

a manufacturer of silicon microphones that improve voice-input quality in consumer devices. The company needed visibility and control over inventory and processes that spanned in-house and third-party factories and warehouses in the US, Europe and Asia. It uses NetSuite to manage its supply chain and financial operations. Real-time data integration has improved performance of and visibility into a geographically-diverse supply chain. Akustica has achieved greater accuracy, ensuring auditability with Net-

Suite. Analysing real-time data from across the supply chain has enabled the company to continuously improve processes and position itself for growth.

Toyota Handling Materials, France, has a factory in Italy and wanted proper acknowledgement and delivery of orders. It aimed at organising the production or purchase of the right trucks from the right business units abroad and, subsequently, organise shipment and invoice for customers. It started using Odoo Sales, Odoo Inventory, Odoo Manufacturing and

Odoo Purchase. These are multiple apps under the umbrella of Odoo ERP tool. The main benefit of Odoo is short implementation time, and even for a complex project, the company was ready within a few months.

There are various other tools available based on different business requirements, company size, etc and many offer a free trial. These tools can make a profound difference in the way business operations are carried out in an organisation.

—Deeksha Sharma

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**SECURITY:**

**“For Any Business, Having An INTERNAL TEAM For The IoT SECURITY Is COMPULSORY”**

► Both solution providers and customers of the Internet of Things (IoT) are in a phase of constant evaluation of strategies to overcome the challenges that exist in the ecosystem. Karen Ravindranath, director - IoT, WebNMS, shares her thoughts with Paromik Chakraborty about the current hardware capacity, security and implementation ecosystem around the IoT in India

**Q. What are the major challenges in the IoT ecosystem at present?**

**A.** Standardisation is a big issue. Because of that, transitioning from one vendor to another will obviously be a challenge in terms of investment. To avoid this, WebNMS has a heterogeneous system and therefore does not stay tied to a particular vendor.

In addition, in India, capex is a challenge since the IoT involves huge investments into hardware. We see our partners coming up with different business models such as pay-as-you-go. I believe, once this matures it will be much better.

**Q. How is the shortfall of a proper hardware ecosystem affecting the IoT adoption rate?**

**A.** For India to take the IoT forward in a liable and cost-effective manner, the hardware ecosystem needs to develop well in India as well. So, there



*Karen Ravindranath, director - IoT, WebNMS*

is a huge need for a strong hardware ecosystem here. Some startups are doing their bit and coming up with new products, but a lot more still needs to be done to strengthen the ecosystem.

In terms of hardware, Europe has a very sophisticated setup. Some of our components come from China as

well. But India can really push herself to that place.

**Q. There are suggestions for creating low-cost fab facilities in India to address this challenge. Do you see that happening anytime soon?**

**A.** There is some push from the government in this aspect with Make in India initiative, but expectations have to be turned into reality. There has to be a clear path forward or some incentivisation for focusing on bringing fabrication facilities in India. That needs to be done by the government along with bringing in more investments in the country.

**Q. There are many technical jargons going around for the IoT security. How strong is security in reality?**

**A.** In this aspect, some focus has come in terms of standard products. We know there is an encryption



mechanism that needs to be in place to secure data. Predominantly, every solution focus has to be end-to-end. A lot of open ends are left where awareness is needed. Decision-makers of organisations have to look into the security aspect in depth.

### Q. Is it better to have a third-party partner or an in-house team for security?

A. First, for any business, having an internal team for the IoT security is compulsory. To have that in place, there should be a recommended minimum. Going beyond that and having a third-party partner is undoubtedly a plus point since third-party vendors deal with the same kind of problems across organisations. This is especially helpful for those dealing with sensitive information. In those cases, having a third-party auditing or consultancy firm is truly beneficial.

### Q. What is your main partner ecosystem at the moment?

A. This is how the chain works. First, sensors are installed and then comes gateway vendors. This enables data acquisitions. Starting from here till data analysis and visualisation, WebNMS comes in.

The other partnership model comes with system integrators. People who have customers that need IoT solutions can partner with us to deploy the complete solution. So, the complete partner ecosystem includes IoT hardware, OEMs and system integration partners.

### Q. Is there clarity on use cases of different communication techs in the IoT, like LPWAN and NB-IOT?

A. Whenever we talk about IoT-enabled devices, it can be GSM or LoRa-based or something else. Here, adoption is important. But right now, there is no major clarity in this space. We all are experimenting with a lot of things, and are not sure if Sigfox or LoRa will win the game.

GSM is already popular. Then

there is NB-IOT coming into play. We need to look which infrastructure is going to be predominantly available for hardware vendors to latch onto. Adopting solutions is not a challenge. It is just a few modules coupled with some effort. Which technology is coming up and will stay is the main deciding factor.

### Q. In which areas will IoT startups find better business opportunities?

A. There are two segments of IoT startups: B2C and B2B. In B2C segment, a lot is being experimented with, like home automation or wearables, healthcare and so on. In this segment, new products are always coming in and out and, hence, it is a very competitive market.

Newer startups can focus on B2B solutions or cases where there is a clear ROI. That is where it will be beneficial. Focus of IoT startups must be clear. You can also say that this is the major bottleneck in the startup ecosystem at present.

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### GREEN TECH:

## Building ENVIRONMENT-FRIENDLY SPACES

- A green building comprises green construction and a sustainable model. Green construction focuses on choice of materials used based on reduced carbon emission and improved air quality

Climate change is a global challenge, with excessively cold or hot weather conditions. Surface temperatures and sea levels are rising, monsoon patterns are changing and natural calamities are increasing. It is imperative to take active initiatives for protecting the environment. We can begin acting responsibly by building an environment-friendly house or workplace. For that, we need to focus on three major components, namely, energy efficiency, choice of materials and water efficiency.

A green building comprises green construction and a sustainable model. Green construction focuses on choice of

materials used based on reduced carbon emission and improved air quality. The sustainability model requires the building to be resource-efficient throughout its lifecycle. Surprisingly, the building sector has the potential of saving up to 50 per cent energy consumption worldwide. To achieve a worldwide goal to hold the global temperature increase at 2°C, it is important to convert all existing buildings into green ones, and make sure all new buildings are green.

Green buildings help reduce carbon emissions and achieve energy-efficient spaces without depleting non-renewable resources. Additionally, these help achieve low maintenance, healthier



Shanghai Tower, China, has been constructed from recycled plastic and employs passive temperature control strategies