

HEAVY EQUIPMENT & TRANSPORT VEHICLES

MEET AI

Monday, April 21, 2025

The shift towards green equipment and vehicles

The global movement towards sustainability has triggered a fundamental transformation in the industrial and transportation sectors, prompting a shift towards green equipment and vehicles. This transition is driven by the urgent need to reduce greenhouse gas emissions, combat air pollution, and enhance energy efficiency.

Governments, corporations, and consumers alike are increasingly prioritizing eco-friendly alternatives, leading to significant advancements in electric, hydrogen-powered, and hybrid vehicles, as well as energy-efficient industrial machinery. As climate change and environmental concerns continue to dominate policy discussions, the adoption of green technology is no longer an option but a necessity for a sustainable future.

One of the most significant developments in the shift towards green transportation is the rapid adoption of electric and hydrogen-powered vehicles. The automotive industry is undergoing a revolutionary transformation as major manufacturers, including Tesla, Volvo, Toyota, and Daimler, invest heavily in electric vehicle (EV) and hydrogen fuel cell technology.

Electric vehicles (EVs) operate using battery power, eliminating direct carbon emissions and significantly reducing the dependency on fossil fuels. The widespread availability of charging stations, improvements in battery efficiency, and government incentives have propelled the growth of the EV market. Battery technology advancements, such as solid-state batteries and fast-charging systems, are addressing concerns regarding range anxiety and charging times,

making EVs a more viable alternative to internal combustion engine vehicles.

Hydrogen-powered vehicles, on the other hand, present another promising solution, particularly for heavy-duty transport and industrial applications. Hydrogen fuel cells generate electricity by combining hydrogen and oxygen, with the only byproduct being water. This makes them an environmentally friendly alternative to diesel-powered trucks and buses. However, challenges remain, including the high cost of hydrogen production, the lack of refueling infrastructure, and the energy-intensive processes involved in generating green hydrogen. Despite these obstacles, governments and companies are making substantial investments in hydrogen technology, recognizing its potential in decarbonizing the transport sector.

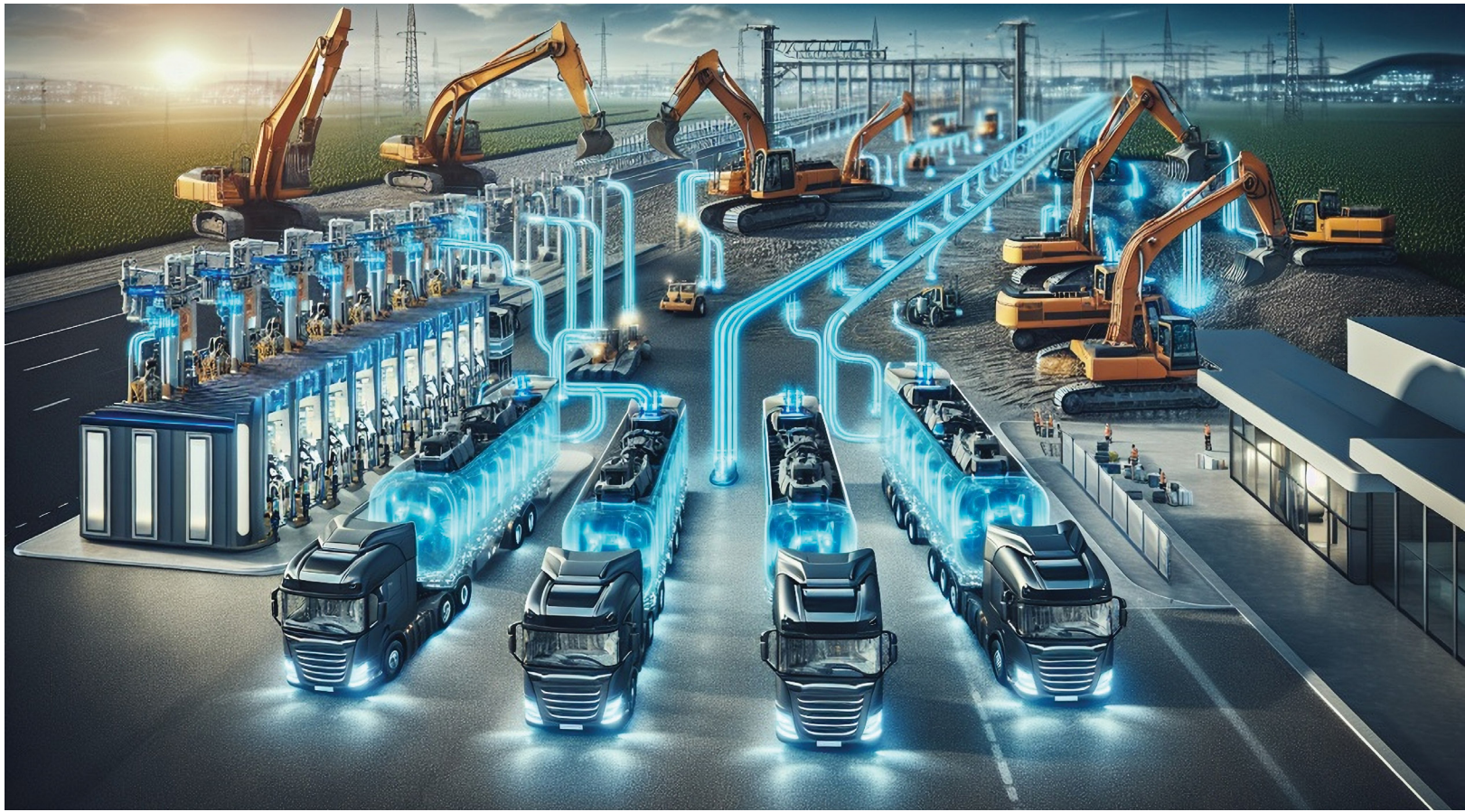


Sustainable industrial equipment and machinery

Beyond road transportation, industries are increasingly adopting green equipment and machinery to minimize their environmental impact. The construction, mining, agriculture, and manufacturing sectors are integrating electric and hybrid machinery, along with advanced energy-efficient technologies, to improve sustainability.

