



Durbin 

## **Ecosystem for Next Generation Charging Stations**

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**In the age of Industry 4.0, take your  
business to the next level with our IoT  
and AI ecosystem**

**Visit Us:  
<https://durbin.live>**

**Reach out to us:  
[talk-to-us@durbin.live](mailto:talk-to-us@durbin.live)**

# Introduction

Durbin's Platforms are designed with Industry use cases in mind, our flagship hardware and software platforms xMCU and xIngest help Edge-to-Cloud Integration of devices possible enabling users to not only get a better view of the end-to-end business process but at the same time make decisions based on data-driven business analytics. Our ML SDK (Durbin Paradox) helps seamless creation of Machine Learning based Analytics for various business parameters easily and frictionlessly.

## Why choose us?

Utilize the true potential of IoT and AI ✓

Draw decisions based on insightful inferences ✓

Bring your business in single-dashboard ✓

## Company Value

Our team holds 10 years of combined industry experience and special expertise in the latest technologies over different domains differentiates our software and results in a premium experience for our customers

**10+**

years of  
experience

**10+**

Live  
Products

**20+**

Projects  
Deployed

**12+**

Clients

# Durbin xMCU

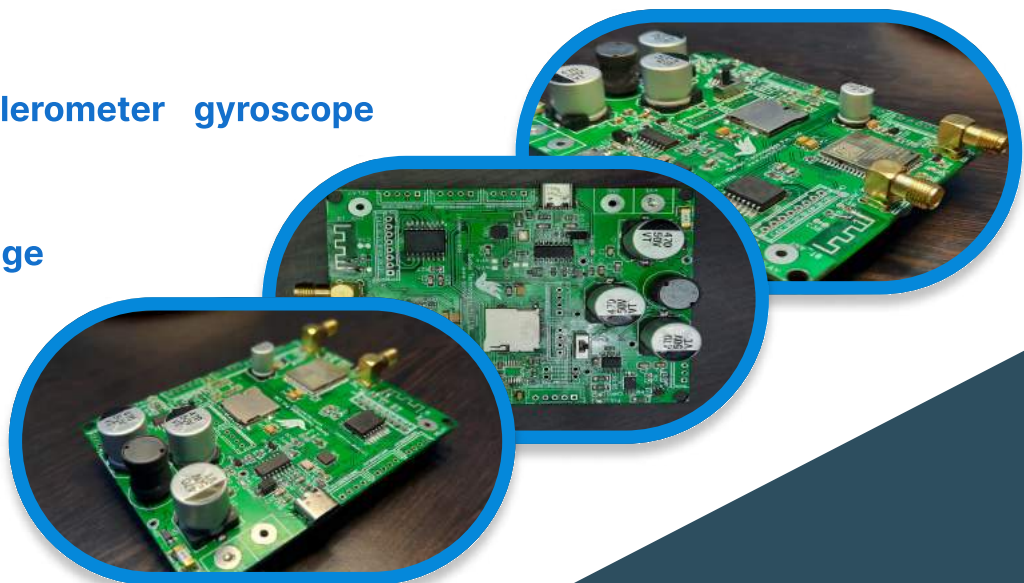
Durbin xMCU is our flagship hardware platform that enables seamless communication between data-point origins and Durbin's Cloud Ingestion xIngest possible. With Durbin xMCU or the xMCU SDK compatible devices, you can send your data securely over an end-to-end encrypted communication channel in real-time with minimum setup.

xMCU is compatible with the following Industrial protocols:-

1. I2C
2. SPI
3. RS-232
4. RS-485
5. RJ-45
6. Modbus
7. UART
8. TTL

xMCU supports myriads of off-the-shelf as well as custom made sensors to measure various physical and electromechanical parameters needed for Industrial Applications. Data from the xMCU device is securely transmitted to Durbin's Cloud Platform xIngest using various real-time communication protocols like HTTPS, MQTTS, WebSockets and Redis.

