial Devices Sales Co. of America for the supply of 18650 cylindrical Panasonic lithium-ion batteries for Workhorse's battery-electric, medium-duty trucks.

Ryder: On April 27, 2017, the Company entered into an agreement with Ryder to serve as the primary distributor, except with respect to certain exclusive accounts, in the United States, Mexico and Canada. Ryder will also serve as the sole and exclusive provider of certain repair services and the sole and exclusive distributor of certain vehicle parts in the United States, Canada and Mexico.

BMW: Workhorse has partnered with BMW where BMW provides the internal combustion engine used in the range extended vehicle applications as a source for on board battery recharging. BMW provides the engine, service support and technical advice necessary for vehicle certification. The engine currently used in production is the same engine used in the i3 passenger car.

Prefix: Michigan-based Prefix Corporation began in 1979 developing innovative design and engineering solutions for the automotive industry. Workhorse relies on Prefix's complementary capabilities in the areas of complete prototype design, build and finishing to more rapidly advance product development.

Research and Development

The majority of our research and development is conducted in-house at our facilities near Cincinnati, Ohio. Additionally, we contract with engineering firms to assist with validation and certification requirements as well as specific vehicle integration tasks.

Competitive Companies

The commercial vehicle market, specifically in the last mile delivery segment, is highly competitive and we expect it to become even more so in the future as additional companies launch competing vehicle offerings. The commercial alternative fueled vehicle market, however, is less developed and less competitive. There are two primary competitors in the medium-duty vehicle segment in the US market: Ford and Freightliner. Neither has disclosed any plans to offer 100% EVs or electric range extended vehicles (EREV) in this segment. Ford is vertically integrated building a

complete vehicle or chassis including Ford engine and transmission. They provide a chassis as a strip-chassis (which is similar to the Workhorse product) or they provide it with a cab. Freightliner provides a chassis as a strip-chassis, which is similar to the Workhorse Truck chassis.

We believe the most dramatic difference between Workhorse and the other competitors in the medium duty truck market is our ability to offer customers purpose-built solutions that meet the needs of their unique requirements at a competitive price. While there are many electric car companies from abroad, there are only a few foreign companies that have vehicles in the category of medium-duty trucks.

We believe that the primary competitive factors within the medium-duty commercial vehicle market are:

- the difference in the initial purchase prices of electric vehicles and comparable vehicles powered by internal combustion engines, both including and excluding the impact of government and other subsidies and incentives designed to promote the purchase of electric vehicles;
- the total cost of vehicle ownership over the vehicle's expected life, which includes the initial purchase price and ongoing operational and maintenance costs;
- vehicle quality, performance and safety;
- government regulations and economic incentives promoting fuel efficiency and alternate forms of energy;
- the quality and availability of service for the vehicle, including the availability of replacement parts.

GOVERNMENT REGULATION

Our electric vehicles are designed to comply with a significant number of governmental regulations and industry standards, some of which are evolving as new technologies are deployed. Government regulations regarding the manufacture, sale and implementation of products and systems similar to our electric vehicles are subject to future change. We cannot predict what impact, if any, such changes may have upon our business.

Emission and fuel economy standards

Government regulation related to climate change is in effect at the U.S. federal and state levels. The U.S. Environmental Protection Agency (“EPA”) and the National Highway Traffic Safety Administration, or NHTSA, issued a final rule for greenhouse gas emissions and fuel economy requirements for trucks and heavy-duty engines on August 9, 2011, which is applicable in model years 2018 through 2020. NHTSA and EPA also issued a final rule on August 16, 2016 increasing the stringency of these standards for model years 2021 through 2027.

The rules provide emission standards for CO2 and fuel consumption standards for three main categories of vehicles: (i) combination tractors, (ii) heavy-duty pickup trucks and vans and (iii) vocational vehicles. We believe that the Workhorse vehicles would be considered “vocational vehicles” and "heavy-duty pickup trucks and vans" under the rules. According to the EPA and NHTSA, vocational vehicles consist of a wide variety of truck and bus types, including delivery, refuse, utility, dump, cement, transit bus, shuttle bus, school bus, emergency vehicles, motor homes and tow trucks, and are characterized by a complex build process, with an incomplete chassis often built with an engine and transmission purchased from other manufacturers, then sold to a body manufacturer.