Construction equipment manufacturers such as Caterpillar, Komatsu, and Volvo are developing electric excavators, loaders, and bulldozers that offer the same level of performance as their diesel-powered counterparts but with reduced emissions and noise pollution. These machines run on high-capacity batteries or hybrid powertrains, contributing to a greener construction industry. Moreover, autonomous and AI-driven construction equipment is enhancing efficiency and reducing fuel consumption through precision operations and automated decision-making.

Contd. on page 4



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Driving Change: Eicher Mannai’s unmatched ascent in Qatar’s commercial vehicle market

In a market traditionally dominated by legacy players from Europe and Japan, Eicher Mannai Trucks and Buses has rewritten the rules of the game. As the first commercial vehicle brand to make a significant impact in Qatar, Eicher Mannai has quickly risen to prominence delivering not just vehicles, but dependable business solutions.

The key to this success? A perfect alignment between product innovation, market readiness, and customer-centric service.

A New Era: The Euro V “Pro League” Range

Mannai’s recent launch of Eicher-Volvo Euro V-compliant Pro League Range is a testament to its commitment to sustainability, innovation, and regulation. Fully compliant with Qatar’s stringent emission norms and operating conditions, the Pro League models mark a bold new chapter in environmentally responsible transport solutions.

Whether it’s city logistics, regional haulage, or municipal operations, the Euro V range offers superior fuel efficiency, reduced emissions, and a reliable performance that fleet operators can count on.

The Volvo-Eicher Joint Venture

What gives Eicher an additional edge is its strong foundation — a powerful joint venture between Volvo Group and Eicher Motors. This strategic alliance blends Volvo’s world-class engineering, safety, and global manufacturing standards with Eicher’s deep understanding of cost-efficient, high-performance vehicles. The result? A product line that is smart, scalable, and built to thrive in real-world operating conditions across markets like Qatar.



MANNAI TRADING CO. WLL
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THE PRO LEAGUE

Powered by





Superior Uptime



Relentless Performance



Euro 5 Expertise



Enhanced Comfort & Safety



PRO 6000 SERIES SKYLINE BUSES PRO 2000 SERIES

www.eichertrucksandbuses.com

A Versatile Line-Up for Every Need

Eicher’s range is as diverse as the needs of Qatar’s expanding economy. In the bus segment, the brand offers both 36-seater and 66-seater models, perfectly suited for hospitality transport, school fleets, factory staff movement, and facility management services. Designed with comfort, safety, and fuel efficiency in mind, Eicher buses are trusted by fleet operators across industries.

On the trucking side, the 2000 Series continues to lead the charge. Available in multiple capacities and configurations, these trucks are tailored for various applications from water tankers and

construction tippers to FMCG transport, goods delivery, and waste management. Built for performance and adaptability, these trucks have become essential tools for businesses seeking dependable fleet solutions.

Customers Who Grow with Eicher

Across industries from construction and logistics to public services Eicher customers are not just buying trucks and buses; they’re building futures. Fleet operators consistently report how switching to Eicher has improved uptime, reduced maintenance costs, and ultimately enabled them to scale

with confidence. In a landscape where operational efficiency is critical, Eicher’s promise of reliability is more than a benefit — it’s a business strategy.

After-Sales That Actually Deliver

What truly sets Eicher Mannai apart is its solid customer centric approach. The certified aftersales team, known for their technical expertise and rapid response times, has been the backbone of the brand’s reputation. Notably, Eicher Mannai has clinched the prestigious Eicher M-Tech award for five consecutive years, underscoring its operational excellence and commitment to technical

mastery. This award-winning service culture ensures that every Eicher truck or bus on the road stays on the road where it belongs driving business forward.

Looking Ahead

As Qatar continues to invest in infrastructure and logistics, the need for dependable, eco-conscious, and cost-effective transport solutions will only grow. Eicher Mannai, with its pioneering spirit, global backing, and customer-first approach, is poised to play a leading role in this transformation. In short, Eicher Mannai isn’t just moving vehicles. It’s moving the market.



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PRO 2000 SERIES
GVW Range from 5.5T To 9.5T

Skyline 20.15 Bus Skyline Pro 3008 Bus



VOLVO GROUP PROCESSES



SUPERIOR SAFETY & COMFORT



NEXT-GEN FEATURES



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44076300 - 44076088

Driving Trust, Powering Progress: Foton Mannai Qatar Leads the Way in Commercial Mobility

In the evolving landscape of commercial mobility, one name has consistently stood out for its performance, durability, and customer-first approach: Foton, proudly represented in Qatar by Mannai Heavy Equipment & Commercial Vehicles Group.

Over the past few years, Foton has cemented its place as the leading commercial vehicle brand in Qatar, building a strong reputation among business owners, fleet operators, and drivers alike. Whether it's for transporting goods, moving passengers, or powering essential services, Foton vehicles have proven themselves time and again to be the trusted backbone of businesses across Qatar.

