Think Ahead ACCA

# STRATEGIC BUSINESS LEADER

DECEMBER 2023 MOCK PRE-SEEN INFORMATION

# Contents

# 1. Introduction

VoltTech Motors (VTM) is a well-known electric vehicle manufacturer operating in Corlandia. VTM specialises in producing a range of electric vehicles. The company was founded over 20 years ago and has grown from a start-up to a prominent player in the industry.

VTM designs and manufactures a small range of electric vehicles that cater to various customer preferences and market segments. There are currently four models in the range. VTM manufactures its own lithium-ion batteries in-house for use in its vehicles. VTM's vehicles are sold through a network of authorised dealerships located across Corlandia.

VTM upholds a strong commitment to sustainability, technological advancement and customer satisfaction.

# 2. Industry information

## Electric vehicles

Electric vehicles (EVs) represent a transformation in the automotive industry, offering a sustainable and efficient alternative to traditional combustion engine vehicles. EVs operate using electricity stored in batteries, eliminating reliance on fossil fuels and significantly reducing harmful emissions.

## Types of electric vehicles

### Fully electric vehicles

Fully electric vehicles, also known as battery electric vehicles (BEVs), rely on electricity as their only power source, avoiding internal combustion engines entirely. These vehicles utilise advanced lithium-ion battery technology to power an electric motor, resulting in a clean and emissions-free driving experience. Fully electric vehicles are renowned for their environmental advantages, lower operational costs, and exceptional acceleration performance. Fully electric vehicles require charging through an external power source.

### Hybrid vehicles

Hybrid vehicles combine an internal combustion engine with an electric motor, comprising two primary categories:

- **Hybrid Electric Vehicles (HEVs)**: HEVs use both an internal combustion engine and a lithium-ion battery powered electric motor. The electric motor assists the engine during acceleration and allows the vehicle to store energy while decelerating or braking. HEVs do not require external charging as they rely on engine power to recharge the battery.
- **Plug-in Hybrid Vehicles (PHEVs)**: PHEVs also use an internal combustion engine and an electric motor, but they offer the added flexibility of being rechargeable through an external power source. PHEVs provide longer electric driving ranges compared to HEVs,

meaning drivers can travel significant distances solely on electric power before using the combustion engine.

### Fuel Cell Electric Vehicles (FCEVs)

Fuel cell electric vehicles use hydrogen fuel cells to generate electricity through a chemical reaction involving hydrogen and oxygen, releasing only water vapour. FCEVs offer long driving ranges and are quick to refuel. However, the availability of hydrogen refuelling stations is limited.

## Benefits of electric vehicles

EVs are better for the environment because they don't emit harmful gases like traditional vehicles. This helps reduce air pollution and reduces reliance on fossil fuels, making transportation cleaner and more sustainable.

EVs are also very energy efficient. This means they can go further on the same amount of energy, saving on energy costs and reducing dependence on non-renewable sources of energy.

When it comes to costs, EVs are often cheaper to operate than traditional vehicles. Electricity is generally less expensive than petrol or diesel fuel, so refuelling an EV costs less. Additionally, EVs have fewer moving parts, which means they require less maintenance and are cheaper to repair.

EVs deliver instant power, providing quick acceleration and a smooth driving experience. As they don't have an internal combustion engine, they are also quieter, providing a quieter driving experience and reducing noise pollution. EVs use regenerative braking systems, which means energy is captured while braking and converted back into electricity. This not only improves efficiency but also helps extend the driving range of the vehicle.

## Industry overview

The electric vehicle market in Corlandia operates within the broader automotive sector, which has a rich history and plays a significant role in Corlandia’s economy.

Corlandia's automotive industry dates back over a century. It includes a diverse range of manufacturers, suppliers, and service providers involved in the design, production, distribution, and maintenance of vehicles. Historically, traditional combustion engine vehicles have been the main element of the industry, but the emergence of electric vehicles has brought about a shift.

The electric vehicle market in Corlandia is highly competitive. Manufacturers of traditional combustion engine vehicles have recognised the market demand for electric vehicles and have started integrating electric and hybrid models into their product ranges. These traditional manufacturers are facing competition from new entrants dedicated solely to the manufacture of electric vehicles. This competitive landscape drives innovation and pushes manufacturers to differentiate themselves through technology, performance, and customer experience.

### Market size and growth

The electric vehicle market in Corlandia has expanded in recent years. Sales figures have risen, with an increasing number of consumers opting for electric vehicles as their preferred mode of

transportation. This surge in demand can be attributed to several factors, including rising environmental consciousness, advancements in technology, and government support.