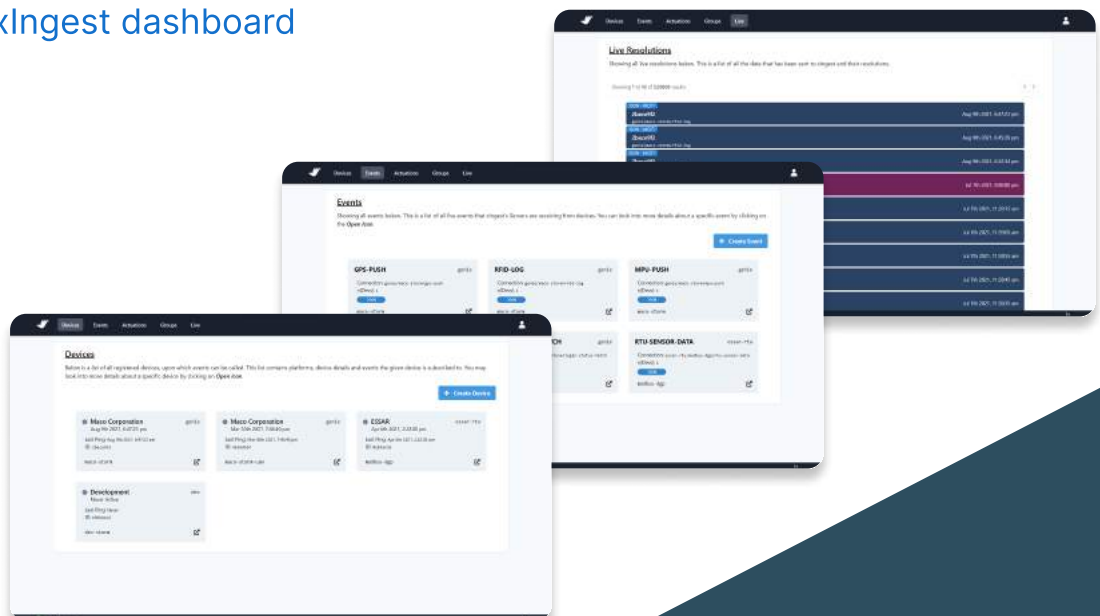
- ✓ **I2C enabled core** that incorporates multiple sensors at a time and maintains seamless communication
- ✓ **In-built WiFi and Bluetooth** ensures smooth installation and debugging at your premises
- ✓ **GLONASS / GAGAN / GPS support**
- ✓ **6-axis accelerometer gyroscope sensor**
- ✓ **In-built storage**
- ✓ **GPRS over M2M and NB-IoT** make sure to keep your edge devices connected at every scenario
- ✓ **12V-35V operating voltage range** makes the device supported to a wide range of machines
- ✓ **5000 mAh Power backup and battery circuit inbuilt**



# Durbin xIngest

Durbin xIngest is a cloud-based data ingestion platform enabling secure data pipeline generation between data-point origins, data pools, and analytics end-points. xIngest simplifies your cloud infrastructure deployment to manage and monitor your data without worrying about data leaks and cyber-security threats. With our proven system it becomes easy to manage all your data from a single platform and make your device data accessible to the various end-points responsible for your business operations.

- ✔ **Cross-application data integration and migration** help you fuse different segments of your factory floor
- ✔ **Monitor Security & Remote Version control** of all your edge devices from xIngest
- ✔ **Bidirectional Edge-Cloud-Edge Communication** that enables you to control the device remotely at the same time monitor your device from the xIngest dashboard
- ✔ **Manage & troubleshoot** all your Edge devices from xIngest dashboard
- ✔ **Inbuilt SDK** for your embedded systems and easy integration with web & mobile applications
- ✔ **Third party apps integration** platforms like Tableau, Google Data Studio etc.

