

INTERACTIONS (/CONVERSATIONS/INTERACTIONS) Author: Naveen Arul 14 April 2020

# RBEI Identifying Appropriate Technology Applications With IoT Garage



*Internet of things (IoT) is being increasingly adopted across industry segments, with the automotive space also witnessing a similar trend*

While IoT is all about facilitating connectivity of anything over the internet, this technology offers deeper capabilities that need to be understood by users. Robert Bosch Engineering and Business Solutions Pvt Ltd (RBEI) has set up an IoT Garage – making it the country's first to offer enterprises a full-stack IoT implementation capability. Auto Tech Review caught up with **Raghuram Joshi, Senior General Manager, RBEI**, to understand more about the focus of IoT and the engineering possibilities around it.

## IOT GARAGE, ACTIVITIES

This lab will focus on building technology demonstrators and validating them before they take shape into scalable solutions for smart connected products. It will partner with enterprises that are developing connected products, and offer a range of services, from building, developing, prototyping and testing. IoT serves as the building block of the digital transformation journey undertaken by most enterprises, and the ability to stitch solutions across sensor, software and services remains a fundamental capability to be successful in this ecosystem. The IoT Garage will enable RBEI to accelerate this capability-building journey and challenge the digital frontiers, observed **Joshi**.

This IoT garage offers companies IoT full-stack, which is the framework on which smart connected products are built on. It is a conceptual design framework that comprises multiple layers that come together to create a full-fledged IoT solution. The layers of the IoT stack consists of physical and digital parts of the smart connected product; sensors; network communication platforms; data; and the application used by the connected product to interface with the user. The final layer of the application is where the user experience capabilities come into play.

There is a fairly complex set of competencies that are required to build an IoT project or implementation, and there is quite a bit of experimentation that needs to be carried out for the implementation of IoT projects. At one level, the experimentation takes place to validate the concept for the business problem and identify the relevance for the use of IoT for that project. The second level of experimentation is in validating the hypothesis, based on the data requirement from the source pool, appropriate sensor usage and whether the right interface components are available, explained **Joshi**. The IoT lab's role is to identify if the data can be brought out from an appropriate source and subsequently find out if it is really helping the customer in solving their business problem. The lab carries out lots of iterations and experimentation along with consultative activity that identifies where the IoT solution should actually be implemented.

## ECOSYSTEM REQUIREMENT

There are multiple components around a full-stack IoT solution that involves sensors putting in data through some gateways into the cloud, which is transferred to IoT platforms, on top of which is an application. This is a simplistic view of an IoT solution. However, when the IoT solution is actually implemented into the field, a number of other components come into play and this is where the ecosystem becomes integral, observed **Joshi**. As for now, it is unlikely that one single entity will be able to deliver an end-to-end IoT solution. There is a need for each participant of the ecosystem to partner with each other that includes technology partners or domain partner, he noted.

Technology partners include providers of telecom services, cloud technology and even hardware technology. Domain partners, on the other hand, are unique to the market segment in which the IoT solution is being focussed towards, stated **Joshi**. For example, a logistics solution using IoT will require containers that are RFID-enabled. Therefore, there is a requirement for domain suppliers, technology players, and enterprise companies (like RBEI) to bring the right partners together.

## ROUND-UP

There are two sets of use cases for implementation of IoT to a business. The first would be to optimise operations and businesses. These are internal to a company and encompass areas such as Industry 4.0, smart factories and lean manufacturing as well as use cases from automation to auditing and quality checks. The second use case is in creating new business scenarios for an organisation and this is where the connected factor of IoT comes in, where digital enablement moves the business in a non-linear manner.

In the cases of autonomous driving or connected mobility, these are areas beyond data acquisition, when the information is loaded onto the cloud. This creates new business models, in terms of tracking product performance in the field. In line with

automotive, this is a use case where customers can collect diagnostic information coming out of a vehicle and get a clearer understanding of the vehicle health and maintenance requirements. However, in contemporary times, features like transport and signalling systems leverage IoT and such technologies are already in use in the Indian context.

The Indian auto industry is moving fast with regards to IoT implementation despite the bigger challenge of backward integration of legacy systems that are already in place. Another challenge is not technical in nature, but rather in the identification of the right problem to solve. The other issue is that IoT is sometimes pictured as a standalone topic. It is important to run IoT projects and connect them back to the enterprise systems, be it Enterprise Resource Planning (ERP) or Customer Relationship Management (CRM) systems. The explanation on return on investment will become difficult, if the data collected and utilised by IoT is not brought back into the company's enterprise system, concluded **Joshi**.

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