The Corlandian government has implemented various initiatives and incentives to promote the adoption of electric vehicles. These include tax incentives, subsidies, and grants for purchasing electric vehicles, as well as investing in expanding the national infrastructure of charging stations which provide external power sources to charge batteries. This growing network of charging infrastructure improves the feasibility and practicality of owning an electric vehicle in Corlandia.

Electric vehicles are gaining a larger market share in Corlandia's automotive industry. As more manufacturers focus exclusively on electric vehicle production, as well as traditional manufacturers expanding their EV ranges, the variety and availability of electric models continue to expand.

Market forecasts for the electric vehicle industry in Corlandia are optimistic, projecting continued growth in the coming years. Forecasts indicate an annual growth rate of 12.3% over the next five years, with sales volumes projected to reach over 250,000 electric vehicles annually by the end of the five-year period.

### Technological advancements

All types of modern vehicles now incorporate various technological features that enhance the driving experience. For instance, infotainment systems offer a range of entertainment and information options to passengers in the form of touchscreen displays, voice-controlled interfaces, and smartphone integration, allowing drivers and passengers to access music, navigation, and other applications seamlessly.

Connected services have also emerged as a significant technological advancement in the automotive industry. Vehicles equipped with connected services can access real-time traffic information, enabling drivers to plan their routes more efficiently and avoid congestion. Remote diagnostics is another example, where vehicles can communicate with manufacturers or service centres to identify and address potential issues, enhancing vehicle maintenance and reducing downtime.

## Charging infrastructure

Charging infrastructure is essential for supporting the adoption of electric vehicles (EVs) and helps address one of the key concerns for EV drivers, which is the availability of charging stations.

### Charging options

- **Home charging**: Many EV owners prefer to charge their vehicles at home using a residential charging station or a standard power outlet. Home charging offers convenience and allows for overnight charging, ensuring the EV is ready for daily use. Home charging usually takes longer than other charging options but is suitable for regular commuting needs.
- **Public charging stations**: Public charging stations are located in places such as car parks, shopping centres, office buildings, and along roads. These stations provide EV drivers with the option to charge their vehicles while away from home. Public charging stations offer different charging speeds.

- **Fast-charging network**s: Fast-charging networks provide high-power charging capabilities to quickly recharge EV batteries. These chargers are capable of delivering a significant amount of charge in a shorter period, allowing for faster charging times. Fast-charging networks are typically located along major highways or in urban areas and are designed to be used during longer trips for quick top-ups.

Building a comprehensive and widespread charging infrastructure requires significant investment in the construction of charging stations, upgrades to power supplies, and maintenance. Collaboration between the government, private companies, and stakeholders is crucial to fund and develop this infrastructure.

EV companies can play an active role in contributing to the development of charging networks, either through building charging stations or contributing to the funding of charging infrastructure projects. EV companies can also provide technical guidance on charging station design, compatibility, and standardisation. This helps ensure that the charging infrastructure is tailored to meet the specific needs of their EV models and those of other manufacturers.

Generally, there are several common ways that electric vehicle owners can pay for charging, including a fee per hour of charging, a charge based on the energy consumed during the charging, or a flat fee. Companies also have the practice of charging network memberships/subscriptions that offer services in addition to battery charging. Some EV manufacturing companies have undertaken initiatives to swappable batteries. These batteries are replaceable or interchangeable i. e. it can be easily removed from a car and replaced with a fully charged one. This design allows users to quickly exchange depleted batteries for freshly charged ones, thus extending the usage time of the car without the need for recharging the battery in the car itself.

## Environmental sustainability

EVs play a crucial role in promoting environmental sustainability and mitigating the impacts of climate change. EVs produce significantly fewer greenhouse gas emissions compared to traditional internal combustion engine vehicles and the EV industry is actively working towards reducing its reliance on non-renewable energy sources.

EV manufacturers are also developing strategies to efficiently recycle and repurpose components and materials from vehicles that have reached the end of their useful life. This includes recycling lithium-ion batteries, which contain valuable materials such as cobalt, nickel, and lithium. EV manufacturers have also established programmes where customers can return their vehicles for appropriate recycling.

## Consumer considerations

When it comes to purchasing electric vehicles (EVs), consumers take various factors into consideration:

- Range anxiety refers to the fear of running out of battery power and not being able to find a charging station. Educating consumers about the distance various electric vehicle models can travel without charge (the range) is essential to alleviate range anxiety.

