

# The state of the art at Nikola

Nikola Corporation of Arizona has issued a statement outlining their path to becoming a global leader in zero-emissions transportation.

## Strategy and vision statement

Nikola is a technology disruptor and integrator, working to develop innovative energy and transportation solutions. We are pioneering a business model that will enable corporate customers to integrate next-generation truck technology, hydrogen fueling infrastructure, and maintenance. By creating this ecosystem, Nikola and its strategic business partners and suppliers can pave the way as global leaders in zero-emission transportation—and, together, leave the world a better place.

Nikola is an Original Equipment Manufacturer (OEM) whose expertise lies in design, innovation, software and engineering. We assemble, integrate and commission our vehicles in collaboration with support from business partners and suppliers that bring decades of experience in manufacturing, and that have invested billions of dollars in industrializing and scaling production. Nikola designs and engineers its vehicles and works with business partners and suppliers to manufacture a majority of the vehicle components.

The Nikola model combines our own intellectual property and proprietary technology with that of

our strategic business partners and suppliers to design and manufacture innovative energy and transportation solutions.

This innovator/integrator business model is not uncommon in the next-generation technology space. At Nikola, we are laser-focused on pursuing the quickest, least capital-intensive path to market, in combination with our own intellectual property. If our partners have a less expensive, more efficient solution that works with and in our designs, we very intentionally want to go with that. This is in the best interest of our company and our shareholders and, simply put, is the smart business decision. In line with our strategy, Nikola will continue to partner with world-class companies that will enable us to save billions of dollars and years in development.

## Units: trucks, energy, powersports

The Nikola Truck Business Unit develops environmentally friendly, cost-effective battery-electric vehicle (BEV) and fuel cell electric vehicle (FCEV) Class 8 semi-trucks for the short-haul, medium-haul and long-haul trucking sectors.

The Energy Business Unit is developing and constructing a network of hydrogen fueling stations for their own FCEV customers and others, potentially also including solutions for BEV customers.

The Powersports Business Unit develops electric outdoor recreational vehicles.

## Global opportunity and network

The global addressable market for Class 8 BEV and FCEV trucks is some \$600 billion. Regulators, policymakers and corporations are prioritizing sustainability, with many committed to net zero-emission targets. The EU plans to invest \$1 trillion over the next 10 years to advance the hydrogen economy.

Nikola works with strategic business partners and suppliers—including the Bosch group of companies, CNH Industrial NV, Hanwha Group and Nel Hydrogen, all with capital investments—to reduce execution risk, improve timelines and build competitive advantages. The Nikola board of directors comprises individuals from each. Bosch, an early investor, led the Series B and C private investment rounds; Nikola and Bosch have filed jointly owned patent applications related to batteries and fuel cell technologies. In 2019, CNH Industrial was lead investor in the Series D private investment round, and has been instrumental, through its IVECO and FPT Industrial business units, in accelerating the process of bringing a Class 8 BEV semi to market. Partner support lets Nikola focus on its strategic initiatives, becoming a vertically integrated zero-emissions transport solutions provider.

## Nikola Commercial Truck Milestones

• Manufacturing facilities • Tre BEV • FCEV Truck • Hydrogen station

Based on management projections subject to current market conditions



## Commitment to key milestones

**Nikola Tre BEV prototypes:** The first five prototypes of the Nikola Tre battery-electric semi should be completed at their JV facility in Ulm, Germany this fall, then bench tested and road tested in Germany, going to production in 2021, with trucks on sale by the fourth quarter.

Nikola engineers are taking the lead on vehicle controls architecture: human-machine interface, infotainment, battery pack and e-propulsion integration, vehicle thermal management, and e-axes. Bosch rotor, stator and inverter expertise and FPT Industrial's industrialization experience enable an aggressive path to bring the e-axes to market, while validated, homologated IVECO components provide cost efficiencies on the balance.

**Nikola FCEV semi-trucks:** Nikola expects to begin testing production-engineered prototypes of its hydrogen fuel cell electric medium- and long-haul semi-trucks by the end of 2021, then beta prototypes in early 2022. Nikola defines and engineers the architecture, technical specs, features, functions and styling. Bosch is instrumental in integrating heavy-duty fuel cell power modules. Additional strategic partners and supply chain arrangements are expected. Anheuser Busch LLC has ordered up to 800 trucks.

**Hydrogen as a competitive advantage:** A planned network of hydrogen fueling stations—in

support of the vehicles they sell and building collaborations for a national hydrogen fueling network—is central to Nikola's business model and to advancing FCEV transportation. Actively partnering with industry leader Nel Hydrogen, Nikola representatives have leadership positions in the International Standards Organization (Heavy Duty) and Society of Automotive Engineers as they develop fuel cell standards and protocols.

Nikola has ordered \$30 million worth of electrolyzers from Nel Hydrogen to support stations, including one at their Arizona headquarters, able to store and dispense up to 1,000 kg of hydrogen.

Nikola plans to announce a major collaboration for hydrogen production and fueling stations by the end of this year. Their hydrogen fueling network will play an instrumental role in the growth of hydrogen as a sustainable energy source for the transportation industry.

**Manufacturing facility in Arizona:** Construction on Nikola's one million square-foot manufacturing facility in Coolidge, Arizona, is on track for completion of Phase 1 by the end of 2021, with the project fully complete by mid-2023.

The greenfield facility, initially producing BEV trucks and subsequently FCEV trucks, will have capacity for 35,000 Class 8 commercial semi-trucks annually, running two shifts, with approximately 1,800 new full-time positions. ■

## "Nikola World" event update

Due to pandemic audience size restrictions at Arizona's major venues, Nikola will reschedule their live *Nikola World 2020* event. Tickets can be refunded or held, per customer preference. They'll keep us updated on progress across their entire product portfolio. Information on *Nikola World 2021* will follow.

## Decarbonization of Heavy Transport and the Role of Hydrogen

CNH Industrial NV and Nikola Corporation co-sponsored Politico's "Decarbonization of Heavy Transport and the Role of Hydrogen" event in October, bringing together senior European policymakers, industry experts and representatives from intergovernmental organizations to discuss the best path to decarbonize heavy transport and what role hydrogen can play in those efforts.

Gerrit Marx, president of commercial and specialty vehicles at CNH and Nikola board member, delivered introductory remarks: "(The transformation to zero-emission long-haul transport) has already begun, and CNH Industrial is at the forefront. We are working alongside Nikola to help complete the Tre BEV so that we can begin production at our JV manufacturing facility in Ulm, Germany, by the fourth quarter of next year."

## ABOUT NIKOLA CORPORATION

Nikola Corporation (NASDAQ: NKLA) is globally transforming the transportation industry. As a designer and manufacturer of zero-emission battery-electric and hydrogen-electric vehicles, electric vehicle drivetrains, vehicle components, energy storage systems, and hydrogen station infrastructure, Nikola is driven to revolutionize the economic and environmental impact of commerce as we know it today. Founded in 2015, Nikola Corporation is headquartered in Phoenix. For more information, visit [www.nikolamotor.com](http://www.nikolamotor.com) or Twitter @nikolamotor.



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