Motherson Telematics – Deployed Use Cases with Agri OEM's

motherson

CASE STUDIES

with Agri Manufacturers

1. Cost Effective Basic telematics System.
2. Leading agriculture vehicle OEM transforms its customer service using Telematics
3. Fleet Management Solution adopted by OEM to track usage of Demo Vehicles

Cost Effective Basic Telematics System.

Connected Tractor is an industry leading offering conceptualized by a leading manufacturer of farm equipment (OEM) in India and designed by Motherson Invenzen Xlab Private Limited (MI-XLAB).

Connected Tractor (Telematics Solution) is aimed at bringing real-time visibility of tractor to their owners by leveraging IoT technology, the solution would allow end-customers to - track the real time location of their tractors; access operating parameters such as hour meter, fuel level, RPM and get alerted in case of theft – all from the comfort of their mobile application.

Problem Statement

OEM is known as one of the few manufacturers who caters to the customers needs, especially at the lower end of the spectrum. Based upon market feedback OEM wanted to provide premium automotive features even to end-customer who buy lower variants of their farm equipment. OEM had earlier engaged various Telematics service providers earlier - but none of them could meet the quality and price expectations. Since the turn-around time required was low, OEM trusted MI-XLAB's technical capabilities and engaged us as their preferred solution provider.

OEM engaged MI-XLAB for ideation, design and development around this specialized device. MI-XLAB already had a scalable telematics hardware and cloud backend. Using this base telematics platform, MI-XLAB created Hardware; Application & Cloud which met the customer's price target and functionality specifications.

Solution

Rollr Pro (2G) is small and professional real-time tracking device with GPS/GPRS connectivity and backup battery. It is perfectly suitable for applications where location acquirement is needed. Backed by the Rollr Telematics Cloud Platform, Rollr Pro (Gen-2) connects an end customer with its farm equipment in real-time. This data driven app helps farmers track their tractors and control their farming activities remotely.

Solution USP's:

- IP-67 Design with built-in Battery & Flash memory.
- Supports Voltage range from 8-18v.
- Comes with Analog/Digital Input &Output Line to connect with vehicle interface
- EMI/EMC compliant Components
- Deep Sleep mode with less than 2 mA power consumption.
- Supports Firmware upgrade over the Air (FOTA).
- Completely designed & manufactured in India.

Supported Feature Set – Rollr Pro (Gen 2)

DISCLAIMER: Images used in the document is for reference purpose only.

Live Tracking:

Track your Tractor quickly in a field or when your it is on the move.

Driving Behavior:

With our proprietary algorithms fetch the best efficiency from your Tractor by knowing Engine idling/Working events.

Trips/ HMR Info:

A comprehensive dashboard in Mobile App to analyze Daily/Weekly/Monthly tractor trips, along with Distance (KM's), Time & Number of trips information.

: Multiple User Support

Share your equipment data with your trusted family members. Also, track more than one equipment from the same App.

: Security Alerts

Get notified when ignition is turned on, Equipment exceeds the defined speed limit, moves in-out of set geo-zone and when the device is unplugged.

