

Power Solutions **TAILOR MADE**



In this competitive market, where every company is vying for a greater share, many are indulging in services like customised solutions, which are not only profitable but also a good brand building strategy

■ Srabani Sen

The very existence of any business stands upon the bedrock of customer satisfaction. Customers are no longer satisfied with a stable product and a competitive price only. They look for value addition while handpicking a product and expect it to be more efficient than expected. In this competitive market, where every company is vying for a greater share of the market, customer satisfaction and developing a loyal customer base are what count the most. Companies are, therefore, going in for customised solutions, which are not only profitable but also a good brand building strategy.

Need for customisation

Operation of critical plants and machines is reliant on redundant power supply. The aim of customised solutions is, therefore, to create a bespoke solution to enhance the benefits customers can achieve by adopting a tailor made approach to the management of their power solution systems. “Solutions that are made to suit every budget, every application and varied power demands make ideal customised solutions. These solutions are highly configurable to meet the varied and challenging

demands of customers. From sizing and selection of power supply to balancing reliability, efficiency and budget—all these criteria play a crucial role in forming the best customised solution,” opines Vikas Owdhbal, business manager (UPS), Delta Energy Systems.

According to Vinayak Joshi, additional general manager, marketing, D B Power Electronics, customised power solutions are required in several conditions. “It is required for the equipment designed for countries using different voltages and frequencies than us. When these equipment are imported in India they need to be modified. Sometimes, power supply is redesigned or rearranged to deliver proper solutions for a particular load behaviour.”

Power requirements for every sector and application vary depending on the load, size of application, backup time, redundancy and efficiency of the UPS battery. For example, as the IT industry’s demand for data storage grows significantly each year, so does the need for amount of energy required to run servers and data centres. A more energy efficient UPS solution helps data centres to achieve a high level of energy



The cost of the project depends on the criticality of operations, unique specifications and the time involved

Vinayak Joshi, additional general manager, marketing, D B Power Electronics

efficiency without sacrificing high power capacity or reliability, reducing the overall operational and cooling energy costs.

According to industry analysts, the key differentiators of each vertical have to be factored in. For instance, industrial and office applications differ from each other. High end enterprise segments opt for three phase UPS with optimum load performance and battery management systems, whereas Internet data centres prefer redundant UPS that enable online maintenance and repair without impacting the processing operation. With space becoming a premium, especially in sectors like BPO, firms also offer small form factor UPS in tower models.

“During this period of slowdown, CAPAX and OPEX have become critical. Facility managers are under tremendous pressure to reduce both. All sectors, be it IT, industries, government or telecom, are striving hard to control CAPAX and OPEX and, thus, are looking for complete customised solutions as per their requirements and setups,” explains Owdhbal.

“We proffer solutions that can be customised to serve the interests of clients—small or large enterprises, from diverse industries. These customers operate from unique conditions of terrain, where using standard products is difficult, so they look for customisation of products congruous with their requirements,” says N K Verma, chairman, Parker Power.

In case of power failure, standard UPS solutions ensure continuity of power supply for a

timespan ranging from 30 minutes to a maximum of 2 hours, whereas most industries need 8-10 hours of power backup for different operations. As per customer requirements, adjustments are made to enhance the performance and functional range of standard UPS and inverter systems.

“Sometimes, clients have specific requirements that cannot be served with standard solutions. Their requirements are highly specific to their business and are unique in nature. Such requirements need special inputs and custom solution development. We customise our existing solutions or even create new ones, if need be,” points out Ankesh Kumar, senior product manager, small and micro UPS, Emerson Network Power India.

These types of customisation demands come from the industry or the manufacturing segment, where requirements call for changes in the behaviour of the UPS and inverter. “Of course, if the customer requires too much of customisation in one standard product, it is not possible for us to do so. We first try to find out the requirement and then look for solutions. Usually, when a standard product cannot meet the requirements of a customer, we do customisation and sometimes even change the design and technology. Often, we introduce the altered version as a new product in the market,” adds Kumar.

