

# Bridging the Energy Gap

## Consul Consolidated Pvt. Ltd.

**I**ndia is a power deficient country. Not only is there a shortage of power supply as compared to demand, the quality of power is also poor. There are certain parts of the country that do not have access to any power. The state of affair affects both residential consumers as well as industrial and commercial facilities. Considering the challenges of poor power supply, there is a burgeoning market for specialized products to feed the gaping demand.

Consul is one of the leading Indian companies involved in manufacturing and supplying of a full range of power conditioning & power back-up products, services and solutions. Consul solutions and products are backed with more than 3 decades of field experience in developing customized power products that meet the exacting standards of clients in supporting critical and sensitive equipment in various industrial and commercial applications. Consul also assists customers optimize their power protection & energy consumption through tailor-made products & solutions.

The company is well recognized and respected for the products that it offers and is a preferred partner for many OEM's in India like Ace Micromatic for its CNC machines and Wipro GE Healthcare, Philips Healthcare, Siemens Healthcare among others for their health care products. There are other prestigious ones like LMW, Hitachi, Blue Star, Mazak, Fortis, JIPMER, Apollo Hospitals, DRDO, ISRO, Ford, Hyundai, Kotak Mahindra Bank, HDFC Bank, Toshiba. Today, Consul is the No.2 Power Electric Company in India.

*We had the opportunity to interact with the CEO of Consul, Sriram Ramakrishnan who is enthusiastic*

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Sriram Ramakrishnan, CEO

*about the future of the company with 250,000 successful installations in across India and abroad.*

**The dire condition of the Indian Power sector must be a huge driver for your inverter business especially for industrial use in small and medium businesses. Power is an important overhead in business operating cost. How lucrative is the segment? How are large inverters cost effective for business? Which fuel do these inverters use?**

Power or electricity is today the life blood of modern industry and commerce as it powers machinery and equipment used directly in manufacturing of products and enables the delivery of services. Businesses as varied as Retail, Banking, Manufacturing, Hospitals to Restaurants all need reliable power for their operations. In such a scenario it is a challenge for the industries and service businesses to run uninterrupted operations when faced with uncertain power supply as prevalent in many

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parts of the country. Businesses are increasingly looking at having a power back up option to ensure uninterrupted operations.

In the last few years large inverters have come up as a viable and cost effective option for businesses instead of diesel genset especially where the total or critical load is less than 100kW. The option of DG sets is not a smart idea as cost of diesel is rising and the cost per unit of electricity generated through a DG set is around Rs 20-25 per unit.

Inverters provide backup power during a power failure using the energy stored in the batteries. The batteries can be charged from the electricity mains when the power is available and in areas where the power cuts are more than 10 hrs, then charging of the batteries can be done using Solar PV panels. Large Inverters with batteries to provide 4-6 hours backup will occupy less or the same space compared to a similar sized DG Set. But an inverter and batteries can be accommodated in any available indoor or outdoor space and does not require the various permits and approvals required to operate a DG Set. Further Inverters are a clean source of power backup as it does not have the noise or pollution associated with DG Sets and

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The critical factor for solar power pack performance is to correctly match solar panel, battery & PCU and Consul's R&D team has done extensive research to put together the best combination of panel, battery & PCU to deliver maximum energy.

does not require storage of highly inflammable fuel in the premises.

Large inverters provide three phase battery based back-up power for power capacities as large as even 200kVA. They can be used to not only provide back-up power for lighting and fans but also support air conditioners, lifts, refrigerators and other critical loads in application ranging from retail shops, restaurants, hotels, hospitals, industries, telecom to commercial office space and even residential buildings. Large inverters or "Off line un-interruptible power supplies" manufactured by Consul can provide reliable power back-up solution for power outages ranging from minutes to several hours.

ELOS is a unique power back up product developed for lifts and elevators. We are seeing considerable interest for ELOS for back up of both residential and commercial complexes as it has a huge advantage over the traditional DG set used to run lifts during power cuts.

battery management system that ensures that we can extract the maximum power from solar panels even during cloudy days.

Consul solar power packs are off the shelf solar products that eliminate the time and resource intensive activity of sizing the solar power system. The critical factor for solar power pack performance is to correctly match solar panel, battery & PCU and Consul's R&D team has done extensive research to put together the best combination of panel, battery & PCU to deliver maximum energy.

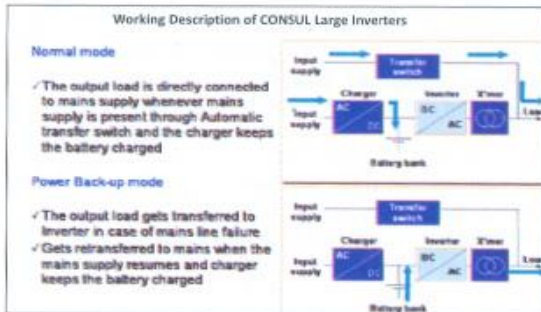
Consul solar power packs are therefore a smart hassle free way of leveraging solar power.

**Emergency Lift Operating System is a definite must-have in housing societies these days. How strong is the demand for this product? How affordable is it?**

### CONSUL Solar Power Packs

Consul solar power packs are the ideal solution for small, medium business and home owners looking at using solar power to provide backup power for their houses and offices.