The EPA and NHTSA rule also establishes multiple flexibility and incentive programs for manufacturers of alternatively fueled vehicles, such as the Workhorse vehicles, including an engine averaging, banking and trading, or ABT, program, a vehicle ABT program and additional credit programs for early adoption of standards or deployment of advanced or innovative technologies. The ABT programs will allow for emission and/or fuel consumption credits to be averaged, banked or traded within defined groupings of the regulatory subcategories. The additional credit programs will allow manufacturers of engines and vehicles to be eligible to generate credits if they demonstrate improvements in excess of the standards established in the rule prior to the model year the standards become effective or if they introduce advanced or innovative technology engines or vehicles.

The Clean Air Act requires that we obtain a Certificate of Conformity issued by the EPA and a California Executive Order issued by CARB with respect to emissions for our vehicles. The Certificate of Conformity is required for vehicles sold in states covered by the Clean Air Act’s standards and the Executive Order is required for vehicles sold in states that have sought and received a waiver from the EPA to utilize California standards. The California standards for emissions control for certain regulated pollutants for new vehicles and engines sold in California are set by CARB.

States that have adopted the California standards as approved by EPA also recognize the Executive Order for sales of vehicles.

Manufacturers who sell vehicles in states covered by federal requirements under the Clean Air Act without a Certificate of Conformity may be subject to penalties of up to $44,539 per violation and be required to recall and remedy any vehicles sold with emissions in excess of Clean Air Act standards. In 2013, we received approval from CARB to sell the E-100 in California based on our own emissions tests.

Vehicle safety and testing

The National Traffic and Motor Vehicle Safety Act of 1966, or the Safety Act, regulates motor vehicles and motor vehicle equipment in the United States in two primary ways. First, the Safety Act prohibits the sale in the United States of any new vehicle or equipment that does not conform to applicable motor vehicle safety standards established by NHTSA. Meeting or exceeding many safety standards is costly, in part because the standards tend to conflict with the need to reduce vehicle weight in order to meet emissions and fuel economy standards. Second, the Safety Act requires that defects related to motor vehicle safety be remedied through safety recall campaigns. A manufacturer is obligated to recall vehicles if it determines that the vehicles do not comply with a safety standard. Should we or NHTSA determine that either a safety defect or noncompliance exists with respect to any of our vehicles, the cost of such recall campaigns could be substantial.

Battery safety and testing

Our battery pack configurations are designed to conform to mandatory regulations that govern transport of "dangerous goods," which includes lithium-ion batteries, which may present a risk in transportation. The governing regulations, which are issued by PHMSA, are based on the UN Recommendations on the Safe Transport of Dangerous Goods Model Regulations, and related UN Manual of Tests and Criteria. The requirements for shipments of these goods vary by mode of transportation, such as ocean vessel, rail, truck and air.

Our battery suppliers have completed the applicable transportation test for our prototype and production battery packs demonstrating our compliance with the UN Manual of Tests and Criteria, including:

- altitude simulation, which involves simulating air transport;
- thermal cycling, which involves assessing cell and battery seal integrity;
- vibration, which involves simulating vibration during transport;
- shock, which involves simulating possible impacts during transport;
- external short circuit, which involves simulating an external short circuit; and
- overcharge, which involves evaluating the ability of a rechargeable battery to withstand overcharging.

Vehicle dealer and distribution regulation

Certain states' laws require motor vehicle manufacturers and dealers to be licensed in such states in order to conduct manufacturing and sales activities. To date, we are registered as both a motor vehicle manufacturer and dealer in Indiana and Ohio as well as a dealer in California, New York and Chicago. We have not yet sought formal clarification of our ability to manufacture or sell our vehicles in any other states.

Intellectual Property

We have two pending trademark applications and ten issued trademark registrations (US and foreign). We also intend to pursue additional foreign trademark registrations. We have two pending (one non-provisional and one provisional) U.S. patent applications, and seven existing patents, two of which are design patents. We also plan to pursue appropriate foreign patent protection on those inventions, if available. The following is a summary of our patents:

Country	Status	Serial Number	Application Date	Patent Number	Issue/Grant Date	Expiration Date	Title
United States	G	13/283,663	10/28/2011				