What sets Foton apart is its solid commitment to reliability and uptime. Built to endure Qatar's challenging conditions, Foton vehicles are engineered for long-lasting performance, with robust drivetrains, rugged chassis, and intelligent systems designed to reduce downtime and operating costs. From pickup trucks (4x2 and 4x4) both manual and automatic, in diesel or petrol variants to passenger vans, cargo vans, light-duty trucks, and CNG-powered buses, Foton offers a comprehensive portfolio tailored to the needs of every fleet.

Over the last two years, Foton Mannai has successfully delivered complete fleet solutions to numerous corporations and firms across Qatar. These organizations have reported highly positive feedback on the performance, durability, and overall impact of Foton vehicles on their operations particularly in terms of enhanced productivity and reduced total cost of ownership. This real-world validation from satisfied fleet customers continues to strengthen Foton's position

as a brand that delivers tangible value to businesses.

Backing this powerful lineup is Mannai HECV Group's renowned aftersales support a cornerstone of Foton's success in the Qatari market. With readily available genuine parts, trained technicians, and a growing service network, customers enjoy peace of mind long after the purchase. Foton's strong service ethos ensures vehicles spend more time on the road and less time in the workshop, driving operational efficiency for businesses large and small.

Foton Mannai has introduced CNG (Compressed Natural Gas) buses to the Qatari market, approved by Qatar Energy, represent a significant step toward sustainable and environmentally friendly public transport solutions in the country. These buses have earned a strong reputation globally for their reliability, efficiency, and reduced emissions, making them an ideal choice for both government and private fleet operators. With proven performance in international markets, Foton's CNG buses align with Qatar's vision for cleaner, greener transportation infrastructure.

This winning combination of product strength and premium aftersales service has made Foton a preferred choice for commercial mobility solutions in Qatar. It's a testament to the brand's global engineering heritage and local commitment through Mannai a partnership built on trust, performance, and a firm focus on customer success.

As Qatar continues to grow, diversify, and innovate, Foton Mannai stands ready to support the nation's logistics and transportation sectors with vehicles that deliver more power, more value, and more reliability.

Foton Mannai... Drive with Confidence, Powered by Trust.



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Contd. from page 1

In the mining sector, companies are replacing diesel-powered haul trucks with electric and hydrogen-fueled alternatives to reduce the environmental impact of mining operations. This transition is particularly crucial in underground mining, where air quality and worker safety are major concerns. Electrification in mining equipment also lowers operating costs by reducing fuel expenses and maintenance requirements.



Agriculture is another sector witnessing a shift towards green equipment, with electric tractors, drones, and automated irrigation systems becoming more prevalent. These innovations not only reduce fuel consumption but also enhance productivity through precision farming techniques, optimizing resource use and minimizing waste.

The transition to green equipment and vehicles is heavily influenced by government policies and regulations. Many countries are implementing stringent emissions standards, phasing out internal combustion engines, and promoting incentives for adopting sustainable technologies.

In Europe, initiatives such as the European Green Deal and strict CO2 emission targets are pushing manufacturers towards greener alternatives. The United States has introduced tax credits, grants, and investments in clean energy projects to accelerate the adoption of electric and hydrogen-powered vehicles. China, the world's largest EV market, continues to lead in electrification efforts by providing subsidies and expanding charging infrastructure nationwide.



Developing countries are also joining the movement, recognizing the long-term economic and environmental benefits of green transportation and equipment. Investments in renewable energy sources, electric public transportation systems, and sustainable industrial practices are gaining traction worldwide. However, challenges remain in ensuring equitable



access to these technologies, as high upfront costs and infrastructure limitations can slow down adoption in certain regions.

Challenges and the road ahead

While the transition to green equipment and vehicles is gaining momentum, several challenges must be addressed to ensure widespread adoption. The high initial costs of electric and hydrogen-powered vehicles, along with infrastructure limitations, remain major

barriers. Battery production and recycling present environmental and ethical concerns, particularly regarding the extraction of raw materials such as lithium, cobalt, and nickel.

Furthermore, hydrogen fuel production must become more efficient and cost-effective for it to be a truly viable alternative to fossil fuels. Currently, the majority of hydrogen is produced using fossil fuel-based methods, undermining its environmental benefits. The development of green hydrogen, generated through

electrolysis powered by renewable energy sources, is critical to making hydrogen-powered transport truly sustainable.

Despite these obstacles, the future of green equipment and vehicles is promising. Continuous technological advancements, increased investments, and stronger government policies will play a crucial role in accelerating the transition. The global commitment to carbon neutrality and environmental responsibility is driving industries towards adopting cleaner and more energy-efficient solutions.

The shift towards green equipment and vehicles represents a fundamental transformation in the way industries operate and how transportation systems function. The adoption of electric and hydrogen-powered vehicles, along with sustainable industrial machinery, is crucial in mitigating climate change and reducing our dependency on fossil fuels. While challenges remain, ongoing technological innovation, regulatory support, and corporate commitment to sustainability are paving the way for a cleaner and more energy-efficient future. As industries and governments continue to collaborate on developing sustainable solutions, the transition to green transportation and equipment will become an integral part of the global sustainability movement, ensuring a healthier planet for future generations.



Excavators and Loaders

An In-Depth Look at Types, Uses, and Latest Models



Caterpillar 336 GC



Komatsu PC210LC-11



Doosan DX210W-5



Volvo EW240E



John Deere 744L



CASE SR210B



Bobcat S650



John Deere 333G

Excavators and loaders are indispensable in the construction and mining industries, known for their power, versatility, and efficiency. This article explores the various types of these machines, their specific uses, and the latest models shaping the industry.