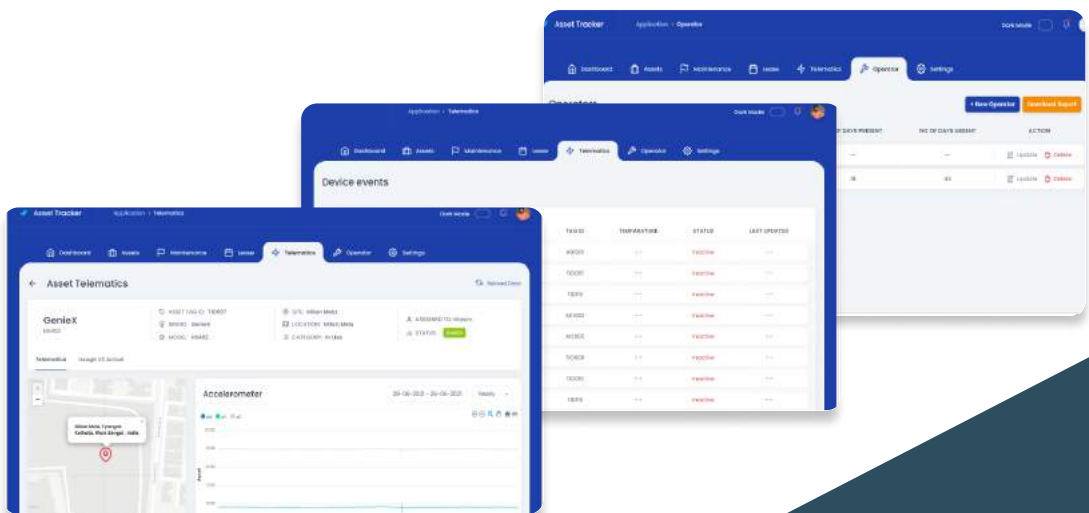


# Durbin Dashboard

Durbin xMCU and xIngest togetherly are the heart of our ecosystem. It provides all the necessary insights to analyze every key parameter of a business and help to make smart decisions that matter. On the other hand, Durbin Dashboard with its power of visualizing distributed data into a single dashboard gives the user ability to control, manage, analyze all the collected data points systematically to generate predictions out of it.

Durbin Dashboard is a custom platform that has the option of on-demand development as per the client's requirement. Thereby the full control of your dashboard is in your hand and you get to enjoy a tailor-made dashboard for your business where you can continuously track every key parameter that matters.

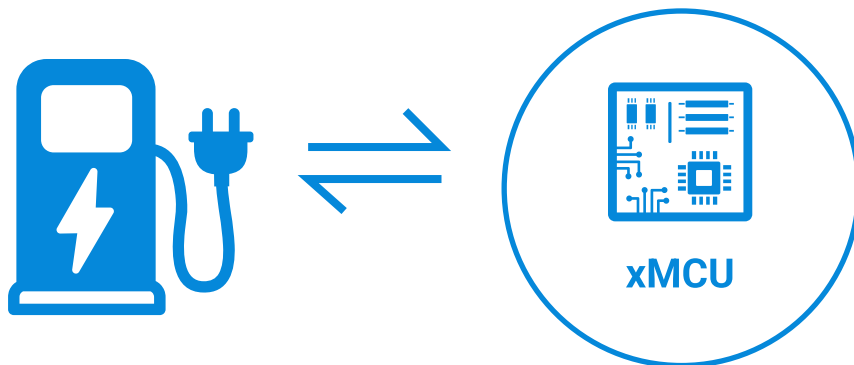
- ✔ **Masterkey to your business :** With seamless integration with all our apps, Durbin Accounts gives you the power to keep control over your empire just from its Dashboard.
- ✔ **Privacy & Personalization :** Personalize your dashboard with all of your business endpoints and operate securely without worrying about privacy.
- ✔ **Manage your Apps seamlessly:** Use the true potential of our app ecosystems by connecting your business with the help of our suite of apps.



# Charging Unit Integration with xMCU

With xMCU's super compatible hardware platform, it can easily communicate with all the industry communication protocols and seamlessly connects to xIngest resulting in a pool of devices being connected to the cloud with just a couple of single steps. These data points are communicated in real-time either by using GSM/GPRS or by using WiFi/Ethernet as a means to communicate with the internet.

- ✓ Real-time GPS Location
- ✓ GSM/GPRS or WiFi Ethernet network module
- ✓ Temperature Sensor
- ✓ Battery Management System
- ✓ Power Monitoring
- ✓ Battery Cycle Count
- ✓ Anti-theft mechanism
- ✓ Device State Indicator
- ✓ OTA updates
- ✓ Bluetooth based debugging

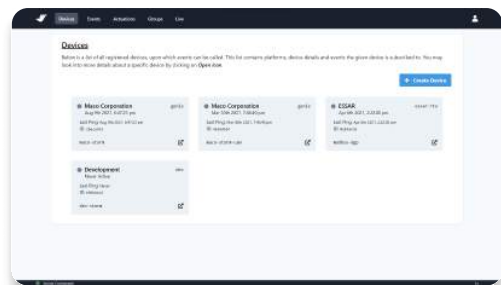
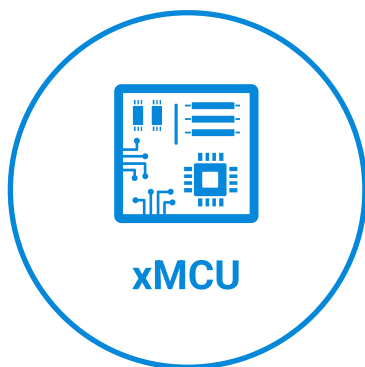


Attach xMCU with your charging infrastructure and start collecting valuable data points

# Connecting your Charging Units to xIngest

While xMCU connects your device to the internet, xIngest being the data ingestion engine, lets you collect all the data points seamlessly and helps you connect all the Charging Units to the cloud. With xIngest's robust data ingestion pipeline, a massive amount of distributed data points can easily be streamed, logged, and forwarded to the cloud and other connected applications. xMCU device SDK supports auto registration and controlling features through xIngest to enable all of your charging units' remote controlling ability. Charging unit to xMCU and xMCU to xIngest, the whole pipeline is end-to-end encrypted and supports MQTT, HTTP, and HTTPS protocols for seamless communication.

