



# END-to-END IoT SOLUTIONS

YOUR PARTNER IN DIGITAL  
TRANSFORMATION

# ABOUT US

THINGSTEL is an end-to-end IoT Solution provider bringing together latest innovation in IoT Network Technology, Cloud Computing, Big Data, Machine Learning and Artificial Intelligence. We are headquartered in the silicon valley of India, Bangalore with a sales office in London, UK.

## PROBLEM AND SOLUTION :

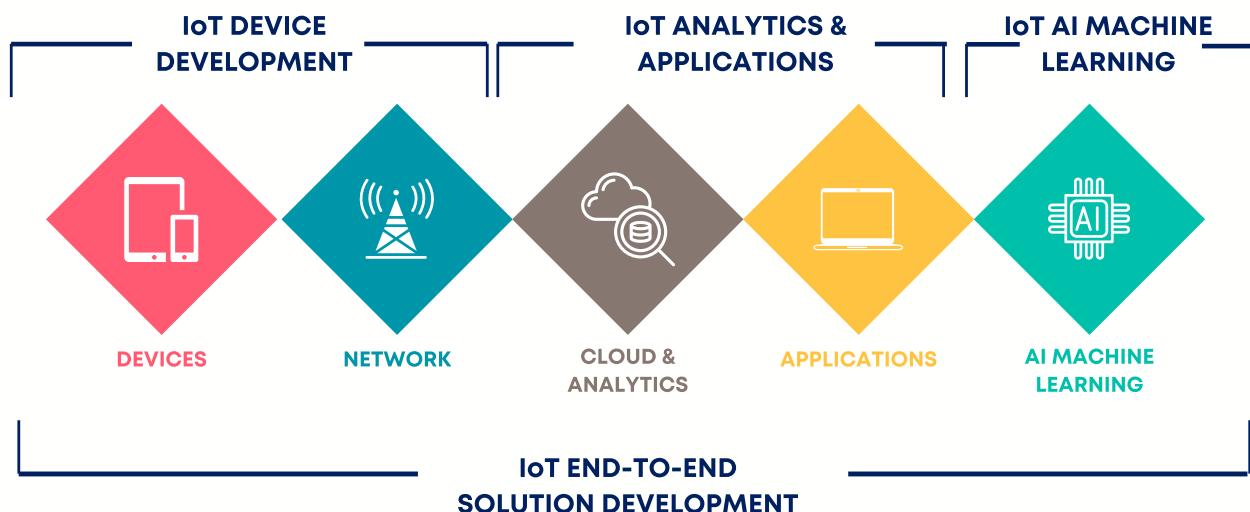
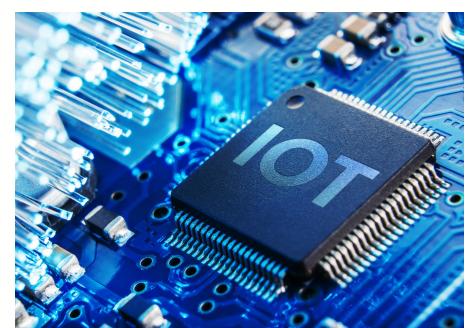
Internet of Things (IoT) is seen as a next big wave of Internet in the world today. The number of connected devices continues to grow and expected to reach 50 billion by 2020.

Today's IoT solutions ecosystem is fragmented with players focusing on a specific component of the value chains, while what customers seek is an end-to-end solution.

The value of IoT to customers is to accelerate data-driven decisions. This can only be achieved with a well-defined end-to-end journey of IoT data managed through a structured phases of data collection, data transportation, data analytics and data visualization.

## A good IoT solution is a convergence of innovations in

- IoT sensor fusion and edge gateways
- IoT specific new network technologies such as Sigfox, LoRA, NB-IoT
- IoT Big Data and real-time analytics in the Cloud
- IoT Machine learning especially Deep Learning
- IoT Artificial Intelligence services such as Alexa



The team at Thingstel have experience and expertise in building end-to-end solutions by incorporating these innovations as needed to solve customer problems. Thingstel solutions are uniquely built with machine learning and AI at the heart of each solution.

### **Team Experience :**

Team Thingstel has proven experience in consulting and deploying world class IoT solutions to industry leaders across sectors. Some clients that the team has worked with include Coca-Cola, Linde, Airbus, Barclays Capital, Philips, Hive, Mercedes, Nespresso, Shell & Scottish Power to name a few.

