



Setting the Global Standard for All-Electric Zero Emission Vehicles























INTRODUCTION

VECTRIX[™] technology is a story about progression. It is a story about changing the way we move around. Zero gas. Zero gas emissions. And, virtually no sound. It is a clean energy story that has never stood still, never rested on its laurels, and certainly has never stopped moving forward.

2016 marks the **20**th anniversary of the founding of **VECTRIX**[™] in **1996**. It is also the **15**th anniversary of the **VECTRIX**[™] patents we received in **2001** for our rugged integrated rear-wheel mounted single stage planetary gear drive that is at the heart of every **VX-1** maxi-scooter. And it is the **10**th anniversary of the launch of the revolutionary **VX-1** in **2006**.

Last year, we welcomed the addition of important technological advances for our products. We introduced new innovative versions of **Lithium-ion** energy systems (traction batteries) which increase the range and performance. In cooperation with Amita Technology (TW) battery packs were developed which boost up to 13kWh capacity which translates to 220km (140 miles) range. This year we are updating our 50cc equivalent VX-2 with removable battery to atract both urban privet customers and fleet operators.

In the meantime we continue the devopment proces of clean energy 125cc-equivalent scooter, the **VECTRIX Tall Wheel**.

With 27 active patents controlled by **VECTRIX**™, we remain committed to setting the industry standard for electric vehicle technology, performance, and quality.

Welcome aboard and enjoy the ride.

VECTRIX™...

Good.

Clean.

Fun.





THE MISSION

VECTRIX™ was founded in 1996 with one objective — to create core technology that would provide clean, efficient, reliable and affordable transportation. And for 20 years, leading engineers and designers have worked to create a 100% electric vehicle that also had performance and style.

THE RESULT

The result was the **VECTRIX VX-1**, a zero gas-emission vehicle — no gas, no oil, and no compromise. Now with a top speed of 68 mph (110 km/h) and acceleration of zero to 50 mph (0-80 km/h) in under 6.25 seconds, **VECTRIX VX-1** Li are highway legal. With aerodynamic styling, the **VECTRIX**™ lineup has smooth handling and sleek lines.

In 2007, people in the U.S. and Europe began taking delivery of **VECTRIX VX-1**—people looking for style, performance, and zero emissions, people who understood that the 100% electric vehicle could help reduce pollution, counter the rising price of gasoline, and avoid traffic and parking hassles.

Today, as the demand for energy efficient vehicles is growing, **VECTRIX™** is leading a revolution in personal transportation and providing customers with a growing range of electric vehicle options from the **VX-1** Li to the new **VX-2** and the revolutionary **VT-1**.







2016 AND BEYOND

VECTRIX™ technology isn't just about the present. It's about the future. The **VECTRIX** Research & Development team actively continues to develop world-class core technology across a diverse platform, our main focus now is the versatile electric 125cc-equivalent **VECTRIX Tall Wheel** scooter.

VECTRIX Tall Wheel:

Filling out the **VECTRIX**™ product line-up is the announcement of the development of the **VECTRIX Tall Wheel** scooter. The electric 125cc-equivalent **VECTRIX Tall Wheel** will open up even more real-world possibilities for consumers to move about their world daily. It will also enable fleet customers to more efficiently patrol, deliver, pick-up, and move about. With a top speed of 60 mph (100 km/h), the **VECTRIX Tall Wheel** is perfect for urban errands and suburban play.







WHAT MAKES VECTRIX™ BETTER THAN OTHERS ELECTRIC BIKE MANUFACTURERS?

Simply put, it's our patented **VECTRIX**™ core technologies.

We have worldwide patents that nobody else has on three crucial systems for electric bikes—our **VECTRIX VX-1 Li**, **VX-2 Li**, and **VT-1** Regenerative Throttle, our **VECTRIX VX-1 Li** and **VT-1** Planetary Gear Drive, and our **VECTRIX VX-2 Li** and **VT-1 Li**+ Removable Battery System.