Excavators are heavy construction equipment consisting of a boom, dipper (or stick), bucket, and cab on a rotating platform known as the "house." The house sits atop an undercarriage with tracks or wheels. The most common type of excavator is the crawler excavator, equipped with tracks that provide stability and traction. These machines are ideal for mining, trenching, and heavy-duty construction work. The latest models, such as the Caterpillar 336 GC and the Komatsu PC210LC-11, are renowned for their fuel efficiency, low operating costs, and advanced hydraulic technology that offers better control and precision.

Wheeled excavators, similar to crawler excavators but mounted on wheels, offer enhanced mobility and speed, making them suitable for urban environments. Models like the Volvo EW240E and the Doosan DX210W-5 stand out for their high mobility, excellent lifting performance, and fuel efficiency.

For small-scale work and tight spaces, mini excavators are the perfect choice. Compact and lightweight, they are used in landscaping, small construction projects, and agricultural tasks. The Bobcat E42 and the Kubota KX040-4 are popular models, combining power and versatility in a compact package with superior maneuverability and ease of operation.

Long reach excavators, equipped with an extended arm, are used for tasks requiring greater reach, such as dredging, demolition, and large-scale excavation projects. The Hitachi ZX350LC-6 and the CAT 349F are notable for their extended reach and robust construction, ideal for deep excavation and underwater tasks.

Loaders, on the other hand, are used to move or load materials like soil, rock, sand, and demolition debris into or onto another type of machinery, such as a dump truck or conveyor belt. Wheel loaders, equipped with large wheels, offer excellent mobility and speed, making them ideal for material handling, loading trucks, and site cleanup. The Caterpillar 950M and John Deere 744L are top models, featuring advanced fuel efficiency, robust design, and reliable performance in heavy-duty tasks. Skid steer loaders are compact, versatile loaders capable of

turning within their own footprint, making them perfect for landscaping, small-scale demolition, and construction. The Bobcat S650 and CASE SR210B are well-regarded for their powerful hydraulic systems, superior maneuverability, fuel efficiency, and ease of maintenance.

Track loaders, similar to skid steer loaders but with tracks instead of wheels, offer better traction on uneven terrain. These machines are ideal for forestry, landscaping, and site preparation. The Caterpillar 963K and John Deere 333G are prominent models, combining power, efficiency, and advanced technology for optimal performance.

Backhoe loaders, equipped with both a front loader bucket and a backhoe for digging, are versatile machines used for excavation, trenching, and material handling. The JCB 3CX and CAT 420F2 are known for their high performance, fuel efficiency, robust construction, and advanced hydraulic systems.

Excavators are commonly used for trenching, demolition, material handling, mining, and dredging. Loaders, meanwhile, are employed for loading and unloading materials, site preparation, landscaping, snow removal, and waste management. The latest models of excavators and loaders incorporate

cutting-edge technologies to enhance performance, efficiency, and safety.

Telematics systems like CAT's Product Link provide real-time data on machine location, usage, and health, enabling better fleet management. Advanced models from Komatsu and Volvo feature semi-autonomous capabilities, improving precision and reducing operator fatigue. Manufacturers like JCB and Volvo are leading the charge with electric and hybrid models, offering reduced emissions and lower operating costs. Modern cabins are designed for operator comfort with features like adjustable seats, improved visibility, and intuitive controls. Improved hydraulic systems in models like the Komatsu PC210LC-11 provide better efficiency and control.

Excavators and loaders are critical tools in the construction and mining industries, offering unmatched versatility and power. The latest models incorporate advanced technologies that improve performance, efficiency, and safety, ensuring these machines remain at the forefront of industry innovation. Whether involved in heavy construction, landscaping, or mining, staying informed about the latest developments in excavators and loaders can help choose the right equipment and enhance operational efficiency.

HYUNDAI MIGHTY EURO 5 ECO-FRIENDLY TRUCK BEST IN PERFORMANCE & FUEL ECONOMY

National Car Company (NCC), the sole distributor for Hyundai Truck and Bus in Qatar, has introduced the 2025 model Euro 5 trucks to meet the emission standards of Qatar.

NCC has a well-established sales and aftersales network catering to the needs of an ever-growing customer base in various business segments such as construction, oil industry, goods transportation, food industry and many more.



HYUNDAI COMMERCIAL VEHICLES – EMPOWERING YOUR BUSINESS

Hyundai Motor Company has fast emerged as a global truck maker with a design philosophy that emphasizes three factors: top performance, reliability, and economy. Hyundai's unique ability to combine these three factors is what sets Hyundai apart from other contemporary brands. Today, Hyundai Motor Company enjoys a global reputation as a high-quality manufacturer uniquely capable of combining efficient manufacturing technology with a strict design to cost philosophy.

MIGHTY - EX Series – DYNAMIC PERFORMANCE

The all-new Mighty EX Series, the first full-change version since Hyundai Motor rolled out the Mighty II (HD Series) in 1998, boasts better passenger convenience, durability, and safety than those of the previous version.

The Mighty has an engine that can produce 160 PS/@2500 rpm impressive power with Sixty kilogram-meters @1400 rpm of torque. It also provides better fuel efficiency while operating with minimal maintenance costs.

Fluidic sculpture

Fluidic Sculpture, the design philosophy of Hyundai Motor Company, is a nature-inspired design and the new Mighty truck is built on this specific concept to provide aerodynamic motion and efficiency.

Versatile & Strong

Hyundai Mighty is the perfect business partner and a versatile workhorse ready to tackle any job, big or small. The bare chassis edition can be easily adapted to diverse applications thanks to the matrix of pre-drilled hole. By moving the engine and the rear of the cab forward by 50mm creates maximum load deck space and increases variety of wheelbase lengths so you can choose the perfect size for your business.

