

## Closer to Nature, Greener to Planet !!!

Consumerism is changing and efficiency in customization is the key. Today's fast growing and changing technology offers consumer with variety of products with number of features where most of the features goes unused. Reasons may be many for the features being unused and **one among the top most important factor is the global players' ignorance towards regional requirements.**

Many companies focuses on adding the features to make it more attractive for making more money for today's revenue and forget its future impact on our planet. Designing a product for a global market may benefit companies in scale of economies however it becomes a challenge for them to invest in developing products for regional and emerging market requirements. **The global product may give the experience of advanced technologies, however they often fail the responsibility they have over the environment and planet we are living today.**

The same scenario persists in the financial self-service industry as well. Let us look at the design and usage of ATMs. The ATMs deployed earlier were multifunctional machines with cash dispense, cheque and envelop deposit capabilities, well suited for countries having sufficient and uninterrupted electricity. After few years of introduction of such multifunctional ATMs in India the functions set for cheque or envelop deposit were trimmed from the standard of ATMs in India. After that even though the ATMs became smaller in size, their energy consumption did not come down much. A conventional ATM consumes around 200Watts to 500Watts and the total power required along with UPS and A/C would be above 1000Watts. **This 1000Watts power may not be available for ATM deployments in rural/ semi urban areas for 24x7 operations.**

In addition to the above mentioned challenges of un-interrupted power supply, electricity cost there are other challenges in ATM operations, pertaining to its recurring expenditures for cash loading resource, electricity/ backup power, building & VSAT rental associated with running an ATM. **A low power consuming ATM which can work without A/Cs can help in running longer hours, with lesser electricity costs and backup power requirements.**

Looking back in the history of inventions, ATM was invented in 1960s by British national Shepherd-Barron for a company DeLaRu Instruments and installed for Barclays Bank in 1967. Air Conditioner was invented by American Willis Carrier in 19<sup>th</sup> Century using the principle devised by Michael Faraday. Chinese are using paper currency as early as 7<sup>th</sup> century. There is an interesting contradiction, earlier days humans were counting paper currency using only 2Watts energy without ATM and A/C whereas today it takes around 1000Watts involving multifunctional ATMs and A/Cs installed for the ATMs

**Solutions for many modern day problems can be sourced from nature itself, we need to identify those.** While counting, humans hold currency bunch in one hand and shifts the currency one by one from one hand to the other hand. In this currency counting process both hands operates simultaneously very close to each other to shift the currency to the required destination. Where as in conventional ATMs currency is loaded in cassettes and each currency is moved using conveyor belts for a long distance before getting presented to the customer. Thus a huge complex mechanism is involved in the journey of the currency from cassette to the hands of the customer through the conveyor belts. With inspiration from nature along with significant effort in research, VORTEX ENGINEERING developed a new technology called **DYNABUNCH** for its Cash Dispensing Machine (CDM) based on the "*Counting by Two Hands Mechanism*". This most efficient way also enabled to dispense currency even in hot, humid environment without A/C.

Conventional ATMs use computing hardware and software operating systems without consideration for performance vs power consumption, whereas VORTEX ENGINEERING innovated an optimal solution by developing the world's first "**Lowest Power Consuming and Linux based ATM**".

Thus by the first of its kind innovative technology VORTEX ENGINEERING became the pioneer and leader in energy efficient ATMs that can work with an average power of 60Watts which can even be sourced from solar panels on interest.

Few other ATM vendors are now installing ATMs without AC due to market pressure, this can result in degradation of ATM parts which were originally designed for controlled environment, due to their higher power rating.

There are also ATM vendors recently following the path of Vortex low power ATMs. These ATMs still uses legacy dispenser technology and software systems with addition of an internal battery to supply power for peak requirements during transaction, however these would consume extra power during idle time to charge battery. Vortex's efforts has created industry awareness and has made other ATM manufacturers to consider solutions for regional/ emerging market needs. Thus Vortex leads the industry as a pioneer through its innovation.

Banks and White label ATM operators are making smart decisions to control their bottom line performance and to protect operating margins. VORTEX ENGINEERING has been helping their customers with technological innovations to substantially bring down their Operational Expenses (OPEX) spent on ATMs after deploying.

## Conventional ATM Vs Vortex Innovative ATM

	Conventional ATM set up ATM + Air Conditioner	Vortex ATM set up (AC not required)	Savings
Average Power Requirement (in Watts)	750	50	<b>93% Savings</b> on Power Consumption and Electricity Cost. (At Rs 7/ Unit)
Monthly Electricity Requirement in KWh	540	36	
Yearly Cost of Power for Single ATM (in INR)	45,360	3,024	
Yearly Cost on Power for 1000 ATMs (INR in Lakhs)	454	30	<b>15 Times Lesser CO2 Emission:</b> Hence Most Eco friendly ATM (CO2 Emission 0.97Kg / KWh)
Annual Energy requirement in KWh for 1000 ATMs	64,80,000	4,32,000	
Yearly CO2 Emission in Metric Tons for powering 1000 ATMs	6,273	418	

\* approx

### When comparing to other Conventional ATMs:

- ✓ Reduced power requirement of Vortex ATMs brings down the UPS capacity requirements.
- ✓ Vortex ATMs does not require any Air Conditioner support.
- ✓ CO<sub>2</sub> Emission is 15 times lesser than other conventional ATMs

Hence the actual savings with Vortex ATMs would be several-fold. In addition to all these power saving and money savings:

**Vortex is proud to help the planet by pioneering in giving the world's most eco-friendly ATM without compromising on efficiency.**