Every economical location of installations, particularly industrial installations, has its own difficulties as power availability of that area may be below adequate. Sometimes, when power is



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Vivek Jain, director, marketing, Microtek International

available, the load is inadequate. Some equipment need nonstop power supply and others redundant power supply. Such situations are critical as backup power supply should immediately take over standard power supply.

Customisation of power solutions are particularly required in industries that install systems or establish operations in rural areas, where the power situation is quite uncertain. As R Chellappan, managing director, Numeric Power Systems Ltd, puts it, "When standard products do not address all the power requirements in rural areas, we do customisation of systems to make them work at very low input voltages. We provide solutions to suit customers based on local power conditions of their territory. We look into earthling quality, neutral quality and backup generator capability, which facilitate total power conditioning solutions. While doing so, wherever possible, we add solar power backup to ensure the customer is provided with additional power backup," adds Chellappan.

Microtek International also creates customised power solutions according to different requirements. "Depending on the specific needs of customers, in terms of output power and redundancy, a tailor made solution is engineered. Sometimes, a customer with a diesel generator may just need a backup of 15 minutes. Normally, an 850 volt ampere (VA) inverter is sold with a battery of 150 ampere hour (AH). This means a charging current of around 10 ampere (A) is required. However, the customer may use an 80 AH battery to reduce cost. Here, the system needs to be customised and the charging current is reduced to around 7A," expounds Vivek Jain, director, marketing, Microtek International.

What do brands offer

Enterprises offering customised solutions are often encountered with critical requirements of companies that are paying greater attention to the environment in which the application will run, leading to an increased demand for customised solutions. Sectors like IT, telecom, manufacturing and banking are a few which require high uptime and, therefore, demand uptime solutions.

Citing examples of the customisations conducted by Microtek, Jain illustrates, "Corporate customers having their own backup arrangement need a short backup time, so they use inverters with smaller batteries. However, since inverters come with default charging current suitable for bigger batteries, we have modified the charging

current to meet the customers' requirements." Microtek has also modified the design of its inverters of 48 volt (V) and 96 V to suit the requirements of railways, which require inverters with 110 V.

The next generation power solutions not only demand that crucial load requirements are met but also that they guarantee foolproof power conditioning and the desired uptime. Emerson, which has reorganised itself from a product company to one offering customised solutions to various industry verticals, provides a range of solutions. It has recently customised a system to meet such a 'next generation' requirement. It has installed a cooling system—emergency free cooling with the most efficient 48V direct current (DC) plug type fan to reduce the impact on site power consumption—for a telecom firm. "A cooling system is usually kept at a place where its compressor is exposed to extreme weather conditions. In the northern region, where the atmosphere is cool, the customer wanted some kind of energy saving strategies, challenging us to modify the system. Since the weather is cool, we suggested that the compressor of the cooling system be shut down, while the fans be put on. This is one remarkable solution we have provided," elaborates Kumar.

Emerson has also provided a solution to a gas pipeline project in Guwahati, where it installed a 5KVA UPS with 12 hours of parallel-to-parallel backup, for which a more powerful battery and a special charger was provided.

Customised power solutions are vital for growing companies and collocation operations, particularly in remote areas, where continuity of power supply is imperative. Numeric Power Systems had taken up a challenging project in the rural areas of Bihar and provided successful solutions to a company. "A printing press in a district of Bihar was facing power fluctuations. It was getting a voltage of only 90 V, whereas the printing system requires 230 V, but the power would fluctuate to 300 V. The company approached us for a solution. We provided additional voltage stabilisers and startup UPS, in addition to power quality management systems. We managed to improve the power condition to near cable condition and supply the power from there," informs Chellappan.

Numeric Power Systems has also provided customised solutions to the IT industry, of which, one of the "remarkable" ones was devised for Cisco, Bengaluru's centralised monitoring system for a set of UPS systems.



Companies study individual customer requirements to offer befitting solutions.

American Power Conversion India also offers customised UPS solutions conceived for IT, industrial, marine, medical, military, mobile and other applications. Its power backup capacities for UPS systems offer suitable solutions for various segments.

PCI, too, offers specialised UPS solutions that provide critical power protection from different power problems and ensure that power interruptions do not affect the productivity of business. Tailor made industrial UPS systems from the company easily withstand the high harmonics generated by a machine.

