TYITECHNOLOGIES PTY LTD

MANUFACTURING, DISTRIBUTION AND SERVICING, ECOTELLER ATMS

PROUDLY SOUTH AFRICAN BBBEE LEVEL: 1 BUSINESS – CREATING JOB OPPORTUNITIES IN SA

Ecoteller®
Through-the-Wall ATM
From the Pioneers of Low-Power ATMs

World's
Lowest Power-consuming
Through-the-Wall ATM

Eco-Friendly
. Operates from 5°C to 45°C
. Designed to operate without AC
. Affordable Solar Option

Highly Secured
. Linux operating system
. Advanced security features

Reliable and User-Friendly
. Designed with lesser moving parts
. Multilingual receipt printing without
  switch intervention

AN ISO 9001:2008 & 14001:2015 CERTIFIED COMPANY

EMVCo APPROVED™   PA-DSS VALIDATED

vortex™
Helping banks reach out

VORTEX ECOTELLER LINUX OS BASED ATM

KEY DIFFERENTIATORS LINUX DEBIAN

Linux Debian	
Linux OS	2008 to 2021 Successfully developed and deployed ATMs that operate with Linux OS
SWAVE Terminal application software	Developed based on Linux OS, Vortex developed SWAVE based on Linux Debian distribution. Debian's versatile package list offers comprehensive support to the ATM's application, security and hardware interface requirements Vortex has used a trimmed down version of Debian requiring only the **Linux Kernel** with a minimalist set of applications and system services. *Because of this, Vortex Ecoteller ATMs are able to operate with a minimum processor specification, contributing to a well* *optimized specification for the ATM CPU and RAM, with no compromise on the functionality requirements. This also contributes to lower power consumption.*
	Vortex SWAVE is based on Debian official distribution, which is "Free Software" and supported by a vibrant open source community. Debian upgrades are mainly focused on improving the security and performance, with an extended support period of 5 years. These upgrades do not require any hardware change, resulting in close to zero upgradation costs.

KEY DIFFERENTIATORS LINUX DEBIAN

Linux Debian	
Linux OS	The Chart given below represents the difference in the upgrade costs between Linux OS based Vortex ATMs and ATMs based on Windows OS

S/W UPGRADE COST

WORK OUT BASED ON THE FOLLOWING

- SW updates are done once in the lifetime of the product
- The total ATM fleet is 1000 numbers
- The expenditure is in USD

KEY DIFFERENTIATORS LINUX DEBIAN

Linux Debian	
SWAVE Terminal application software	The SWAVE terminal application software is equipped with robust security features, which offer a comprehensive security to the ATM terminal against a host of cyberattacks. SWAVE is a hardened application that runs on Debian OS and is equipped with a host of security features like User/Application/Hardware access control, Transport Layer Security, Whitelisting, Host pairing and Hard Disk Encryption. The security updates are more comprehensive and is swiftly done, which helps in defending the ATMs against the various malware attacks.
Certification	Vortex SWAVE Terminal application software is PA-DSS 3.2 validated and currently runs over Debian 8. The SWAVE kernel is EMV level 2 certified by EMVCo. Along with the PA-DSS validated and EMV certified application, Ecoteller series of ATMs are packaged with robust terminal security solutions that provide a comprehensive security against the logical attacks that are directed towards the ATMs.
	Equipped with a fully secure Linux based OS and a low power consuming ATM architecture, Ecoteller series of ATMs are helping the banks reach out to their customers in a more safe, secure and economical way. Vortex has deployed over 7000 ATMs globally, which run on the Linux OS based SWAVE terminal application. This is a testament to the fact that the industry has accepted Linux based ATMs.

KEY DIFFERENTIATORS ECOTELLER® ATMS

Industry Firsts

- First to launch ultra-low power consuming ATMs
- First to make solar powered ATMs commercially viable
- First and only commercially successful Linux based ATMs

- First robust ATM designed to work without air conditioning
- First local language receipt in ATMs
- First to launch biometric authentication in ATMs

DynaBunch™
The patented dispenser technology in Ecoteller® TTW will Pick-bunch-hop & present cash resulting in quick dispense, lesser power consumption and fewer cash Jams.

LinguaPrint™
This unique technology helps printing receipt in customer chosen language without intervention of the switch.

Double Detach™
With the design mechanism in Ecoteller® TTW- When a double note gets picked, it doesn't just detect & purge but separates them intelligently.