- Charging availability is a crucial factor for EV owners. Consumers need convenient access to charging stations to ensure they can recharge their vehicles when needed.
- Safety is another important consideration. The customers are generally worried about over-charging, over-discharging, and overheating which could be a serious threat to the vehicle and passenger safety.
- Cost is an important consideration for consumers when purchasing a vehicle. While electric vehicles may have a higher upfront cost compared to traditional vehicles, EVs generally have lower operating costs due to lower fuel and maintenance expenses.
- Consumers consider the convenience and practicality of electric vehicles in their daily lives. Factors such as charging time, ease of use, and availability of charging options impact the decision-making process.

Many consumers still have misconceptions or lack awareness about EVs. Manufacturers provide information about the environmental benefits, cost savings, and technological advancements of electric vehicles to help overcome any reservations or doubts.

# 3. VTM overview

## Background

VoltTech Motors (VTM) is a well-known electric vehicle manufacturer in Corlandia's automotive industry. Established over two decades ago by Sarah Voltaire, an entrepreneur, VTM is known for its innovation, its commitment to sustainability, and its use of cutting-edge technology.

VTM has achieved a number of significant successes that have contributed to its reputation. It introduced the VoltTech V1, a groundbreaking compact electric car, which set new standards for range, design, and advanced features.

VTM expanded its product range to meet different customer needs. It launched the VoltTech XTERRA, an electric vehicle renowned for its off-road capabilities and environmental performance. The third model introduced was the VoltTech ECO+, a mid-sized electric saloon, boasting impressive range and sustainability features.

VTM makes extensive investment in research and development, and this has led to significant advancements in battery performance and safety features. Enabled by the development in battery technology, and responding to growing consumer demand, VTM introduced the VoltTech FUSION, a premium sports car model.

## Ownership

VTM was established as a privately owned company, with Sarah Voltaire being its largest individual shareholder, along with a small group of investors. The company achieved a listing on the national stock exchange of Corlandia recently. Since then, it is in the process of complying with the corporate governance code enforced in Corlandia. The first priority is to set up appropriate governance structure.

Although Sarah continues to be the largest individual shareholder (with 9% shareholding); institutional shareholders are holding majority of the shareholding. The new shareholders are committed to the overall strategic mission of VTM and they continue to support the initiatives that aim at the long-term growth and sustainability.

## Board structure

At VTM, the board of directors consists of a diverse group of industry professionals and experts. While the company is privately owned, corporate governance is a key focus.

- Sarah Voltaire - Chair of the board. She is a visionary leader who is key to shaping the company's strategic direction and commitment to sustainable electric vehicles.
- John Anderson - Chief Executive Officer (CEO). With extensive experience in the automotive industry, he provides overall leadership and oversees VTM's growth strategies and business performance.
- Laura Rodriguez - Chief Operations Officer (COO). Laura oversees the day-to-day operations of VTM, focusing on manufacturing efficiency, supply chain optimisation, and operational excellence.
- Emily Roberts - Chief Financial Officer (CFO). She is responsible for managing the company's financial operations, including financial planning, budgeting, and financial risk management. She is also responsible for the internal control function across VTM.
- Michael Thompson - Chief Technology Officer (CTO). He is responsible for technological innovation, overseeing research and development efforts, and ensuring the integration of new technologies into VTM's electric vehicles.
- David Lee - Non-Executive Director. With his extensive experience in the automotive industry, he provides independent oversight, advice, and guidance to the board.
- Catherine Johnson - Non-Executive Director. With her background in sustainable business practices and corporate governance, she brings valuable insights and perspectives to the board's decision-making processes.
- Robert Evans - Non-Executive Director. With his experience in the electric vehicle industry, he provides strategic guidance and contributes to the overall governance of VTM.

## Product range

| Model | Type | Range | Units produced annually | Gross margin |
|---|---|---|---|---|
| VoltTech V1 | Compact electric hatchback | 200 miles | 20,000 | 12% |
| VoltTech ECO+ | Mid-sized electric saloon | 300 miles | 12,000 | 15% |
| VoltTech XTERRA | Electric off-road vehicle | 350 miles | 8,000 | 10% |
| VoltTech FUSION | Premium electric sports car | 400 miles | 2,000 | 18% |

## Customers

VTM's target customers primarily consist of individual consumers and fleet operators seeking sustainable and technologically advanced vehicles.