## **FOCUS AREA**

### **WHAT WE'RE TRYING TO SOLVE**

- High Cost of current IoT Solutions
- Data storage mainly local
- Latency of analytics affects timely decision making

### **WHAT YOU EXPECT**

- Low cost devices & network options
- Cloud storage of data
- AI based data analytics for real time data

### **WHAT WE OFFER**

- Affordable solution for various applications
- Access to real and historical data
- Instant decision making



# THINGSTEL DIFFERENTIATION

## LOW POWER WIDE AREA (LPWA) TECHNOLOGY for Internet of Things

LOW COST	LOW BATTERY CONSUMPTION	LONG RANGE COVERAGE	SIMPLE END-to-END SOLUTIONS	LOW BANDWIDTH
10x times cheaper than 3G	10-15 years device battery, 300x times more power efficient than 3G	Devices can be connected up to 50km away from base station Vs 1km for 3G	No SIM card, no pairing, single-hop wireless and scalable cloud	12 bytes/message 140 messages/day

## LOW POWERED WIDE AREA NETWORK (LPWAN) :

- LPWAN is a dedicated Wide Area Network for IoT devices operating in sub 1GHz open spectrum frequency.
- Thingstel uses LPWAN wherever possible to keep the cost of devices & connectivity lower and enabling long battery life for the devices

## ARTIFICIAL INTELLIGENCE AND IMAGE PROCESSING :

- Thingstel uses Artificial Intelligence based Machine Learning models to study large data sets to derive insights.
- Well suited for applications such as counts, averages, complex calculations, facial recognition, object classification, text recognition, etc.
- Deep Learning algorithms when clubbed with Digital Image processing helps in extracting important information by analysing timestamped images

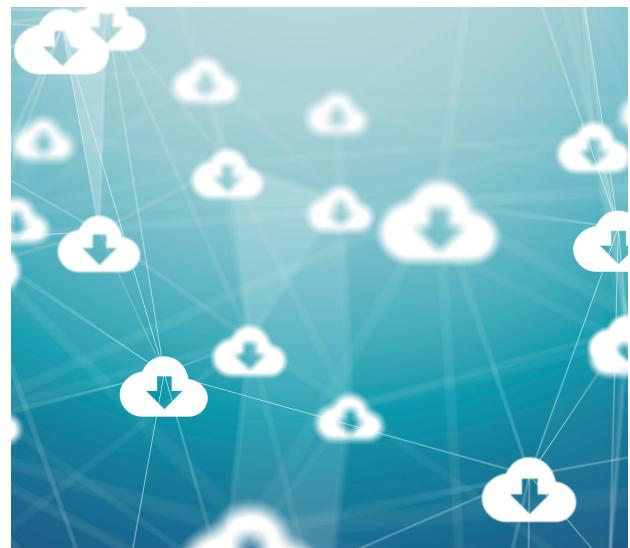


## STREAMING ANALYTICS :

- Thingstel offers services to collect, process and analyze data and video streams in real time.
- Run analytics on streaming data without storage requirements.
- Derive insights in least time with existing business intelligence tools

## SERVERLESS CLOUD COMPUTING:

- Serverless architecture is a software design pattern where applications are hosted by a third-party service, eliminating the need for server software and hardware management by the developer.
- Thingstel makes use of Serverless architecture principle for most of its IoT solutions, offering various benefits including cost-saving, scalability, parallel computing, etc.

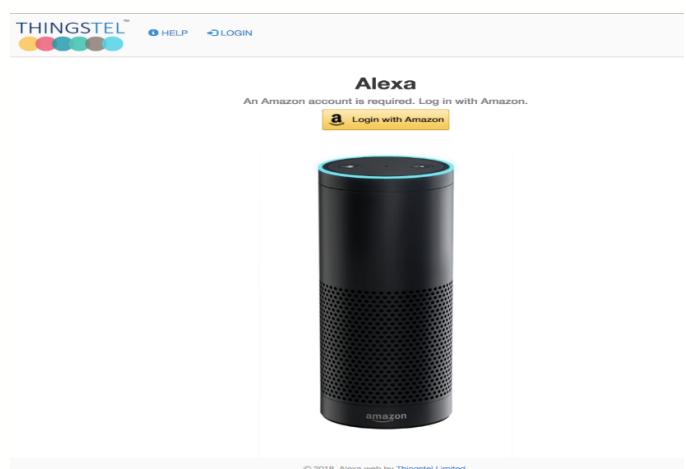


## EDGE COMPUTING :

- With Edge Computing capabilities, IoT devices can respond quickly to local events, use serverless functions to interact with local resources, operate with less reliable connections, stay updated with over the air updates, and minimize the cost of transmitting IoT data to the cloud.
- Thingstel brings edge computing capabilities to IoT Devices and they can be programmed to filter device data and only transmit necessary information back to the cloud, reducing latency and saving data transmission costs.

## VOICE USER INTERFACE :

- Voice user interfaces enables voice control of your accessing key information from connected systems over Thingstel's solutions.



# PARTNERS

We understand it is important to bring in expertise under different elements of an IoT solution for successful implementation. These include — Devices, Network, Analytics and Applications. We have inhouse capability on the Devices, Analytics and Applications and work with various Network enablers — technology and operators. Tie-ups with network operators will ensure we provide cost efficient connectivity to our customers. We are building on our own generic devices to support us on Solution Sales but also bring in expertise on providing customized offering based on the requirement.





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