Linux Powered:
Is more secure and efficient - protected from Virus/ upgrades, consumes less power

Operating temperature & Environment protection
Temperature: 5 to 45 degrees C
Humidity: 10% to 90% RH

Power: ATM average power consumption - 70W, ATMs can function on Solar/Battery power

Finger Print reader (Optional) – Proof of Life for Pension Pay

Camera: In-built portrait camera / optional cash slot camera

Digital Video Surveillance system (DVSS)
(Optional) – For Saswitch queries
- DVSS Camera with 10-metre USB Interface cable
- Secondary HDD: 1 x 500GB HDD (For video storage)
- DVSS Software

KEY DIFFERENTIATORS ECOTELLER® ATMS

The Ecoteller®ATM brings down the Total Cost of Ownership (TCO) significantly with its twin advantages of "Industry's lowest power consuming ATM" and "Industry's only leading Linux based ATM".

Unique Features

Linux Operating System

Ecoteller ATMs run on Debian Linux operating system specifically customized for an ATM device and is optimized for efficient hardware utilization and the highest level of security. Any OS related upgrades can be done with no requirement of hardware upgrade for the life of the ATM, hence, saving huge capital costs.

1/4th number of components

Results in minimal maintenance, effective servicing, better spare part management that translates into lower maintenance cost.

Works without Air-Conditioning
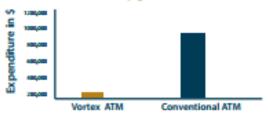
Ecoteller®ATMs use a 3rd of the battery capacity and solar panel size.
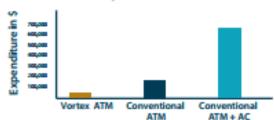
Only 60 Watts of power consumpion

Ecoteller ATMs have the lowest TCO and higher ROI in comparison with that of conventional ATMs.
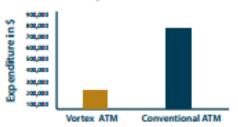
Cost of Software Upgrade

Cost of Electricity

Cost of Battery

*Above working is based on an ATM fleet of 1000 numbers over its lifetime.

ECOTELLER® ATMS – LATEST DEVELOPMENTS

ATM Access & Hygiene

Certified Disinfecting Solution to protect the user from any contact to bacteria / virus

E-Receipts

Enabling minimum contact with ATM / external environment by using E-receipts instead of Print Receipts

Disinfection of Bank Notes

UVC Light disinfection of bank notes as it passes out of the Cash Dispenser Cassettes. (Under evaluation)

Enabling Touchless Transactions

Enabling minimum contact with ATM / external environment by using Contactless Cards and Cardless Transactions in ATM

SAFE TOUCH ATM
No Virus No Bacteria No Microbes

UV-C

Milestones & Industry Firsts

Gramateller Indi, world's 1st Linux based ATM with low power consumption - less than 50W

Ecoteller® 4 Cassette ATM

Ecoteller® Mini ATM & TTW ATM.

Perfo®

A Multivendor ATM Management and Monitoring software.

6000+ ATM Installations

2009

2015

2017

2008

2013

2016

2018

Gramateller Duo: 2 Cassette ATM

Global reach in Africa & Asia

New state of the art manufacturing facility setup at Chennai, India.

ECOTELLER® ATMS – LINUX AND LOWEST POWER CONSUMPTION ATMS

Customer Interface

- 10"/15" Vandal Proof Display
- Privacy filter
- SAW Touch screen
- 8 FDKs
- EPP – PCI 3.0/5.0
- DIP/Motorized / Contactless Card readers
- QR Reader
- Finger Print reader
- Speaker & Audio Jack (with Voice Guidance)
- Lead through indicators / Braille stickers
- Receipt printer

ATM Security

- PA-DSS 3.2
- Vortex Terminal Security Solution
- Anti Skimming Device
- Temperature and Vibration sensors
- Intelligent Portrait camera
- Cash slot camera
- Digital Video Surveillance System (DVSS) with software & 500 GB HDD

OS & Processors

- Linux – Debian 10 OS
- SWAVE Terminal Application
- EMV Level 2 certified
- 1.6 Ghz Dual core/ i3 Dual core processor
- 2 GB/4 GB/8 GB RAM
- Primary HDD – 500 GB

Operating Conditions

- Input : 230 V / 50 Hz
- Supports TCP / IP Protocol
- Connects through VSAT, LAN, Leased line / GSM Temperature range – 5 Deg C – 45 Deg C
- Humidity 10% - 90% RH