VECTRIX™ REGENERATIVE THROTTLE

Every **VECTRIX VX-1 Li/Li+**, **VX-2**, and **VT-1 Li+** comes standard with our revolutionary patented **VECTRIX**[™] *Regenerative Throttle* technology which maximizes the range possibilities by up to 12%. The patented **VECTRIX**[™] *Regenerative Throttle* is the only system of its kind the world which slows the vehicle down while reversing the polarity of the motor to recharge the batteries on the fly. The **VECTRIX**[™] *Regenerative Throttle* also has a slow-speed reverse which enables ease-of-movement in parking and tight spaces. And finally, our **VECTRIX**[™] *Regenerative Throttle* drastically reduces the wear-and-tear of brake caliper and brake discs since **VECTRIX**[™] riders usually end up doing about 90-95% of their braking using the **VECTRIX**[™] *Regenerative Throttle*.



VECTRIX™ PLANETARY GEAR DRIVE

Each **VECTRIX VX-1 Li** and **VT-1 Li+** comes equipped with our patented **VECTRIX™** *Planetary Gear Drive*. Instead of hard-to-maintain chain drives or easily broken belt drives, our **Vectrix scooters** have a robust 3-to-1 reduction gear drive that is both extremely low-maintenance and nearly silent. How robust? Consider this, in the 2011 "*Zero Emissions Race Around the World*" in which 4 international teams raced over 80 days, 16 countries, and 14,700 miles (28,000 km), the 1st and 2nd place teams had the **VECTRIX™** *Planetary Gear Drive* on their vehicles. How low-maintenance? Consider this, the first time our factory recommends that the Planetary Gear drive be opened up for re-lubrication is at 200,000 miles (321,000 km).



VECTRIX™ REMOVABLE BATTERY SYSTEM

Just introduced VX-2 Li and future VT-1 are equipped with removable, easy to handle batteries. System allows to use vehicle with 1, 2 or 3 independent modules. It gives the flexibility of carried energy storage – and range, easy to handle charging at home and office, possibility to use vehicle round the clock.





PRODUCT ATTRIBUTES

EASE CONGESTION

»5 TO 7 **VECTRIX™** Scooters take up the same space as 1 automobile »Parking flexibility—more options »Fill void spaces on roadways to improve traffic flow

IMPROVE AIR QUALITY

»VECTRIX[™] Scooters produce zero gas emissions »Centralized Plant Emissions vs. distributed sources of polluting vehicles »No gasoline engine idling

IMPROVE PERSONAL PRODUCTIVITY

»Dramatically reduce commuting times

»Charge at almost every available outlet or take battery home to charge it.

»Increased parking options

»Minimize transit time = More time on-task

WORLD-CLASS PATENTED TECHNOLOGY

VECTRIX™ Regenerative Throttle System **VECTRIX™** Planetary Gear Drive **VECTRIX™** Load Sharing System









RETAIL IMPACT

At the heart of the **VECTRIX**™ retail market is the brand new **VX-2 Li**. The new **VECTRIX VX-2** is an all-electric 50cc-equivalent scooter targeted at the urban, commuter, and neighborhood riders. Each **VX-2** features **VECTRIX**™ core technology and components like the patented **VECTRIX**™ Regenerative Throttle, Interface Control Module (ICM), and Battery Management System (BMS).

The clean and green **VX-2** is perfect for riders of all abilities in urban centers, college campuses, small city commuting, and weekend errands. Its lighter weight and maneuverability make it easy to move in tight spaces. And its zero gas emissions truly demonstrates to customers that the **VECTRIX VX-2** is good clean fun.

VECTRIX™ now offers a even more flexible solution by introducing the removable battery system. Each battery packs is only 13kg and lets you drive up to 50km per charge. You can easly take it home or to the office to charge.









RANGE

Range is everything to an electric vehicle. This is why we at **VECTRIX**™ take this so seriously. We figure the farther you can go, the more you can do, and the less you'll need to drive a polluting internal combustion engine. Throw in the savings per mile of as little as one penny on energy costs and now you've got something everyone can use in their life—more fun, more freedom, more money, and less pollution. Range truly is in the hands of the beholder—factors like riding conditions and operating style effect range.

VECTRIX™ Vehicle Ranges:

»VX-1 Li 60Ah	Up to 100 miles (Up to 150 km)
»∨X-1 Li 80Ah	Up to 130 miles (Up to 200 km)
»VX-1 Li 100Ah	Up to 160 miles (Up to 250 km)
»VX-2 Li 40Ah	Up to 40 miles (Up to 65 km)
»VX-2 Li 60Ah	Up to 60 miles (Up to 100 km)

Every **VECTRIX**™ comes standard with our patented Regenerative Throttle which extends the range and also offers slow-speed reverse for ease of movement. By using the **VECTRIX**™ Regenerative Throttle, **VECTRIX**™ riders not only extend their range, they can use the throttle to slow down their **VECTRIX**™.