- ✓ End-to-end encryption from Charging unit to Cloud
- ✓ Robust data ingestion pipeline
- ✓ Raw data dashboard and connectivity checker
- ✓ Seamless data streaming
- ✓ Data persistence enabled logging
- ✓ Message queue for maintaining synchronous data
- ✓ Incident based Events
- ✓ Remote controlling using Device Actuation
- ✓ OTA updates
- ✓ Platform debugging

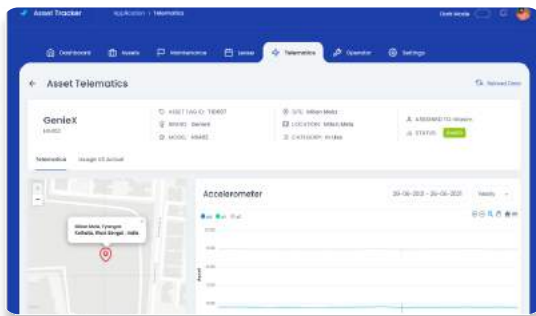


Connect xMCU enabled charging unit to xIngest and start talking data to cloud

# Connect xIngest to Data Visualization Engine using Durbin Dashboard

A dashboard needs to tell the complete story of your business. With Durbin Dashboard you can easily connect to xIngest with Durbin Webhooks and start customizing your data points as per your requirements. Real-time data coming from the device and allied sensors are visualized in a structured manner that results in generating valuable insights about your business and your customers at the same time. Your data starts talking money with our robust analytics engine that enables you to observe actual figures based on which you can take fast decisions with full confidence. We call our analytics engine & Machine Learning SDK Durbin Paradox. With Paradox your data points starts generating intelligence over the period of time and gradually you start getting predictive outputs. The dashboard being the visualization engine and Paradox being the analytics engine you get to experience an organization control panel that not only gives you control over your deployed charging units, but it also provides you future analytics about how you can start taking decisions.

- ✓ **Charging unit onboarding & installation panel**
- ✓ **Dock localisation using Geo-tagging**
- ✓ **Incoming customer localisation**
- ✓ **Daily/Weekly/Monthly Reports**
- ✓ **Predictive analysis for Energy usage**
- ✓ **Payment API integration**
- ✓ **Dock control panel**
- ✓ **Remote Dock Control**
- ✓ **Energy utilization dashboard**
- ✓ **Clean Energy Analytics**
- ✓ **Predictive analytics for charging unit failure**
- ✓ **Billing dashboard**