Flexible payloads

Classified according to gross vehicle weight, the new Mighty range spans five different models from the 5.5-ton EX5 to the top-of-the-line EX8 which features a 5600 mm-long deck and 8.2-ton GVW rating. The reinforced rear axle has a 6,600-kg maximum weight rating so your cargo rides safely without worry. Powertrains are tailored to match respective cargo hauling capacities.

Built Tough for Unsurpassed Durability and Reliability

Even at maximum cargo carrying capacity, new Mighty has been designed to travel confidently over the bumpiest of roads. The cab is made of high tensile (galvanized steel). Its ladder-frame chassis can safely withstand high torsional and Flexing forces because it is built with a high-quality steel produced by Hyundai Motor Group affiliate Hyundai Steel. The all-steel backbone features a ladder-frame configuration with crossmember reinforcement and other optimized design features which enhance the strength and durability of Mighty trucks.



More Comfort, Less Fatigue

The new Mighty comes with a spacious interior with excellent cab accessibility and the widened and lowered doorstep offers easier access to the cab for greater convenience and safety.

From the new and improved driver seat to the tilt & telescopic steering wheel adjuster, comfortable cabin and good ergonomic design reduces much of the stress and strain of a tough demanding job of the driver.

Mighty being one of Hyundai Motor's popular truck models has acquired significant market share in Qatar's midsize truck market

delivering exceptional quality and great value to customers. Being efficient, powerful, and dependable, Hyundai Mighty is accomplished as a trusted partner for building business success.



Hyundai HD Series – Proven & Trusted

In a world where time is money, Hyundai trucks are built to run reliably and economically, working around the clock to carry maximum payloads often under extreme road conditions. They are built tough to minimize down time and reduce your fixed costs.

By applying "state-of-the-art technology," the HD series trucks maintain the highest standards in development and manufacturing as these trucks undergo stringent endurance tests. The Hyundai D4DC diesel engine delivers powerful performance, combined with exceptional reliability and durability.

The HD series light duty trucks – HD 45 and HD72 - are equipped with high performing and economic D4DC engines, delivering an "outstanding power output" of 120 ps@3,200 and a toque of 295Nm@2,000rpm. To offer real cargo carrying flexibility, these trucks can be selected for chassis payload capacities ranging from 2.0 to 5.2 tons and GVW ranging from 4.5 to 7.5 tons.

The HD series trucks also offer "extraordinary active safety and security" through a four-channel ABS integrated Electronic Brake-force Distribution system as an option. When the system senses the wheels locking in adverse or slippery road conditions, it easily adjusts and controls the braking pressures to all wheels by hydraulic control, while increasing brake pressure in an emergency automatically.

From refrigerated vans (chiller/freezer) to mobile service trucks, dump trucks as well as crane trucks, the Hyundai HD series will fulfil your needs whatever be your specific business requirements. Tanker, aerial platform, recovery, maintenance, and waste management, etc., are the other commonly used applications for the HD series. added.

For more information, visit the Hyundai Commercial Vehicle display at Al Dhiya Street, off Salwa road, Doha. For enquiries, call National Car Company on 66253325 or email to hcv@ncc-qatar.com

Hyundai EX8 (EURO 5)

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(Subject to credit approval)

EURO 5

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EURO 5 ENGINE
MODEL YEAR 2025

SPECIFICATIONS

- Chassis Payload: 7.0 Tons
- Net Payload: 6.0 Tons
- Drive: 4x2
- Wheelbase: 4200mm
- 4 Cylinder in line, Turbo Charger Intercooler 4 stroke-cycle, water-cooled, direct-injection diesel engine
- Engine Displacement: 3,933 cc
- Power: 160 PS @ 2500 rpm
- Torque: 60 kg. (588 Nm) @ 1400 rpm
- ABS Brake System

WIDE RANGE OF APPLICATIONS

- 5.8m/6.1 m long - Open/Closed Cargo Truck or Refrigerated Delivery Vehicle (Chiller/Freezer)
- 5.0m long - Tow Truck and Crane Truck Flatbed
- 5.8m long - Sliding Platform for Recovery/Breakdown
- 5.8m long - Vacuum or Tanker
- 5.8m long - Mobile Service Truck
- Ideal for customized applications



Electric and hydrogen-powered trucks

Are they the future of transport?

As the global push for sustainability intensifies, the transportation industry is at a crossroads. Heavy-duty vehicles, particularly trucks, are among the largest contributors to carbon emissions, accounting for a significant percentage of the world's greenhouse gas emissions. In response, manufacturers, policymakers, and environmental advocates are increasingly looking at electric and hydrogen-powered trucks as viable alternatives to traditional diesel engines.

The adoption of these technologies is seen as a critical step in reducing the carbon footprint of the logistics and freight industries, but the transition comes with challenges and uncertainties. Are electric and hydrogen-powered trucks truly the future of transport, or do hurdles in technology, infrastructure, and cost present roadblocks to widespread adoption?

The case for electric trucks

Electric trucks operate using battery power, eliminating direct greenhouse gas emissions. When powered by renewable energy sources such as solar and wind, they can significantly reduce the carbon footprint of the transportation sector. Unlike internal combustion engine trucks, electric trucks do not emit nitrogen oxides, particulate matter, or carbon dioxide, making them a crucial solution for combatting air pollution in urban and industrial areas. Additionally, electric trucks produce less noise, contributing to quieter and less disruptive transportation systems in cities and highways.