OVERVIEW: VX-1 Li

>How fast? 68 mph (110 km/h)

>Zero to 50 mph (0-80 km/h)? Less than 6.25 seconds

>How far? The VX-1 Li 100Ah is capable of up to 160 miles (up to 250 km)

>How much? **VX-1** Li 60Ah €7,802 (not including VAT)

VX-1 Li 80Ah **€9,380** (not including VAT) **VX-1 Li** 100Ah **€10,748** (not including VAT)

>Award Winner Multiple "e-Scooter of the Year" for Over 45 km/h

At the foundation of the new **VECTRIX VX-1 Li** are the same core **VECTRIX™** technologies which made the original **VX-1** a game-changing electric scooter—the patented **VECTRIX™** *Regenerative Throttle* which extends the range and also offers slow-speed reverse for ease of movement, the patented rugged **VECTRIX™** integrated rear-wheel mounted single stage planetary gear drive, a lightweight aircraft-aluminum frame, front and rear Brembo disc brakes, Marzocchi telescopic fork, and Sachs twin shocks. But what makes the new generation VX-1 Li so remarkable is the **VECTRIX™** Lithium battery technology which extends the range and offers higher performance. Customers can choose now battery size to match their needs from affordable 5.5kWh which translates to 100km range, most polupar 8kWh (140km) up to top of the line 13kWh which gives freedom comparable with gasoline scooter – 250km on a charge.. Talk about having great way to make clean energy more than just a buzzword. The **VX-1 Li** proves green technology has arrived...in impressive style.

In addition to the Consumer market, the **VX-1** Li is being deployed in the Fleet market, specifically Law Enforcement, Security, Military, and Postal applications. Silence is golden especially when on patrol or deliveries on a **VX-1** Li. Now public safety officers and couriers can move faster, more quietly, and for way less money per shift than conventional I.C. engine vehicles.





PRODUCT IMAGES: **VX-1** CONSUMER MODEL



















OVERVIEW:

VX-2

>How fast? 30 mph (45 km/h) or 50 mph (80 km/h)

>Zero to 30 mph (0-45 km/h)? 5.0 seconds

>How far? Up to 60 miles (up to 100 km)

>How much? VX-2 Li 2kWh MSRP €4,067 (not including VAT) VX-2 Li 3kWh MSRP €4,767 (not including VAT)

The **VECTRIX VX-2 Li** is truly a scooter designed with all of us in mind. Top speed of 30 mph (45 km/h) if sold as mopped or 50mph (80km/h) if registered as motorcycle for tooling around town, running errands, and visiting friends...Check. Fast recharge times of as little as 2 hours for quick turnarounds...Check. Zero gas emissions and zero gas needed...Check.

The VX-2 integrates VECTRIX™ core technologies into a 50cc-equivalent platform vehicle. This easy-to-ride, intuitive electric scooter comes standard with the patented VECTRIX™ Regenerative Throttle which extends the range and also offers slow-speed reverse for parking and maneuvering in tight quarters. The VX-2 also features a powder-coated tubular-steel frame, front and rear disc brakes, telescopic fork, and twin shocks. The VX-2 is powered by Lithium-ion removable battery for excellent range and performance. The VX-2 comes with 48V 2kWh or 3kWh batteries with a range of up to 60 miles (up to 100 km).





PRODUCT IMAGES: **VX-2**





TALL WHEEL PRODUCT MESSAGING

VECTRIX™ Tall Wheel scooter is designed to address both consumer urban commuting and fleet needs for parcel/cargo.

»The thrilling **VECTRIX Tall Wheel** has a top speed of 62 mph (100 km/h)

»The responsive **VECTRIX Tall Wheel** has a 0-40 mph (0-64 km/h) time of 7.0 seconds

»The astonishing **VECTRIX Tall Wheel** has a range of up to 100 miles (160 km)

»The practical **VECTRIX Tall Wheel** has a recharge time of 2h (if equipped with 20A charger)

»The innovative **VECTRIX Tall Wheel** has an advanced Lithium-ion Removable Battery System







PRODUCT IMAGES: **VT-1**







