senet
Connecting the IoT Revolution

Accelerating the design and deployment of IoT networks in months, not years, with immediate return on investment

In India, more than 100 smart cities have been planned, and LoRa™ technology is well on its way to becoming mainstream. The Indian government is funding smart cities connected by LoRaWAN™ networks to improve quality of life, reduce pollution, ensure a stable electricity supply, monitor and manage clean water systems, and generally prepare for continued population growth particularly in urban areas already crowded. The government has also identified the opportunity for massive job creation in support of India's already vibrant technology industry. With competition growing, service providers need to move quickly and establish a base of customers with reliable, scalable, cost-effective solutions.

IoT Network Technical and Business Challenges

LoRaWAN service providers require expertise and the right software and equipment to stand up their networks. Every LoRaWAN system has 3 major components: the network server (which receives data packets from devices, duplicates/decodes them, and generates the packets to be returned), the network gateway (which uses an IP interface to route data packets from the devices to the server) and end-devices (sensors which use the LoRa technology for sending packets).

To commercialize those investments, network service providers also require operations support systems (OSS) and business support systems (BSS) to operate a network and sell services. Being able to securely connect, activate and monitor IoT devices at massive scale, in a multi-tenant and multi-vendor environment, across a broad range of applications is the new standard for network operators. Operators need to be able to manage the OSS/BSS features of the network server, packet core, data streaming, security, performance of the Radio Access Network (RAN) and End Device adaptive data rates (RF tuning). In addition, the IoT application management environment provided by the network operator must efficiently enable gateway deployment and provide scalable, secure, end-device onboarding, application service provisioning and visualization tools.

Innovation Opportunities

India is the global leader in IoT with over 40% market share. According to several analyst firms' predictions, the 2020-2025 CAGR will average 55%. The lack of high-speed wireless data connectivity in the country (particularly in rural areas) has been a challenge and at the same time a rationale for investing in LoRaWAN networks.

Over a single LoRaWAN network, application and solution providers can very quickly roll out high value industry solutions that save the government, enterprises and consumers money by automating the management of complex connected systems. Many of the systems will change people's lives in India, with a more stable infrastructure, electrical power, clean and controlled water supplies, and dozens more applications. All can run on a LoRaWAN network, consuming less battery life and doing so with greater performance and less cost than cellular and WiFi alternatives.

Senet and SenRa

SenRa

SenRa is a customer of Senet's Managed Network Services for IoT (MNSi™). With MNSi, network operators like SenRa deploy and manage their LoRaWAN Radio Access Network using Senet's Network Server and OSS/BSS functionality to onboard customers and facilitate business engagements.

Senet's MNSi is built from the ground up to support the massive scale of IoT (not a rework of a legacy monolithic OSS/BSS), and with MNSi, SenRa was able to launch their business from business plan to network deployment 18 months faster than they had anticipated.

Less than a year after establishing a business in New Delhi, SenRa has grown from providing connectivity services rolled out in India's National Capital Region (NCR) to averaging more than one city network built each month. SenRa's first deployment took less than 90 days – including LoRaWAN connectivity, customer support and developer services, a feat which usually takes 18 months to 2 years.

Senet continues to provide SenRa its entire MNSi suite of services as the company continues to scale and attract more device, application, ecosystem and end-to-end solutions partners.

Breakthrough Solutions

Now a fully operational LoRaWAN network operator, SenRa is supporting several initiatives that address environmental and sustainability issues, including collaborating with cities across India to battle water scarcity, pollution and water consumption challenges.

Specific solutions include:

- Smart Waste Bins
- Smart Parking Meters & Systems
- Smart Water Metering
- Smart Street Lighting
- Smart Agriculture Sensors

Results

"After we successfully launched our first service network in the NCR, we've deployed in fourteen other cities including Delhi, Bengaluru, Ahmedabad, Mumbai, and Pune. We could never have achieved this without a full OSS and BSS, which made it possible for us to simply set up local physical assets on towers and buildings then instantly be able to sell services and provision customers while outsourcing network management to Senet."

Ali Hosseini, Chief Executive Officer of SenRa

Leveraging Senet's operations platform SenRa has:

- Successfully completed India's first smart city smart water metering POC in residential neighborhoods.
- Started their first commercial smart water metering project
- Started a smart street light project for an initial 6,600 lights
- Collaborated with IIT Mumbai as the LoRaWAN operator in support of their Centre of Excellence lab where they will be developing low cost LoRaWAN ultrasonic water meters on behalf of the Government of India
- Worked with partners on developing two smart campuses for a public-sector telecom operator
- Provided LoRaWAN coverage for approximately 50 million people

Why Senet?

Senet's Managed Network Services for IoT (MNSi) is a cloud-based service that enables operators and other connectivity providers to rapidly deploy LoRaWAN™ network services on their physical assets (towers, buildings, etc.) and offer Low Power Wide Area Network (LPWAN) connectivity to their customers. Designed to meet the scalability requirements of the Internet of Things (IoT), MNSi provides Operations Support System (OSS) and Business Support System (BSS) services to securely connect, activate and monitor millions, and ultimately billions of IoT devices in a multi-tenant and multi-vendor environment across a broad range of applications and business models.

Features and Tools Designed for Commercial Networks

- Health, Status & Performance
- Network, Applications & End Devices
- Configuration / Provisioning
- Alerting, Escalation & Ticketing
- Network Planning & Expansion Suite of Tools

LoRaWAN™

LoRaWAN™ is the open global standard for carrier-grade LPWAN connectivity, designed to connect low-cost, battery-operated sensors over long distances and offers unique benefits in terms of bi-directionality, security, mobility, and geolocation.

For More Information

To learn more about Senet and our solution partners, visit **www.senetco.com** or call **+1 877-807-5755.** For developers interested in onboarding and testing LoRaWAN end device sensors and gateways on the Senet network, sign up at: **https://portal.senetco.io**