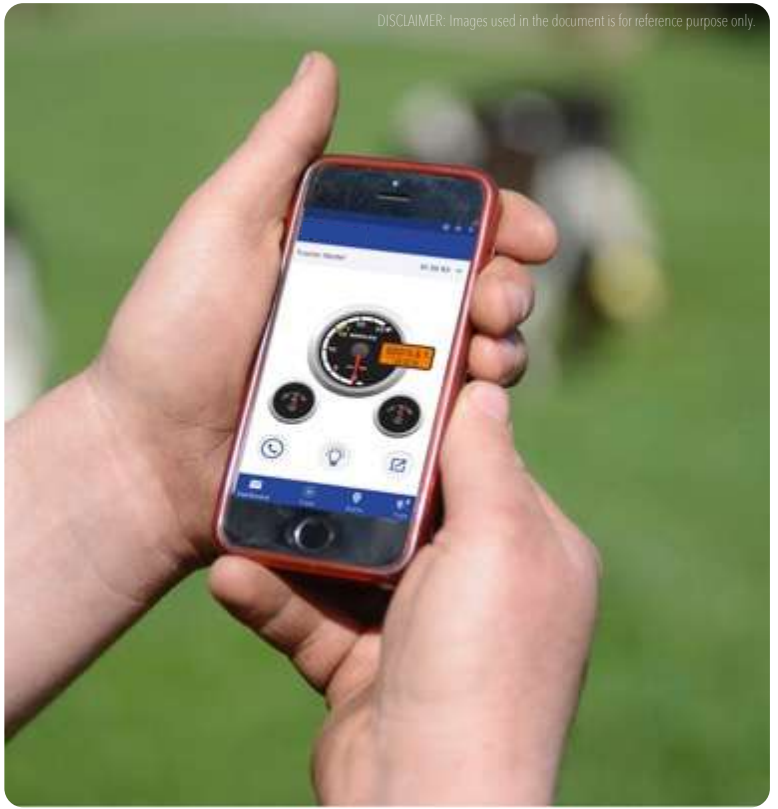
: Fuel Level Detection

A sudden drop in level of the Fuel will be notified to end-user via an alert in mobile application.

With Customization in Hardware and firmware MI-XLAB engineering team can add few more custom features to the device type such as -
Front Lifting Detection, Service Reminders, Tractor Immobilization; Head Lamp On/Off, Towing Detection and integration with CAN (if Available in tractor).

Current Engagement

OEM started with a POC of about 500 devices - the initial feedback from their customers (farmers) was very encouraging and most of them found this as a must have add-on to their vehicles. Buoyed by the positive response, OEM decided to scale the scope of the devices to over 5000+ installations in a quick time - and eventually moving to a full-scale enablement of all vehicles of this model. Solution is currently available for 2-3 Tractor variants ranging from 30- 50 hp. During initial launch phase (with a seeding size of approx. 5000 units) Connected Tractor will be launched as a OE Fit Device.



Future Enhancements & Other Engagements

OEM is also planning to use this as a platform for announcements and dedicated marketing activities - since OEM already has information of customer's profile and their location. Hence OEM can notify customer about various offers & service promotions.

Precision Farming

OEM is also evaluating an advanced version of a TCU (telematics control unit), where we are able to offer a precise measurement of the land cultivated. This will be used as a value added service to the customer along with basic telematics features. The TCUs use a high-precision GPS along with proprietary algorithms to give an accurate estimation of the cultivated area.

Transforming Customer service using Telematics.

The customer is a leading vehicle OEM in India with a legacy of over 50 years. The company manufactures Agriculture vehicles such as tractors as well as construction equipment's and other Farm machinery. The company is evaluating multiple avenues for digital transformation of its business - including improving manufacturing efficiency, customer service, better dealership management as well as next generation technologies such as electric vehicle adoption. The customer is engaged with us for a technology oriented partnership for enabling some of these transformations.

Problem Statement & Concept

OEM realized that being customer centric will be at the core of their vision of being the market leader in its segment. There was one major challenge in this - i.e. OEM did not have an updated database of a majority of their customers. This was in contrast to a typical CRM solution where the company has a 360 degree view of their customers at fingertips.

The customer came up with a unique idea having a custom telematics device with Voice call support that can be fitted on the vehicle at the assembly line itself. This would enable a direct one-touch connect between the customer and the OEM.

