Dhananjay Sharrma
COO
SenRa

LoRaWAN

SenRa achieves a colossal victory for network coverage

LoRaWAN network is becoming increasingly popular for IoT connectivity in India and is expected to further the growth of segments such as smart cities, smart buildings, manufacturing, supply chain, and agriculture. LoRaWAN is one of the leading standards in the domain of low-power wide-area network (LPWAN) technologies and is expected to contribute to approximately 45percent of the overall LPWAN global market. As the excitement around LoRaWAN continues to grow, ELE Times' Nikita Sharma caught up with Dhananjay Sharrma, COO of SenRa to dig a little deeper on the growth of LoRaWAN deployments in India. Excerpts:

ELE Times: How much area has been covered by SenRa in India? How was the coverage possible?

Dhananjay Sharrma: We are currently present in 50 cities in India and we plan to complete 60 cities by the end of this year. By the end of next year, we have a target of deploying our network in all 100 smart cities in India. The ability to deploy so quickly is due partnerships we have formed with tower rental companies and ISP's, and owners of buildings where we lease sites directly.

Our public LoRaWAN network consists of two deployment strategies. One is a pro-active deployment approach where we deploy networks in areas where connectivity would be needed in the future and the other is project based deployments where our customer's projects drive the network infrastructure deployments. We are dedicated to make the technology widely available in all areas of India, rural or urban.

ELE Times: Is SenRa working on the Smart Grids too?

Dhananjay Sharrma: We are in talks with large power companies in India and have started collaborating with partners to address the smart electric metering sector. We are in talks with meter and module manufactures to create IS16444 compliant LoRaWAN smart electricity meters which will be deployed in large scale in India.

ELE Times: Recently, SenRa, in collaboration with myDevices launched 'IoT in a Box' in India. What was the purpose behind this new service?

Dhananjay Sharrma: The purpose of teaming up with myDevices to bring "IoT in a Box" to India was to introduce an easy, flexible, plug and play solution which can address our customer's needs quickly and also provide amazing savings. The solution comes with two temperature sensors, one gateway, and an analytics platform accessible from a desktop or a mobile device. All of it, of course, is integrated with SenRa's LoRaWAN network. The steps are so simple that the entire solution can be deployed in less than 5 mins. We believe by packaging IoT in such a way were customers can quickly deploy solutions on their own could potentially change the way IoT is being deployed in the future.

Technology Adoptions of IoT in a Box: We are seeing a lot of early traction in hospitality, food supply chain, and restaurants. We are excited by the growing interest and are hopeful that "IoT in a Box" will become successful in India.

ELE Times: What are your latest offerings as of now?

Dhananjay Sharrma: Our core business is our LoRaWAN network services. Deploying and managing networks and providing data streaming capabilities is what we are known for. On top of our network services, we have also expanded our portfolio offerings to provide a one-stop shop for our customers. We have end-to-end solutions such as uPark (our smart parking solution), CleanBin (our waste management solution), and since February, a first of its kind low-cost IoT analytics platform called Ginjer. We are very excited about Ginjer, as it provides our customers the ease of creating their own IoT projects, solutions, analytic reports and KPIs with minimal support from us. The best part of the whole thing is our ability to make Ginjer one of the lowest cost platforms available in the market to date.

ELE Times: Shed some light on some of your upcoming projects.

Dhananjay Sharrma: Being a horizontal company, our current and upcoming projects are spread across many different IoT segments to include agriculture, smart cities, manufacturing, smart campuses, and more. We have a lot of upcoming projects in the Smart Cities space (roughly 45% of our projects) which will include utilities, smart parking, and street lighting. Second to Smart Cities resides in manufacturing and Industrial IoT (IIoT). We are seeing a lot of opportunity in retrofitting existing equipment with sensors and devices enabling the power of IoT and LoRaWAN.

ELE Times: How are you linking up with Device Manufacturers so that they could use your network?

Dhananjay Sharrma: To support a growing device ecosystem in India, we provide a developer portal to companies which provides them the ability to add devices and gateways to our network free of cost for R&D and testing purposes. The portal gives them insight on the performance of their devices such as RSSI, SNR, power outputs, etc. We are currently working with device manufactures (from startups to major players) in India and across the globe who are focussed in making LoRaWAN devices for the India market.

ELE Times: Data Packet Loss is a major concern while setting up a new network gateway, how do

you combat with this challenge?

Dhananjay Sharrma: Although LoRa (CSS) modulation is in general immune to EM interference and multipath propagation, we take advanced steps to make sure there is no packet loss. In fact, we are one of the few companies that can promise a SLA for our LoRaWAN network projects. We generally start with an in-depth device testing for the Indian channel plan as recommended by the LoRa Alliance and the Wireless authorities in India. In addition, our operations and deployment team takes into account various RF factors such as RSSI, SNR etc. for each spot where a device has to be deployed. Even when we deploy GWs, we use overlapping networks from multiple gateways to cater to each device. Preventive steps like these saves us from potential packet losses in the field.

ELE Times: Where do you see LoRaWAN in front of NB-IoT?

Dhananjay Sharrma: NB-IoT and LoRaWAN both have their advantages and place in the IoT market. We see LoRaWAN leading the pack now because it is a technology which is ready for commercial deployments today. LoRaWAN has been in the global market for many years now and has come a long way when regarding device readiness. LoRaWAN has been around in India since late 2015 and the device ecosystem has had time to grow to a point now where products are commercially available. It is not clear when NB-IoT will be commercially available in India, but looks like it is still some time away.

ELE Times: How soon can we expect from LoRaWAN ecosystem to reach at a matured level in India and worldwide?

Dhananjay Sharrma: LoRaWAN is already at a matured level in India and has been globally for quite some time. LoRaWAN is currently deployed in over 140 counties, has 121 network operators across 58 countries, and is considered the de-facto standard for LPWAN communication by many experts. SenRa, being a contributing member of the LoRa Alliance, ensures our network and devices connecting to our network abide by the standards and specifications defined by the LoRa Alliance. We are past the point of hitting maturity and are now looking at the next evolution of LoRaWAN.

ELE Times: A few days back, the Things Network has established a new record by covering the area of 766 Km of LoRaWAN distance. What would you say on this?

Dhananjay Sharrma: Network propagations and distances achieved include many factors and variables. I do not know the exact network planning and equipment which was used to achieve such distances, but it is a good example of how powerful LoRaWAN is. In India, on average, we are seeing ranges of 4 to 6 kms in urban areas and 8 to 10 kms in rural areas. We try our best to optimize our network coverage at every site we deploy as we find it very critical to provide the best coverage possible for our customers. To do this, we use our advanced network planning software to conduct virtual greenfield network planning where we assess LoRaWAN RF propagations and the overall heat mapping of each site.