ELOS is a unique power back up product developed for lifts and elevators. We are seeing considerable interest for ELOS for back up of both residential and commercial complexes as it has a huge advantage over the traditional DG set used to run lifts during power cuts. In addition to the lift the ELOS can also be used to provide power back up for during power cuts for lighting in common areas like staircase, parking areas also security systems.



**You are planning to launch Solar Power Packs for consumers. Tell us something about the technology. Why should retail customers choose Solar Power Packs?**

Solar is a viable alternate source to bridge the deficit between power generation and demand considering that most parts of the country get up to 300 days of sunshine. Consul, one of India's leading Solar power manufacturer offers a wide range of solar power products like Solar PCU's, Solar MPPT (Maximum Power Point Tracking) Charge controllers, off-grid and on-grid solar systems that cater primarily to institutions and business customers.

Consul has now launched solar power packs in the range between 500Wp to 10KWp offering 2 to 4 hours of back up. Consul solar power packs come built-in with MPPT chargers based with superior algorithm and intelligent



Over the last 2 years ELOS has been used to provide power back up for lifts and elevators in over 5000 buildings in Mumbai and Pune, with the highlight being a 55 floor building where ELOS has been installed. We are now rolling out ELOS to markets in South and North India. This is a very unique and novel power back up concept in vertical transport system (Elevators & Escalators) and ranges from 6KVA to 150 KVA. A 100 KVA ELOS can service 14 Elevators at the same time.

### How it works

|            | Electricity Status | Power to Load             | Battery Charging          |
|------------|--------------------|---------------------------|---------------------------|
| Day Time   | Electricity On     | Solar Panel + Electricity | Solar Panel + Electricity |
|            | Electricity OFF    | Solar Panel + Battery     | Solar Panel               |
| Night Time | Electricity On     | Electricity               | Electricity               |
|            | Electricity OFF    | Battery                   | Solar Panel               |



The demand for energy in India has increased every year over the past 30 years due to economic rise, as a result of which, today, there is 10-15% gap between power generation and demand.

The capital investment is the same or less than a DG set, but the running cost of a DG set within years will be higher than the total cost of ELOS.



Consul has been providing power backup, power conditioning, power conservation and solar power products to customers over the last 30 years and has over 250,000 installations. We are preferred partner for a number of OEM's in sectors like healthcare, CNC machines etc.

in supporting critical and sensitive equipment in various industrial and commercial applications. Consul also assists customers to optimize their power protection & energy consumption through tailor-made products & solutions based on our intimate understanding of the Indian power landscape. Consul has also been exporting products to a number of countries in Asia and Africa that have power conditions similar to India.

#### What is your outlook on the Indian power sector?

The demand for energy in India has increased every year over the past 30 years due to economic rise, as a result of which, today, there is 10-15% gap between power generation and demand. This coupled with ageing transmission and distribution (T&D) systems means that even when power is available, the quality of power is poor. Many parts of the country witness chronic low voltages apart from scheduled and unscheduled power cuts. In such circumstances, Power backup and power conditioning products play a critical role in ensuring uninterrupted operations of business and also to ensure minimal loss of revenues due to power cuts and disturbances in both manufacturing and service industries. Renewable energy such as solar and wind can also play a significant role in the future. The renewable energy systems can be installed in a much faster time frame compared to conventional thermal power plants and also in smaller capacities and can partially help bridge the power supply demand gap.

#### Can you share few success stories of companies who have benefited by using your products?

Consul has been providing power backup, power conditioning, power conservation and solar power products to customers over the last 30 years and has over 250,000 installations. We are preferred partner for a number of OEM's in sectors like healthcare, CNC machines etc. Today over 80% of the hospitals in India have a Consul product. Almost all public and private sector banks in India are customers of Consul. Many Hotels in India like Hyatt Regency, Mumbai use our central inverters for emergency lighting applications. Here we worked with the Hyatt Management to replace multiple small inverters with 125KVA & 60KVA Centralized Inverter Systems. This helped them to provide uninterrupted lighting to the facility and also ensured easy management and serviceability. We are also proud to have supported the UP Jal Nigam in ensuring uninterrupted water supply for the pilgrims visiting the Kumbh mela 2013 (the largest single gathering of people in the world over a period of 45 days), by providing stabilizers for the borewell pumps.

#### Are you catering to the domestic market or also looking at exports?

Consul solutions and products are backed with more than 3 decades of field experience in developing customized power products that meet the exacting standards of clients

#### Sriram Ramakrishnan

CEO, Consul Consolidated Pvt. Ltd.

Sriram Ramakrishnan is currently CEO at Consul Consolidated Pvt. Ltd. He has a proven track record of establishing and growing business in both India and US. A unique blend of a successful business leader and a technology ace Sriram has four US and European Patents in Power Electronics and Magnetic's to his credit. Sriram is an electrical engineer from PSG College of Technology, with a Masters in Power Electronics from the University of Florida, this is backed with an MBA from Duke's Fuqua School of Business. He also has extensive global experience in management, business development, marketing and engineering within the power conditioning and power back-up space at GE and Eaton.