

White paper



Integrated Building Automation Community  
An Ecosystem for Sustainable Growth and Interdependence

An invitation to design the future of Symbiotic Growth of Building Automation Industry in India strengthening the Smart Infrastructure

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## Summary

Open Standards and Protocols are changing the way Building Automation Solutions are implemented. Open standards are fundamental steps to digitalization, it helps to leverage power of digital technology by ensuring interoperability.

For future proof solutions where there is an enormous amount of need of collaborations across businesses, countries and continents, data cannot be in proprietary formats.

Standardized interfaces, protocols and services increase the benefit of entire infrastructure by high transparency, flexibility and coverage as well as reduced capital and operational cost.

Building automation systems generate vast amount of data. Open standards and protocols are at the center of the efforts of making this data consumable.

The underlying open protocols and standardization are a simple way for one business to access the business value of another to create new value. There are plenty of other examples of the way data analytics is changing the world:

- Businesses are able to benchmark goals and set realistic expectations for future strategy by using real-time data
- Government projects analyze real-time data from sensors, cameras, traffic systems, building management systems and utilities, water quality, and air quality data for urban planning.

Alex Suh, General Director of Data Analysis, True Balance says, “With India being amongst the top five social media and mobile consumers in the world, generation of the vast amount of data is indispensable. It is estimated that by the year 2020, Big Data analytics would synthesize into a booming market providing abundant opportunities to firms and investors wanting to explore this space. Hence, for a company indulging in different strategies to manage, validate and analyze big data, adopting new technologies is inevitable. “

The Building Automation industry is catching up fast on open protocols and standards, due to pressure from customers to provide more cost-effective ways to implement building automation solutions keeping future business needs in mind.

Implementation of Building Automation System is aimed at implementing integrated solution of its sub-systems such as Comfort, Security, Waste Management, Water Management Energy Monitoring, Alternate Power Resources and so on. An integrated solution to ensure the control and monitoring by single supervisory system as one subsystem can communicate to the other subsystem based on open standard or protocol.

## Benefits of Open Standards and Protocols

### Background:

Extent of interoperability can be determined by three kind of solutions:

1. A monolithic solution – Any solution that is provided end to end by a single manufacturer with a proprietary communication protocol. Such solutions are interoperable within themselves and can be controlled and monitored by single supervisory system.

#### Impediments:

- a. Increased cost of operations
- b. Limited features or long waiting time for upgrades
- c. Communication is within single solution with data in proprietary format

2. A solution based on platforms provided by solution provider – Such solutions focus on providing end to end solution by integrating different subsystems through a platform ensuring communication between variety of subsystems over different protocols.

#### Impediments:

- a. Increased platform upgrade and validation cost whenever there is a need of an addition of proprietary products
- b. Limited availability of the platform to only implementers and investors of the platform by reducing the scale-up and creating niche

- c. Communication is within single solution or repeated combinations of that solution as even if the subsystems are able to communicate, platform could be proprietary

3. A solution designed on open standards and protocols – Such design is based on co-operation of different subsystem individually developed by single or multiple vendors.

#### Benefits:

- a. Reduced capital as well as operational costs
- b. Reduced standardization costs as the standardization is taken care of by a global central body
- c. Rapid scale-up and reduced niche (no vendor lock)
- d. A fully open standard or protocol is practically available to all
- e. Communication is possible within various open solutions across boundaries

## Benefits:

An open system lowers the risk of maintenance by its prominent capabilities of being open and interoperable, thus bringing in advantage of multi-vendor choice and end-to-end solution.

Businesses can benefit from the advantage of early time to market as the industry has wide availability of tools and services based on open standards and protocols. As the consumers get advantage of multiple vendors, the supplier is also benefited as the supplier can provide solution by integrating features / products from other vendor in case of any such requirement from

## The Power of Industry Collaboration

The key to this proposal is a meaningful collaboration with like-minded organizations and government who are keen to engage in and are passionate about the Symbiotic Growth of Building Automation Industry in India for developing and strengthening Smart Infrastructure

Effective utilization of open standards in India requires collaboration of diverse stakeholders to ensure common selection of standards and parallel development of related trainings and support system to promote a conducive and lucrative business environment in the Indian economy.