One of the main advantages of electric trucks is their cost efficiency. While the upfront cost of electric trucks remains high, they promise lower operational costs in the long run. Electricity is generally cheaper than diesel, and with fewer moving parts, maintenance expenses are reduced. Diesel engines require frequent oil changes, complex exhaust treatment systems, and repairs to components such as transmissions and fuel injection systems, whereas electric motors have a simpler design and require less servicing over their lifespan.

Recent advancements in battery technology have also improved the range and efficiency of electric trucks. The development of high-energy-density lithium-ion and solid-state batteries is enabling longer driving ranges and shorter charging times. Companies such as Tesla, Volvo, and Daimler are investing heavily in long-haul electric trucks equipped with fast-charging capabilities, regenerative braking systems, and advanced energy management software that optimizes efficiency based on driving conditions and load weight. Innovations in wireless charging and battery swapping technology are also being explored to minimize downtime and extend operational capabilities.

However, challenges remain. Electric trucks still have a limited range compared to diesel counterparts, making them less viable for long-haul routes. The current battery technology, although advancing rapidly, has not yet reached the efficiency required to completely replace diesel trucks for cross-country freight transport. The availability of fast-charging stations continues to be a hurdle, particularly along major freight routes and in remote areas. Expanding the charging

infrastructure requires substantial investment from both the public and private sectors.

Another concern is battery weight and resource dependency. Large battery packs increase the vehicle's weight, affecting payload capacity and making them less efficient for transporting heavy goods. Moreover, the production of these batteries raises concerns about resource extraction, particularly for lithium, cobalt, and nickel, which are critical raw materials used in battery manufacturing. Mining and processing these materials have environmental and ethical implications, leading to calls for more sustainable battery supply chains and recycling initiatives.

The case for hydrogen-powered trucks

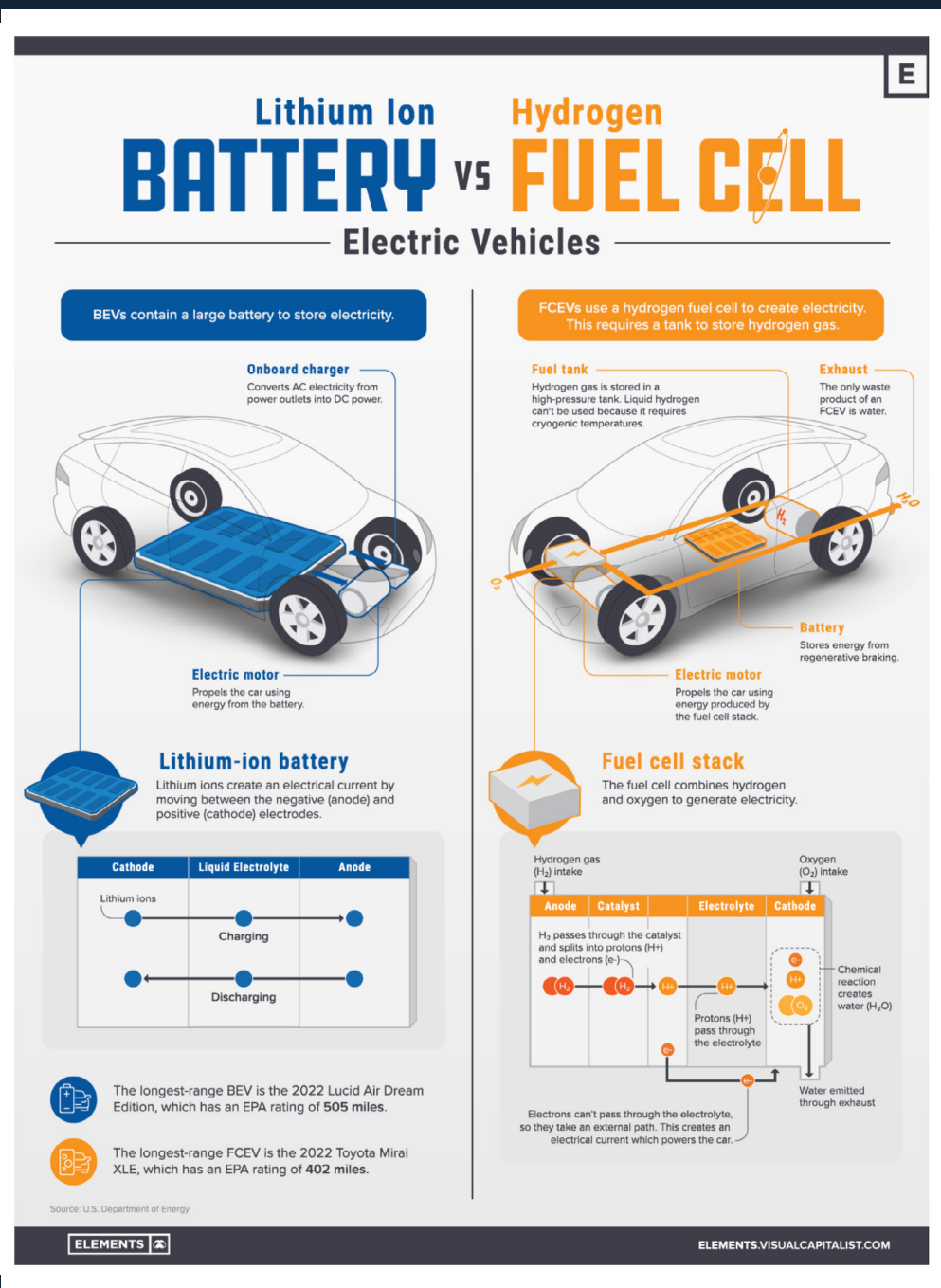
Hydrogen fuel cell trucks offer an alternative solution to the limitations of battery-electric trucks. These trucks use hydrogen gas to generate electricity through a fuel cell, producing only water vapor as a byproduct. One of the most significant advantages of hydrogen-powered trucks is their extended range and fast refueling times, which are comparable to diesel trucks. Unlike battery-electric trucks, hydrogen trucks do not require long charging stops, making them more suitable for long-haul operations and heavy-duty freight transport.