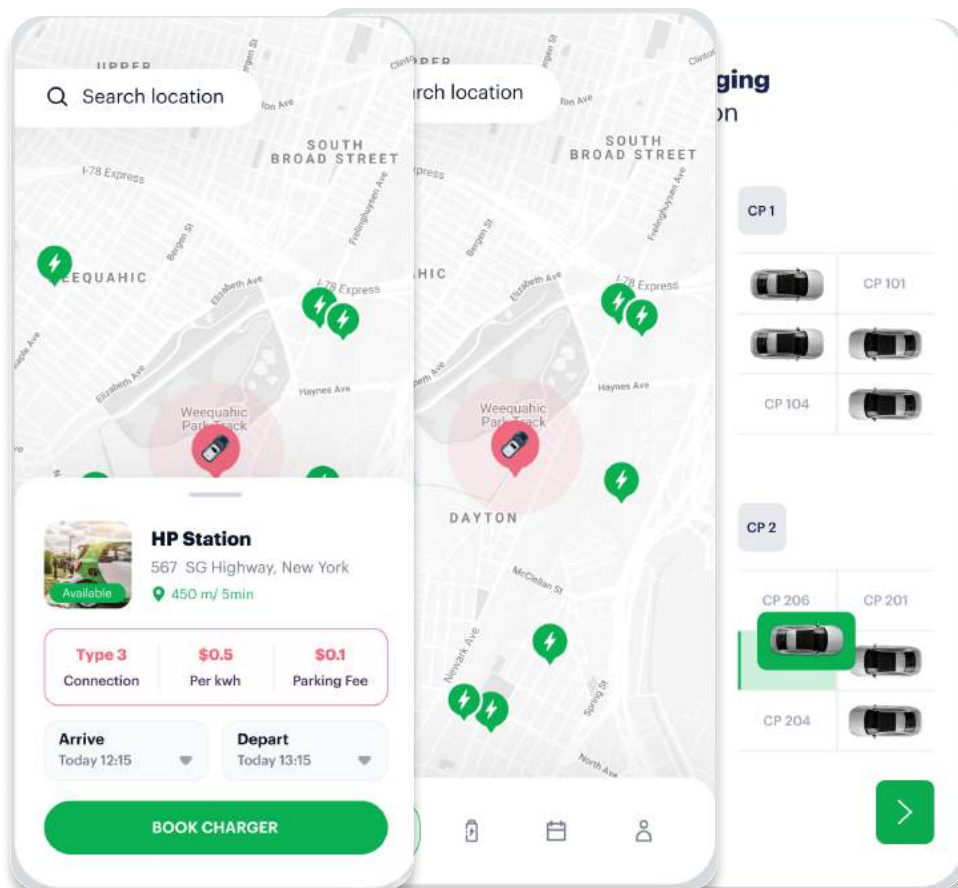
Get your custom analytics dashboard



# Bring customers into your charging ecosystem with Customer App

With our ecosystem, the operations and control of your charging business become super productive but one needs a customer app for allowing end-users to avail all the features that your charging station is offering. By communicating with necessary endpoints the customer will be able to avail a lot of features that you offer.

- ✔ Charging unit onboarding & installation panel
- ✔ Dock control panel
- ✔ Dock localisation using Geo-tagging
- ✔ Remote Dock Control
- ✔ Incoming customer localisation
- ✔ Energy utilization dashboard



# Other example use cases of our ecosystem

## ✔ GPS Location Based In-Sights

xMCU devices have the option of having an onboard GPS location tracking chip that enables the device to know its exact current location. This feature can be used to monitor the movement of mobile assets in large plants or storage yards. This can also be used to monitor the vehicle fleets present in the premises.

## ✔ Accelerometer/Gyroscope Based In-Sights

All xMCU devices have an on-board 6-axis accelerometer and gyroscope that help in determining the position and motion of the device in 3D space. Data from this sensor can be used to monitor device movements and vibrations thereby making it possible to generate inferences such as machine utilisation and idol time, over-vibrations indicating machine part failure, under-vibration indicating machine part stalling.

## ✔ Temperature Based In-Sights

All xMCU devices also have an onboard temperature sensor that enables the user to monitor temperature changes in various zones of the plant floor as well as changes in ambient temperature of the factory floor.

## ✔ Industrial Communication Protocol Integration

Various industrial equipments already support Industrial communication protocols like RS-232, RS-485 to communicate data points. xMCU can make these data points available on the cloud thereby making device troubleshooting and real-time monitoring easy for system and service engineers. Devices that support widely available industrial protocols can now be easily made cloud compatible with the power of IoT.

# Use Cases

## ✓ In-Sights for Rotational Assemblies

To measure the RPM of motors and rotating assemblies Durbin's MEMs tachometer sensor can be used in various Industrial and Business Process applications. By measuring the real-time motor or engine performance, it is possible to predict machine maintenance schedule, probability of part failure, device stalling conditions and prevention of accidents and hazards.

## ✓ Power In-Sights

Using a current transformer, it is possible to measure the peak current and voltage in an AC 2-Phase or 3-Phase Induction motor thereby calculating, the real-time RMS voltage, power consumption and historical energy consumption of individual equipments on the factory floor. Thereby making it possible to identify inefficient machinery and machinery requiring immediate servicing.

Many more such applications of xMCU and xIngest could enable Industries develop a holistic management and analytics system powered by IoT and Machine Learning that can help them solve their productivity issues, increase machine uptime with predictive maintenance, reduce unwanted accidents due to machine part or system failure, increase business process visibility and take informed data driven business decisions.

## Conclusion

With Durbin's solution your enterprise would be future proof unleashing a new era of productivity and efficiency helping you achieve greater business process optimisation using proven technological solutions thereby increasing your business profitability and reducing hassles in your everyday operations.

# About Us

We're a next-generation IoT and AI-based company focusing on providing comprehensive services to empower businesses with a robust ecosystem of IoT and AI solutions. We make sure to connect every piece of your business and bring it up to you on a dashboard so that you can make even smarter decisions to secure your business' tomorrow.

# Contact Us

**Reach us at:** [talk-to-us@durbin.live](mailto:talk-to-us@durbin.live)

**Call us at:**

+91 91230 54733

+91 89618 01848

**Address:**

781, Anandapur, Kasba, EM Bypass, Aakash Tower, 6F, 6th Floor, Kolkata, West Bengal 700107



**Our Clients**