Manufacturing energy storage united arab emirates

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In 2015, Kilowatt Labs was established in the United States of America, creating a storm in the power electronics market with the registration of a patent that would change the world of energy storage for the near future. Sirius Energy Storage is a super battery if you like, using graphene based supercap technology. It is able to charge in seconds, have a prolonged life for almost 45 years without degradation and work in extreme temperatures to share just a few of its unique features.

In 2019 Founder, Inventor and Group CEO, Waseem Ashraf Qureshi then went on to build the largest Supercap Module Manufacturing facility in the world under the name of Infusion Power Industries LLC, right in the middle of Dubai"s manufacturing hub Dubai Industrial City (DIC). Many asked the question, why in the UAE. "Well, it"s simple really, this region is the future of renewable energy technology and the UAE has the best to offer any manufacturer in the region, and we are proud to be a part of this euphoria," says Qureshi.

For those who don"t know what Supercap Modules are, well they are simply a replacement of your standard battery. "However, we don"t call them batteries, as the definition of a battery is one or more cells used to convert chemical energy into electricity," says Qureshi. "We don"t use chemicals, our storage is 100 per cent chemical free, however we can store energy for longer. Sirius Supercap has a 45-year product life and charges extremely quickly. In fact our EV battery can charge in less than 5 minutes, we operate in extreme temperatures -35 degrees Celsius to +85 degrees Celsius, are non-detrimental to the environment and deliver almost all the energy stored without wastage."

The group of companies is basically divided into 4 main divisions. Kilowatt Labs, based in the US holds the patent rights for Sirius Supercap and Centauri Energy Server, the two flagship products of the group, whilst Infusion Power is the manufacturing arm of the group, with its main facility spread across 6.7 acres of land in Dubai. Infusion Solar Energy Systems LLC is the Exclusive Global Stockist and Re Seller for the Group, currently operating in 45 countries around the world whilst PERCO is the Rental, Leasing, Pay as You Go and PPE arm of the entity.

The group has significantly evolved, in particular over the past year when it grew its footprint significantly. "It was a matter of time as both the industry and key players started to realise that this is the most advanced and cost-effective form of storing energy, whilst maintaining an essential balance to the environment," says Bilal Sheikh, Infusion"s Chief Operating Officer. "We have seen phenomenal growth with our partners and re-sellers capitalising on what is eventually going to take over from the conventional battery market," claims Sheikh.

Infusion, responsible for selling Sirius, the brand name given to its supercap energy storage device, has managed to clock up almost 20MWH of sales in the last 8 weeks, a 500 per cent jump in sales from this time

last year.

"Our Domestic Sirius Wall product (that interacts with Solar Systems seamlessly), the new OFS concept that allows our partners to integrate their solutions with our baseline supercap technology, and our EV Module and Charging station have all been a part of this success. Now, as we continue to see these products added to our growing portfolio, we are expecting these numbers to further grow," says a proud Qureshi, who saw his business expand from a humble shed in Al Qusais, Dubai where he first invented the supercap module, to become the empire it is today.

"We have recently signed a deal for a huge facility in Pakistan that will be producing our supercap cells, with ongoing discussions with some of our partners in the US and now Europe for further facilities to assist with our growth plans," says Qureshi.

To grasp the potential of supercaps, it"s necessary to first consider the markets they will disrupt: lithium-ion and lead-acid batteries. First, even when maintained under perfect conditions, they do not last long enough and require replacement within an unacceptably short period of time.

Anything from our children"s toys to smartphones, iPads, cars, computers and electric cars are powered by these rechargeable cells. Qureshi"s ultimate goal is to bring reliable, renewable energy to the masses in developing countries, but he had to look beyond lithium-ion for a variety of reasons. "It can"t be achieved with standard chemical batteries without causing long-term environmental damage; there are exponential, long-term consequences.

These batteries, which have a much shorter lifetime (than our supercap-based "Sirius" modules), are usually disposed of in landfills, causing more environmental harm." Although lead acid batteries are currently being discarded, lithium-ion battery recycling is in the works. Both, according to Qureshi have a significant carbon footprint during the manufacturing process.

"Despite the fact that lithium-ion and lead acid are highly hazardous to dispose of, the world seemed to be entirely reliant on them as a storage medium before we developed our alternative "Sirius" module using supercap technology.