VTM operates through a network of authorised dealerships located in key regions across Corlandia. These dealerships serve as the primary point of contact between VTM and the final consumers. VTM maintains close collaboration with its dealerships to ensure the availability of its electric vehicle models, provide personalised assistance, and deliver exceptional customer service.

VTM has a dealership agreement with each authorised dealership. This agreement outlines the rights, obligations, and responsibilities of both parties. It covers various aspects such as sales targets, marketing support, warranty and service provisions, pricing, and dealership performance standards. The agreement helps maintain consistency in customer experience across different dealership locations.

VTM outsources the logistics and delivery of its vehicles to a third-party transportation and distribution provider. VTM collaborates closely with this provider to manage the efficient distribution of vehicles from its manufacturing facilities to the dealerships' warehouses in a timely fashion.

## Suppliers

While VTM manufactures its own batteries and electric motors, there are certain components and materials that are sourced from external suppliers. These include various electronic components, wiring harnesses, chassis parts, suspension systems, braking systems, tyres, and other vehicle

components. Suppliers are selected by VTM based on quality, reliability, cost-effectiveness, and the ability to meet VTM's specific requirements.

## Research and development

VTM has been a keen investor in the R & D initiatives over the years, that drives its current competitiveness. Spurred by the the market response post listing, the company has furthered the efforts to revolutionise its innovativeness. VTM is actively considering the implementation of a swappable battery project for which it has already applied to the Bureau of Science & Technology of Corlandia.

## Facilities and employees

VTM operates multiple manufacturing facilities which are located across Corlandia to meet the growing demand for electric vehicles. These facilities include:

- **Main Manufacturing Plant**: This facility serves as VTM's primary manufacturing hub. It houses assembly lines and production units for various electric vehicle models. The facility incorporates new technologies and efficient manufacturing processes to ensure high-quality vehicle production.
- **Battery Production Facility**: This specialised facility is for the production of electric vehicle batteries. It employs advanced battery manufacturing techniques, meeting strict quality standards to ensure reliable and high-performance batteries for VTM's electric vehicles.
- **Research and Development Centre**: This centre focuses on innovation, design, and engineering of electric vehicle technologies. It includes specialised laboratories, testing facilities, and is staffed by a team of skilled engineers and researchers. This centre plays a vital role in developing new electric vehicle models, improving existing technologies, and driving innovation in the electric vehicle industry.

VTM has over 3,000 employees, comprising skilled engineers, technicians, production staff, and support personnel.

## Risks

VTM has a risk register and a risk management programme in place. An extract from the risk register is below.

| | |
|---|---|
| Supply chain disruptions | VTM relies on suppliers for various components and materials. Any disruption in the supply chain, such as delays, shortages or quality issues from key suppliers, could impact production schedules and result in a delay to the manufacturing process. |
| Evolving regulatory environment | The automotive industry is subject to regulations that can regularly change. These regulations cover emissions standards, safety regulations and other compliance requirements. Adapting to changing regulations can be difficult as it requires continuous monitoring and adjustments to maintain compliance and avoid penalties. |
| Intense competition | The Corlandia automotive industry is highly competitive, with traditional manufacturers and EV manufacturers competing for market share. VTM faces the risk of increased competition and needs to constantly innovate, have successful marketing strategies and offer exceptional customer service to differentiate itself within the market. |
| Technological advancements and obsolescence | The automotive industry is subject to rapid technological advancements, particularly in the EV sector. VTM faces the risk of technological obsolescence if it fails to keep pace with emerging technologies or if its competitors introduce superior features. Staying at the forefront of technology trends and investing in research and development is crucial to mitigate this risk. |

# 4. Website extracts

### Our Mission

To revolutionise the transportation industry by designing and manufacturing high-quality electric vehicles that redefine the driving experience, promote sustainable mobility, and contribute to a cleaner and greener future.