Another key benefit of hydrogen-powered trucks is their lightweight design. Since hydrogen fuel cells do not rely on heavy lithium-ion batteries, they allow for greater payload capacity, making them an attractive option for industries that require the transportation of heavy goods. Hydrogen fuel cells also maintain consistent performance in extreme weather conditions, which can be a challenge for battery-electric vehicles that experience reduced efficiency in cold climates.

The environmental benefits of hydrogen-powered trucks depend on how the hydrogen fuel is produced. When hydrogen is generated through electrolysis powered by renewable energy, it becomes a completely zero-emission alternative. However, the majority of hydrogen production today relies on fossil fuels, particularly natural gas, through a process known as steam methane reforming (SMR). This method releases significant carbon emissions, reducing the environmental advantages of hydrogen-powered transport. Investments in green hydrogen production, using wind, solar, and hydroelectric power, are critical to ensuring the long-term sustainability of fuel cell vehicles.



Despite these advantages, hydrogen-powered trucks face several challenges. The production, storage, and transportation of hydrogen remain costly, making hydrogen fuel less competitive than electric alternatives. Hydrogen refueling infrastructure is underdeveloped, with refueling stations being scarce and expensive to build. The energy conversion process of hydrogen also involves multiple steps, leading to efficiency



losses at various stages. The overall well-to-wheel efficiency of hydrogen fuel cells is lower than that of battery-electric vehicles, as converting electricity into hydrogen and then back into electricity results in energy loss.

Industry adoption and future prospects

Several leading companies are spearheading the shift toward electric and hydrogen-powered trucking. Tesla's Semi, Volvo's FL Electric, and Daimler's eActros are advancing the adoption of electric freight transport, while Nikola, Hyundai, and Toyota are developing hydrogen-powered trucks such as Hyundai's XCIENT Fuel Cell, which is already operational in some markets. Startups and established automotive giants alike are investing in research and development to overcome technological barriers and accelerate the adoption of zero-emission trucking.

Governments worldwide are playing a significant role in shaping the future of truck electrification. Many countries are implementing stricter emissions regulations and offering incentives to encourage the transition to zero-emission vehicles. Subsidies, tax breaks, and grants for electric and hydrogen trucks are helping to offset the high initial costs and support infrastructure development. In regions such as the European Union and California, regulatory mandates are pushing logistics

companies toward adopting cleaner transport solutions, with ambitious targets to phase out diesel trucks in the coming decades.

Looking ahead, the future of trucking is likely to involve a combination of both electric and hydrogen-powered vehicles. Electric trucks are expected to dominate urban deliveries and short-haul transport due to their efficiency and the expansion of charging infrastructure. Meanwhile, hydrogen trucks may play a key role in long-haul freight transport, given their extended range and faster refueling capabilities. The transportation industry's transition to zero-emission solutions will be shaped by advancements in battery storage, hydrogen production, and fuel cell technology, as well as investments in renewable energy and infrastructure.

While diesel trucks will not disappear overnight, the transition toward electric and hydrogen-powered vehicles is gaining momentum. The trucking industry faces a pivotal moment where technological breakthroughs, cost reductions, and policy support will determine the speed of adoption. Both electric and hydrogen-powered trucks offer promising solutions to decarbonizing the transportation sector, but each comes with its own set of challenges. The future of trucking will be defined by a combination of market demand, environmental responsibility, and innovation, ensuring a cleaner and more sustainable transport industry for generations to come.

Isuzu's S&E Series Heavy-Duty Trucks Elevating Commercial Transport in Qatar



offers fleet management services and performance monitoring tools, helping businesses maximize operational efficiency. These robust aftersales services reinforce Isuzu's reputation for dependability and empower customers to operate with confidence, knowing that expert support is always within reach.

Isuzu's Global Leadership and Innovation Strategy

Isuzu's global standing in the commercial vehicle industry is the result of decades of commitment to quality, innovation, and customer satisfaction. With manufacturing facilities and R&D centers strategically located across Asia and beyond, Isuzu continuously invests in developing vehicles that are durable, environmentally responsible, and technologically advanced. The S&E Series reflects Isuzu's global design philosophy: engineering trucks that excel in real-world operating conditions. From scorching deserts to bustling urban corridors, Isuzu trucks are built to withstand the harshest environments without compromising comfort or efficiency.

In the realm of commercial transportation, the demand for vehicles that seamlessly blend power, efficiency, and adaptability is ever-increasing. Addressing this need, Isuzu introduces the S&E Series heavy-duty trucks to the Qatari market, setting new standards in the industry.

A New Era of Heavy-Duty Performance

The S&E Series represents Isuzu's commitment to innovation and excellence. Designed to cater to a diverse range of industries, these trucks offer:

- Gross Vehicle Weight (GVW): Ranging from 34 to 41 tons.
- Gross Combination Weight (GCW): Spanning from 48 to 80 tons.
- Configurations: Available in both rigid and tractor unit variations.

This versatility ensures that businesses, regardless of their scale or sector, can find a model tailored to their specific transportation needs.