Other Features

- Journal Printer
- Electronic Journal
- Dual combination locks – Electronic / Mechanical
- OTC lock

Linux OS
70 Watts Power consumption

Customer Reference

S.No	Customer Name	country
1	Raw Bank	DR Congo
2	Mutual trust bank	Bangladesh
3	Sarvatra Technologies pvt ltd	India
4	Garima Bikas Bank	Nepal
5	Sun Rise Bank	Nepal
6	Global IME	Nepal
7	Selcom	Tanzania
8	Exim Bank	Tanzania/Djibouti
9	Electronic Payment Solution	India
10	Karur vysa bank	Ind
11	UCO bank	India
12	Nigeria – just sold 120 ATMs	Nigeria
13	Ecobank (Nedbank partner – busy with RFP)	

Key Differentiators from Competitor

- Software License is perpetual. Competitors may only offer term licenses.-DR software license is free of cost.

- Competitor products will additionally cost you database server licenses and application server licenses which straightaway gives at least 30K USD savings on the Total Cost of Ownership

- Competitors may charge at least 50% of license fee for DR where as Vortex don't charge for DR

- The license cost includes all dependent software licenses.

- Unlimited user logins supported. Competitor products may restrict the number of user logins and may charge you extra for additional user logins.

SA PARTNERS
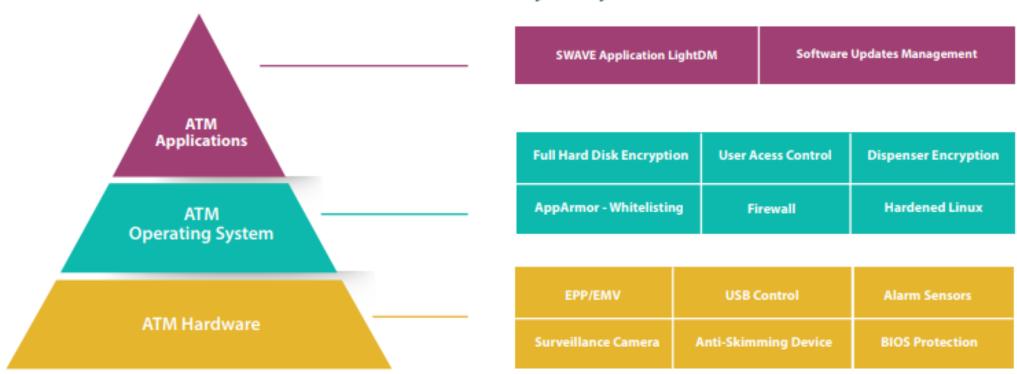
- Altron Group (Bytes)
  - Partner Agreement in place for additional Sales and After Sale support in South Africa and Sub Saharan Africa

- TCM Technology Corporate Management
  - With 61 offices throughout SA, TCM has the manpower to support with Preventative Maintenance on both ATMs and SSTs

- eZaga powered by GROBANK
- Ubank POC closing end May 2021
- FNB busy with RFP process
- ABSA under review
- SBSA under review

ECOTELLER® ATMS – TERMINAL SECURITY SOLUTIONS

Vortex has developed a complete Terminal Security Solution (TSS) portfolio for the Ecoteller® range of products, which offer Intrusion protection, Data protection, Access protection and Physical protection.

Vortex ATM Security subsystems

ATM Applications	
SWAVE Application LightDM	Software Updates Management

ATM Operating System		
Full Hard Disk Encryption	User Acess Control	Dispenser Encryption
AppArmor - Whitelisting	Firewall	Hardened Linux

ATM Hardware		
EPP/EMV	USB Control	Alarm Sensors
Surveillance Camera	Anti-Skimming Device	BIOS Protection

PERFO® A COMPLETE FINANCIAL SELF SERVICE TERMINAL MANAGEMENT AND MONITORING

Perfo® – All in one, well integrated solution

vortex™
Helping banks reach out

Optimize Cash Management and don't let your ATMs dry up.

Secure your ATM fleet through Asset and Software version control.

Improve uptime by 20% with Availability Monitoring. Eliminate unwanted downtime.

Monitor performance KPIs in real time with Business Analytics

Go paperless with Digital Journal Record Archives. Ensure regulatory compliance.

Empower the branch , vendors and service providers with Incident Management notifications and escalations.

