CASCADEMIC Solutions

Innovation Towards an Embedded Planet

Building Infrastructure for Industrial IoT Solutions
CASCADECIC - In a Nutshell

• Incorporated in 2013
• Focused on providing End-to-End Industrial IoT Solutions
• Assured Support from Proof of Concept to Production Roll Out
• Independent Fabless ODM Solution provider.
• Modular Solution Architecture
• Strong Design and Engineering Team
Indigenously developed Gateway and Nodes, with complete control over hardware and firmware facilitating customization with rapid time to market.
Solution Verticals

- Energy Management
- Industrial IoT Gateways
- Asset Management and Workforce Footprint
- Environment Monitoring
- Wireless Data Loggers
- Wireless Thermal Printers
Telecom Tower Monitoring
- Power monitoring of Individual Operators
- Real time monitoring of Base Station – Temperature, Smoke, Movement with Single Gateway
- Health of Power Supply
- Fuel Level in DG

Power Quality Monitoring
- Power Quality of Secondary Side
- Power Factor and Harmonics
- Voltage Sag and Swell
- 3 Phase and Single Phase Monitoring

Energy Management

Transformer Monitoring
- Lug Temperature
- Oil Temperature
- Secondary Side Load Analysis
- Connectivity to Smart Meter/SCADA in panel

Battery Monitoring
- Battery Voltage Monitoring
- Charging/Discharging Current
- Ambient and Surface Temperature
- Health of Battery
IoT Gateway – Data Logger for Industrial Machines

- Based on NXP i.MX6 SOM
- MODBUS Connectivity to PLC / SCADA
- PROFIBUS Expansion Card
- 8 Channel Analog Input Module
- 1 Ethernet Port
- 1 GB RAM (Can be Expanded)
- SD Card based Storage
- Wireless Communication
  - 3G / 4G
  - Wi-Fi
  - BT
  - Ethernet

LoRaWAN Gateway

- Based on NXP i.MX6 SOM
- 8 Channel LoRaWAN Gateway
- LoRaWAN Protocol Class A and Class C
- Compatible with 865-967MHz, 915-920MHz LoRaWAN Band
- In built LoRaWAN Network Server
- MODBUS TCP Output
- SQLite based Database
- Wireless Communication
  - 3G / 4G
  - Wi-Fi
  - Ethernet

IoT Gateways for Industry 4.0
Air Quality Monitoring

- Real time Monitoring of Hazardous gases
- Carbon Dioxide, Carbon Monoxide, Ozone
- Sulphur Dioxide
- Nitrogen Dioxide

Temperature, Humidity and Pressure Monitoring

- Temperature Sensors – Indoor and Outdoor Environment
- Relative Humidity Monitoring
- Surface Temperature and Ambient Temperature
- Pressure Level – Liquid Level, Atmospheric Pressure

Environment Monitoring

Smart Agriculture

- Soil Temperature and Moisture
- Ambient Temperature, Humidity and Carbon Dioxide
- Water Valve Control
- Water Flow Monitoring

Particulate Matter Monitoring

- PM 2.5 and PM 10 Parameters
- Smoke Monitoring
- Real time alerts and notifications
- LCD Display with Wireless Communication
Workforce Footprint
- Efficiency of Contract Workers
- Location Tracking of Workers in High Dense Environment
- Mining Zones / Dense Metal Infrastructure
- Co-Related with machine utilisation

RFID Reader
- HF RFID Reader – Short Distance
- UHF RFID Reader – Long Distance
- Modular Wireless Communication
- Support for Active and Passive Tags

Beacon based Location
- Beacon based Location Tracking
- Compact form factor
- iBeacon and Eddy stone Support
- Integrated with other wireless protocol

GPS with LoRa
- LoRa Based GPS Transmission
- Compatible with Multiple frequencies – 865-867/915Hz
- Additional Sensor Interfaces
- Compact Form Factor

Industrial Asset Monitoring
MODBUS to Wireless Converters

- RS485 – MODBUS Connectivity to Slaves
- Analog and Digital Input Support
- Easy Configuration of MODBUS Slave
- Retrofit Device
- Store and Forward Logic
- Wireless Communication
  - 3G / 4G
  - Wi-Fi
  - NB-IoT
  - LoRa

Smart Gateway

- 4 Analog Input Channel
  - 4-20mA Sensors Support
  - Analog Sensor
  - Can be configured as digital inputs
- MODBUS RTU
- Expertise with multiple sensors
- 3G / 4G / LoRa / NB-IoT / BLE Communication
- Accelerometer, Gyroscope, Magnetometer and MEMS Sensor Expertise
- Wireless Communication
  - 3G / 4G
  - Wi-Fi
  - NB-IoT
  - LoRa
2 Inch Bluetooth Thermal Printer

- Regional Language Printing
- Low Power Consumption
- Logo Printing
- Wi-Fi Option available

Printer Driver Cards

- Supports 2 Inch / 3 Inch Print Heads
- Support with Cutter and without Cutter Mechanisms
- Compact Form Factor TTL / RS232 Interface
- Can be expanded to include wireless interfaces

Token Printer Driver

- Support for 2 Inch / 3 Inch / 4 Inch Print heads
- LCD Support
- High Speed Printing
- Regional Language Printing

Panel Printer

- Supports 2 Inch Printer Head
- Support with Cutter and without Cutter Mechanisms
- Compact Form Factor TTL / RS232 Interface
- Can be expanded to include wireless interfaces
“India Comprehensive IIoT Solutions Enabling Technology Leadership Award” By Frost and Sullivan
Thank You

Assuring you the Best of IIoT and M2M Solutions

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