In a research paper "A STUDY ON THE CONTRIBUTION OF START-UPS IN THE ECONOMIC DEVELOPMENT OF INDIA" Author SINU.M Assistant Professor, School

consumer instead of losing on the entire contract.

Open Standards and Protocols uplifts Innovation by providing:

- a. Wide Reach - take an example of language – reach of commonly used language vs. local languages
- b. Ease of integration
- c. Reduced capital and operational costs
- d. Faster usage and results – a solution which can be easily integrated can be used quickly ensuring faster feedback

of Distance Education, University of Calicut, Malappuram, Kerala states "Around 3.61 crore MSMEs, contributing 37.5 per cent to the country's GDP, have a critical role to play in boosting industrial growth and ensuring the success of the Make in India programme. The good part is the sector currently employs close to 40 per cent of India's workforce, contributes 45 per cent to India's manufacturing output and 42 per cent to India's total exports."

Zinnov in their MNC-Startup collaboration models lists following reasons for MNC Startup collaboration:

- Access to new markets and complimentary products
- Identification of potential disruptors
- Collaboration for disruptive innovations
- Potential Acqui-Hiring opportunities

## Call to action – INBAC

In Building Automation System, customer expectations are evolving rapidly and companies with a range of profiles continue to position themselves along the value chain with disruptive consequences. Giants such as Apple and Google drive towards frictionless Automation experience to users. Additionally, startups are venturing into the markets with newer technologies and innovations.

In the building security, push from regulators and entrants using newer technology is driving a search for cost savings and new ways to deliver customer value. New ecosystems are emerging, and firms must decide where they fit – where to specialize and where to partner.

This paper explores some of the challenges that the industry faces if it is to unlock the potential of Open Standards and Protocols. Proposal is to address these challenges through targeted use of existing and improved business standards and identity frameworks by forming a Community with passion for symbiotic growth.

This paper is a call to action for forming an “Open Systems Building Automations Solutions Community in India” for sustainable growth and interdependence. The transition to open standards and protocol by the entire community requires sustained engagement from the entire industry: Suppliers, Integrators, Installers, Consultants and Consumers, Government and Standardization bodies.

A community with the focus on solution synergy which will:

- Identify problems or risks of the industry continuing as it is now - both in terms of industry growth and India's ability to work as a peer with other countries/regions
- Create a mechanism to promote open standards and protocols based on global standards like ISO
- Share upcoming global market trends and innovations with and from international communities
- Increase product quality and interoperability through interoperability certifications

Such community collaboration can be incredibly rewarding, at the same time it can also be complex, messy, and riddled with competing priorities. In the end, it's important to come back to that shared goal which will bring us all together with a meaningful purpose in our diverse community. It's important for us to contribute towards creating a place where everyone has an opportunity to be a part of the community for a greater good, which could never be done alone.

## Conclusion: A necessary investment in the future of our country

India is a key potential market for building automation and control systems, with demand from commercial, residential and Governmental buildings like hospitals, metros, airports, shopping centers, hypermarkets, supermarkets, modern retail outlets and smart city projects.

To fully unleash the potential of Building Automation market, analysis of data produced by buildings plays the most significant role. The data is a key ingredient for uncovering multidirectional business values and is vital for communication across boundaries.

Solution synergy achieved through the interoperability of integrated subsystems based on open standards and protocols ensure seamless data flow and authentic

data collection without tampering, although coming from multiple vendors.

We urge institutions that are embarking on the journey of open systems to look beyond the immediate need to implement a tactical solution.

Take this opportunity to engage with INBAC to benefit from, and help evolve, an ecosystem for open systems building automation community in India.

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