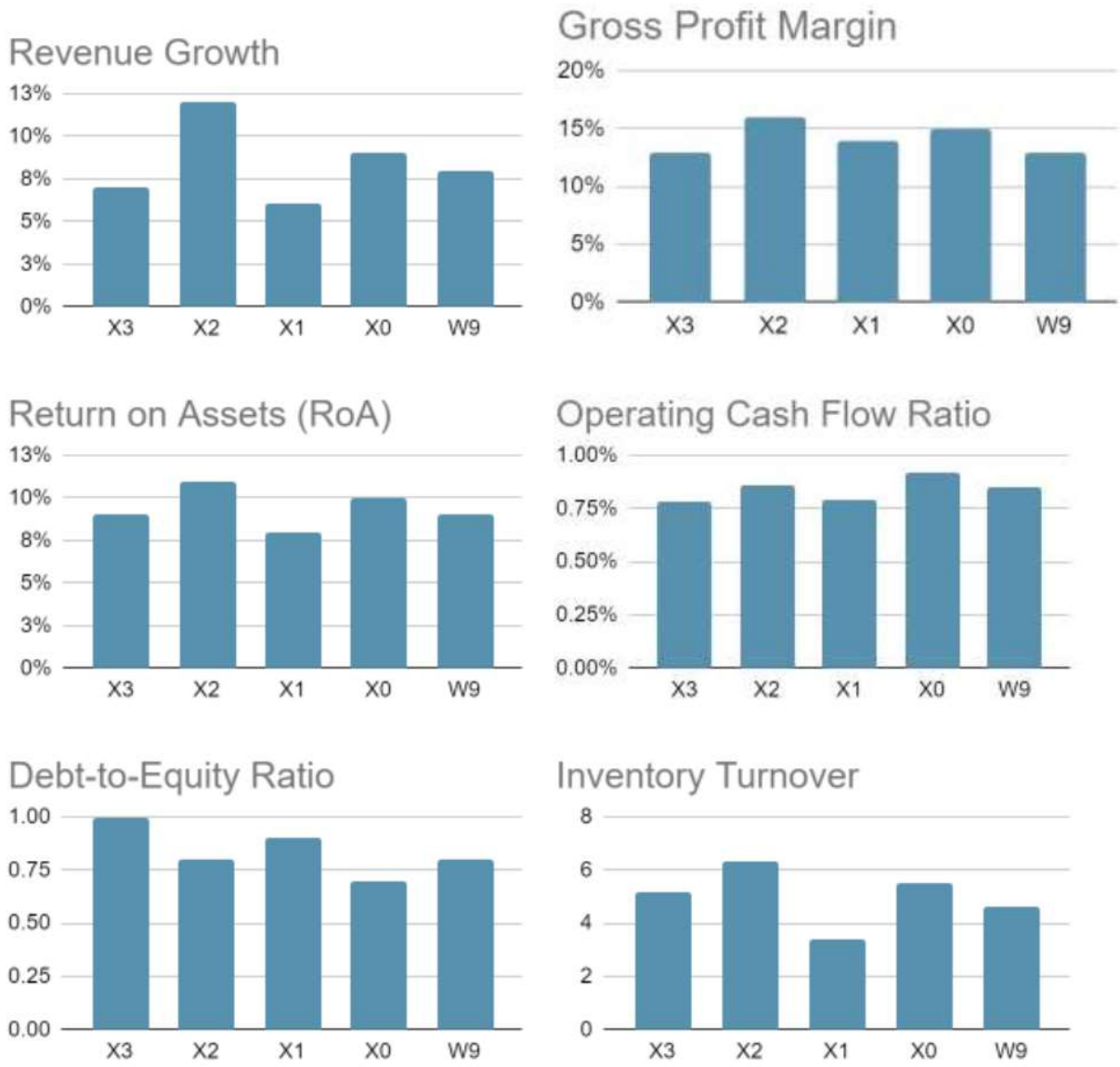
### Our Vision

To be the preferred choice for electric vehicles in Corlandia, inspiring positive change and shaping a place where sustainable transportation is the norm.

### Values

- **Innovation**: We continuously strive for breakthrough innovations in electric vehicle technology, pushing the boundaries of what is possible to deliver new products and solutions.
- **Sustainability**: We are committed to minimising our environmental impact and promoting sustainability in every aspect of our operations, from production processes to recycling initiatives.
- **Quality**: We maintain the highest standards of quality in all aspects of our business, ensuring that our electric vehicles deliver exceptional performance, reliability, and customer satisfaction.
- **Employee welfare**: We value the well-being of our employees and have a supportive and inclusive work environment. We prioritise their safety, professional development and work-life balance, recognising that our employees are integral to our success. We encourage diversity, equal opportunities and respect for all team members.
- **Ethics and CSR**: We are committed to strong ethical values and corporate social responsibility. Through a formal code of ethics and an appropriate redressal framework, we ensure ethical commitments from all our employees and directors. Our CSR initiatives focus on social well-being, human rights and diversity & inclusion.

# 5. Financial information




Notes:

- Return on assets is calculated as net income divided by average total assets.
- Operating cash flow ratio is calculated as cash from operating activities divided by current liabilities.