Parker Power studies individual customer requirements and criticality of downtime in order to offer befitting solutions. It has provided hybrid inverters, which work both on solar as well as electricity, to some of its customers in remote areas to ensure power continuity. "We also serve verticals like telecom for their various require-

ments of rectifiers and inverters in the operation of air conditioners, microwaves, lighting systems, etc. Similarly, as per the requirements of our customers, we have modified our batteries and inverters, to provide better backup. Our inverters come with four different charging options and customers can use them as per their individual power conditions," states Verma.

D B Power, which specialises in customised solutions, has undertaken major projects in varied industries. "We had designed a technology and successfully installed a first of its kind grid tie inverter for a solar photovoltaic plant. This was for 100 KW rating. The DC power was collected by the solar PV, converted to AC power and was then fed to the power grid, using grid synchronisation techniques," narrates Joshi

D B Power has also rendered a tailor made solution to a diesel generator (DG) set manufacturer, who was looking for an energy saving solution for DG set testing. "We provided him a grid interactive UPS, where the grid acted as a load for the DG set. The power generated during the testing process was fed into the grid," adds Joshi.

Delta is another company which specialises in providing customised solutions by understanding the needs and requirements of customers. "We provide customised outdoor cabinet (complying with IP 43 protection class) solutions to our telecom customers, wherein we incorporate the cooling system, UPS, transformer and batteries into the cabinet. We have also provided solutions for industrial applications, wherein we have provided UPS systems with varied output voltages (110 V/208 V) and frequencies (60 Hz/400 Hz) as per customer requirements," states Owdhbal.

Powernet Solutions is no exception. Among several solutions provided over the years, a noteworthy is the one provided to a data centre where multiple servers were located. The data centre required the support of a UPS, which will function nonstop. A backup configuration with modular UPS and multiple redundancy was configured to suit the requirement. Another example is a solution provided for an electromedical device (scanner), which was oversensitive to the switching frequency of the UPS and the electrical noise was reflected in the scanner. "As a solution to this problem, a UPS suitable for this equipment was designed to neutralise the effect of this electrical noise," informs S Sumanth Kumar, director, Powernet Solutions.

All these solutions, as claimed by the brands,

are fully scalable and can also be applied in larger plants. Many applications call for UPS systems and batteries that come with explosion protection standards. This is especially the case in the oil and gas industries, chemical and pharmaceutical process technology applications and food production plants. While standard UPS are inadequate for such tasks, only custom made solutions can take care of these applications.

Usually, power solution companies that provide customised solutions have numerous readymade solutions at their fingertips, which they combine and make suitable for different verticals as per different requirements and specifications. However, if there is a demand for voltage or frequency change, then the design or technology is also altered.

These companies also provide consultation services throughout the implementation and operational phases, which include project planning, delivery and commissioning as well as maintenance.

Customisation comes at a price

Customised solutions are no doubt a lucrative business, but perceptions vary from company to company as for some no service is free of cost while for others it is an effort worth making to achieve customer satisfaction.

“We do charge for such specialised solutions, which not only comprises the cost of raw materials but also of productive manhours put in. A considerable amount of system testing is also done and this calls for time and effort,” explains Kumar.

According to Joshi, “The cost of the project depends on the criticality of operations, unique

Verticals that require customised solutions

- Telecom
- IT
- Textile
- Packaging
- Defence
- Banks (for their installations in rural areas)
- Oil & gas
- Power & energy
- Petrochemicals & hydrocarbon
- Cement
- Sugar & cogen
- Nuclear power plants
- Thermal power stations
- Heavy industries
- Manufacturing
- Continuous processing plants
- Robotics & automation
- Automobile
- Steel & aluminium
- Food processing
- Medical diagnostic & hospitals
- Data centres & BPOs
- IT & ITEs
- Communication
- Retail outlets & malls
- Transportation & logistics

specifications, the time involved and the design efforts put in. However, we cannot charge more as most of the time these solutions are required for cost cutting exercise of the customer.”