Advanced Features for Enhanced Operations

Understanding the challenges of modern logistics, the S&E Series is equipped with features that prioritize both performance and driver comfort:

- Automated Manual Transmission (AMT): This system simplifies gear shifts, reducing driver fatigue and optimizing fuel efficiency. Recognizing its benefits, Isuzu has expanded AMT availability to all market destinations, ensuring that businesses worldwide can experience its advantages.
- Hub Reduction Models: Specifically designed to improve drivability on rough terrains, these models enhance traction and stability, making them ideal for Qatar's diverse landscapes.
- Safety Enhancements: Incorporating advanced safety features, the S&E Series ensures that both drivers and cargo remain protected during transit.

Isuzu's Vision for the Future

The introduction of the S&E Series aligns with Isuzu's "ISUZU Transformation - Growth to 2030 (IX)" mid-term business plan. This strategy focuses on developing a common platform for heavy-duty trucks by leveraging advanced technologies. By FY2031, Isuzu aims to achieve global sales of over 450,000 commercial vehicles, underscoring its dedication to addressing the evolving challenges of the transportation sector.

A Commitment to the Qatari Market

Isuzu's presence in Qatar has been marked by a deep understanding of the local market's unique demands. The S&E Series is a testament to this commitment, offering vehicles that are not only robust and reliable but also tailored to meet the specific requirements of Qatari businesses.

At the heart of this long-standing presence is Jaidah Group, Isuzu's exclusive partner and distributor in Qatar. This partnership spans decades, built on a shared vision of excellence, reliability, and customer-centric service. Jaidah has played a crucial role in introducing and supporting Isuzu's diverse range of vehicles in the region—from light commercial trucks to heavy-duty models like the S&E Series.

With a strong infrastructure, extensive aftersales network, and a deep-rooted understanding of customer needs, Jaidah ensures that Isuzu owners in Qatar receive world-class service and support. Whether it's sales, service, or spare parts, Jaidah's facilities across the country are fully equipped to deliver comprehensive solutions that keep businesses moving.

This collaboration between Jaidah and Isuzu continues to evolve, fueled by a mutual commitment to innovation and customer satisfaction. The launch of the S&E Series in Qatar is yet another milestone in this journey—a bold step forward in providing the transport and logistics industry with vehicles that not only meet expectations but exceed them.

Applications Across Industries in Qatar

Qatar's diverse economy demands transportation solutions that are both flexible and robust. The Isuzu S&E Series is designed to adapt to the operational needs of various sectors, supporting the country's rapid development and infrastructure expansion.

In the construction industry, the trucks' exceptional load-bearing capacity and rugged drivability make them ideal for transporting raw materials and heavy machinery across challenging terrain. Their high torque output and reinforced suspension allow for seamless operation in active job sites and desert environments.

For the logistics and freight sector, the S&E Series offers optimized fuel efficiency and high GCW ratings, making them perfect for long-haul deliveries across the region. These trucks are engineered to maximize uptime while minimizing operational costs, ensuring that goods reach their destinations on time and with minimal wear.

In municipal services, the range of chassis configurations enables easy customization for waste management, utility, and emergency service applications. The S&E Series provides a solid, reliable base for vehicles like refuse collectors, fire-fighting equipment, and road maintenance units.

Meanwhile, in retail and FMCG distribution, temperature-controlled units can be mounted on these trucks for refrigerated transport, helping businesses ensure the safe delivery of perishable goods across the country—even under extreme heat conditions.

Aftersales Support & Service Ecosystem

A truck is only as dependable as the network that supports it. Jaidah Group's comprehensive aftersales



ecosystem ensures that Isuzu customers in Qatar benefit from consistent performance and peace of mind.

With service centers located in the Industrial Area and Al Khor, along with mobile service units, customers are never far from expert maintenance and repair support. Jaidah's service network is staffed by certified technicians who receive regular training directly from Isuzu to stay current with the latest technologies and diagnostic techniques.

Through preventive maintenance programs, Jaidah helps fleet operators extend the lifespan of their trucks and avoid costly downtime. This includes scheduled check-ups, fluid and filter replacements, and software updates—tailored to each fleet's size and operating conditions.

Additionally, Jaidah provides access to genuine Isuzu parts, ensuring compatibility, reliability, and safety with every repair. For large fleet customers, Jaidah also

One of Isuzu's core innovation strategies is its feedback-driven product development. By working closely with fleet operators and service providers worldwide, Isuzu gathers insights that shape vehicle upgrades and new models. This collaborative approach ensures that each new generation of trucks is better suited to the practical demands of its users.

In addition to robust mechanical engineering, Isuzu is exploring future-forward technologies such as low-emission powertrains, electric trucks, and connected vehicle solutions to support evolving regulatory standards and business requirements.

As part of its mid-term vision, Isuzu is committed to developing a common global platform for its heavy-duty trucks. This allows for greater parts standardization, streamlined maintenance processes, and enhanced adaptability to market-specific needs—all while maintaining the durability and reliability the brand is known for.



In Qatar and across the globe, Isuzu's focus remains the same: empowering businesses with trucks that are not only built to last, but also built to lead.

The S&E Series heavy-duty trucks exemplify Isuzu's dedication to delivering vehicles that combine innovation, performance, and adaptability. As Qatar continues to position itself as a hub of commerce and industry, the S&E Series stands ready to support the nation's transportation needs, driving businesses toward greater efficiency and success.

Backed by Jaidah's trusted name and extensive support, the arrival of these new heavy-duty trucks marks the beginning of a new chapter in Qatar's commercial vehicle sector—one where capability meets reliability, and performance meets partnership.

ISUZU HEAVY DUTY TRUCKS

READY FOR EVERYROUTE



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