Live Monitoring - Trend Dashboard
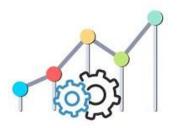
Live Monitoring - Dashboard

ENABLING PEOPLE & PROCESSES   **FOR EFFICIENCY & EFFECTIVENESS**

Successfully monitoring 6000+ ATM terminals reporting beyond 99% availability.

Perfo® – An Exceptional Management Software for Self-Service Channel Management

- **Complete rounded solution** for self-service channel management.

- **Suitable for Banks, Independent ATM Deployers, ATM Managed Service Providers** and other **Financial Institutions**.

- **Multi-Vendor** Enterprise Solution – Can manage **all brands of ATMs, Recyclers, Acceptors and Kiosks.**

- Monitors self-service devices using CEN-XFS standard.

- Accepts **multiple data** feeds - **Supports EFT Switch based monitoring** also.

- PCI DSS Validated - User access control, encrypted data store, TLS/SSL communication, periodic vulnerability assessments.

- Integrated Analytics for Operations and Business Teams.

- Masterly crafted over an open source technology platform.

GAIN FULL VISIBILITY & CONTROL AT THE INDUSTRY'S LOWEST TCO

Perfo® – Product Unique Value Proposition

Perfo

A multi-vendor ATM management and monitoring system

Integrated
End to End Solution
- Complete rounded solution for ATM Self Service Management
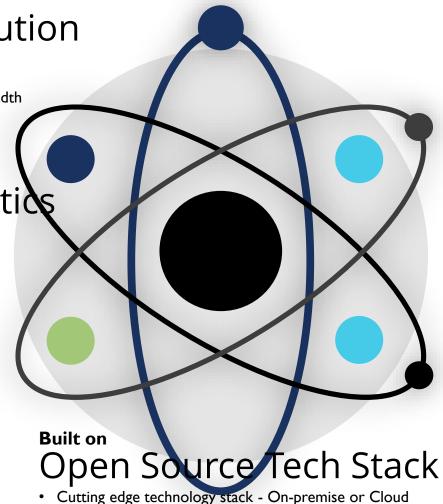- Modular Architecture, Product Breadth
- PCI – DSS Certified

Progress with
Business Analytics
- Dashboards and Charts for Operations and Business Teams

Track
SLA and TAT
- Improves Uptime and Availability
- Measure vendor performance

Multi-vendor
Enterprise Solutio
- Works on ATMs, Recyclers, Acceptors and Kiosks
- Works with any EFT Switch
- Can take feeds from any EFT Switch

Measure
Performance
- Granular reports of fleet performance
- Root cause analysis

On the go access through
Mobile Apps
- Mobile Notifications / reminders
- Works on Mobile, Tablets and Desktops

Built on
Open Source Tech Stack
- Cutting edge technology stack - On-premise or Cloud
- Most Intuitive User Interface
- Lowest TCO

Perfo® – Benefits of a complete financial self service terminal management and monitoring solution

1

Enables Central Bank Regulatory Compliance related to:
- **TAT on Customer Grievance Redressal:** Our single touch dispute resolution & online EJ viewer capability makes this possible. This also enhances customer satisfaction.
- **Secure Archival:** Archives sensitive transaction journal records in a central repository. Enables lookup in historical transactions.
- **Software Version Control:** Tracking & delivery of latest supported versions of software and patches in ATMs.
- **Security Alerts:** Instant alert on ATM vibration / safe door opening / skimmer detection etc. through Mobile App notification.

2

Facilitates Increase in ATM Transaction Volumes (~ 10%)
& Increase in Customer Satisfaction through:
- **Real-time Monitoring:** Mobile App based instant alerts, reminders & notifications to initiate actions to fast-track resolution before transactions are lost.
- **Vendor SLA Management:** Automated ticket assignment and dispatch to vendors & tracking their service levels.
- **Fleet Performance Management:** Business Metrics and Performance Analytics across the network.

3

Better Return on Investment and Staff Empowerment
- **Empower Branch Managers:** Enables real-time collaboration between branch operation staff and vendors through Mobile App.
- **Cost Efficiency:** Delivers lowest Total Cost of Ownership through open source patronage.

BENEFITS CLEARLY OUTWEIGH THE RISKS AND DOWNSIDES

COMMUNICATIONS

Email: sales@tyitech.co.za

Mr. Anselem mobile : +27 082 903 2571

Dr. George mobile: +27 082 331 4228

BUSINESS DETAILS

Name: TYITECHNOLOGIES PTY LTD

REG: 101891808037

THANK YOU

TYTECHNOLOGIES PTY LTD