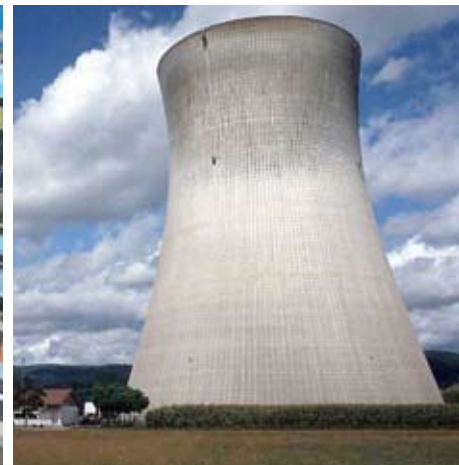
“We propose our solution and commercial offer after studying the requirement and the price is quoted for the entire solution,” says Owdhbal.

However, companies like Microtek and Parker Power render such services free of any extra cost. Says Jain, “We do not charge extra if there are no major changes in design, components or parts. We offer customised solutions because they give value for money to the customers and construct a strong customer base for us.”

According to Verma, “A satisfied customer is the key to success. By giving that much extra to a client helps to convert him into a loyal customer. It also helps in building the brand’s image. We only charge for the raw material used in customisation.”

Bouquets and brickbats

Any challenge comes with its own bouquets and brickbats—is the consensus among power solution brands. “We perceive customisation as a challenge. While doing customisation and value addition, we modify our standard products and these products with unique features get added to our product range. We then chart out a long term business plan for the new products. It gives us new directions; we come to know the requirements of the market. Working extra for just one customer is not feasible but if we introduce the new products in the market with a business plan, then we can recover the cost,” remarks Kumar.



Verticals that require customised solutions: (L to R) Power and energy, IT, nuclear power plants, healthcare and transportations.

Owdhbal feels that the expertise, depth of knowledge and commitment involved in providing tailor made solutions give a company an edge over competitors.

Jain, however, sees customised solutions as a step towards customer delight and building one's confidence in the brand. "It boosts the product and is a way to find special deals. It basically provides another dimension to our marketing strategy." However, at times, the additional time and effort that go into such services are not commercially viable, according to him.

"Customisation helps to expand our market potential in other sectors. Providing these solutions also help in expanding our own product range and our customer base," adds Sumanth Kumar.

"To aim high, one must accept some of the risks that go with learning something new," was the opinion of some players. "Providing tailor made solutions to customers not only bolsters our confidence but is also a learning process for our R&D team. The more challenges they take up, the more they come out with flying colours," states Verma. Except for the amount of time required to generate a successful solution, Verma does not see any other disadvantage in the customisation process. "In fact, the time we invest in these projects will bring long term positive results for the company," he adds.

An industry insider who also provides customised solutions begs to differ. "If we consider the profitability issue, then providing customised solutions always leads to loss—loss of resources, time and manpower. You cannot multiply the solution as it is specific to certain requirements. The whole process needs to be repeated for every customer—from beginning to end. Customised

solutions are good for business but are not as profitable and easy as the business of standard products," he opines.

Failure and success are both good for business, feels Kumar. "There's always the risk of failure attached to such projects, although Emerson engages in a lot of research work and market study before giving any solution to a customer," says he.

Another impediment faced by some of the players is that sometimes customers do not need customised solutions at all; their requirements can be taken care of by any standard product. Yet, they insist on receiving tailor made solutions. "This naturally increases the cost factor and when we approach customers with the hike in cost, they sometimes back out. However, these cases are few and far between and cannot be used to pass a verdict on the perils of customisation. Customisation demands do not come from small players. They usually come from the big players, making these disadvantages insignificant," says Kumar.

Despite all the hardships and risks involved, companies still go in for customised solutions because that's the need of the market today. Moreover, these solutions give an edge to these companies over others in this age of competition. "To grow and surge ahead, companies need to keep pace with the changing world and do something out of the box which is not a run-of-the-mill job," concludes Owdhbal. Also, as the market is a little difficult today, brands find it profitable to offer tailor made solutions to its customers and are also happy with their decision because these solutions indirectly contribute to power conservation and help in utilising resources, reducing wastage. ■



We customise systems to make them work at very low input voltages in rural areas

R Chellappan, managing director, Numeric Power Systems Ltd



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