Solution Approach

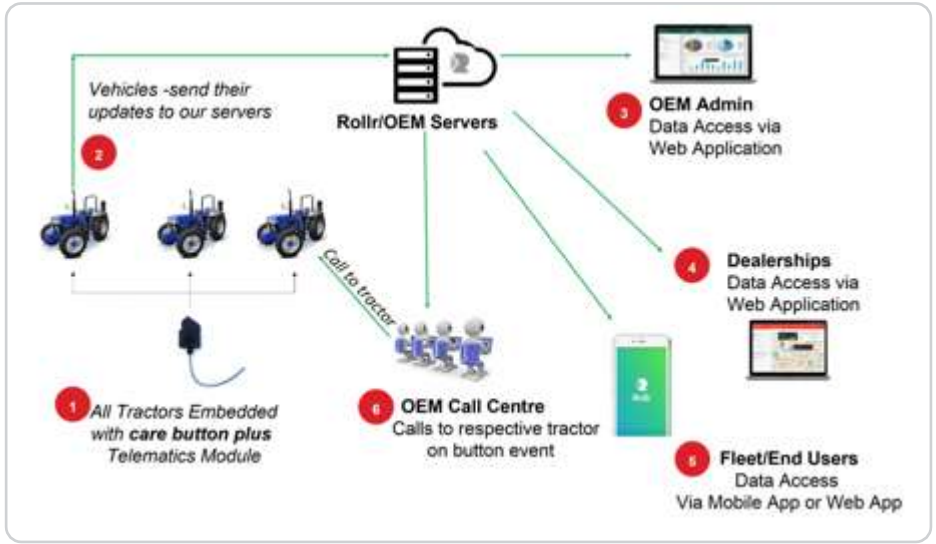
OEM required MI-XLAB to built (from ground up) an robust SOS Device that can integrate with OEM Call Centre and provide telematics functionality. Since, MI-XLAB already had a scalable telematics hardware and cloud backend. Using this base telematics platform, MI-XLAB created a customized Voice enabled telematics device for OEM which connects their customers directly to them at the push of a button. There were multiple partners involved in this program and all the partners worked together to build and launch the complete solution in a quick turn-around time of 16-20 weeks.

Solution Features:

- Automotive Grade Design, Connectors & Wiring Harness.
- IP 67 Compliant Device that is complete designed and manufactured in India.
- Compact design & simplified connections with vehicle interface.
- Supports Firmware updates over the Air (FOTA).
- Comes with built-in Speaker & microphone that supports voice call.
- Prompt One touch Connectivity with OEM Call Centre
- 2G Based Solution design.
- Ambient noise cancellation to enable smooth communication even in noisy surroundings.

Solution Architecture

The SOS unit is connected to Tractor using Power, ignition & Ground Line, the device acts as a gateway to provide telematics and voice calling functionality. Connectivity of device is via a 2G based SIM (keeping solution cost effective) that enables data & voice communication. In case of any emergency customer can press button on the device to connect with OEM Helpline. Over 2G Connectivity OEM Server receives notification and immediately send message to call center with associated Equipment ID and Device ID to Call Centre Application. Call Centre Agent directly make a call at the Care Button installed in Equipment to understand Customer Query and incase of any further assistance route it to a regional dealer. The solutions is scalable for OEM and servers other purposes as mentioned in the workflow.



Current Engagement

What started as a concept with mere size of 50Units – post initial feedback from end-customer and from OEM Service & Marketing Departments it became an OE Fit solution.

OEM is now receiving direct customer calls at the call centre and is able to resolve them quickly - this has resulted in a very positive customer experience and retention for the OEM.

One use case of the SOS device was customers reaching to OEMs for problem resolutions. However, OEM is also planning to use this as a platform for announcements and dedicated marketing activities - since OEM already has information of customer's profile and their location.

Deployment Size

The deployment size in early stages was 10K units in a financial year, however, till today we have supplied more 2 Lakh Units and maintaining cloud and backend services.

Fleet Management Solution

adopted by OEM to track usage of Demo Vehicles

To prevent misuse and to understand on daily basis usage of Tractors OEM wanted a robust Telematics system that provides Geo-fencing functionality and remote vehicle immobilization to ensure Tractor utilization in a specific zone and in operational time.

Business Requirements

- **Real time tracking** of 400+ Demo Tractors spread across Escorts Dealerships
- **Web Application** to monitor Tractor movement
- **Reporting Capability** Vehicle Movement, Kilometers travelled, Hours of operation and other reports important for business user to run day to day operations
- **Report over Email** - Periodic reports (Daily/Weekly/Monthly) to be Emailed to a set of pre-defined users.
- **Multi User Access** for up to 50 Users across regional and corporate office.
- **Geofencing with Remote Vehicle immobilization** to prevent unauthorized access.

Proposed Solution & Feature Set

MIXLAB enabled OEM with wired Rollr wired Hardware that can be used for basic/advance vehicle tracking requirements, with superior location, tracking, reporting, logging, and security capabilities.

- ✓ **Real time tracking** of fleet vehicles.
- ✓ **Web Application Access** to monitor vehicle movement
- ✓ **Dashboard** to monitor business specific KPI's and Metrics
- ✓ **Bird's eye view** to know current vehicles location at a glance in a map view
- ✓ **Drill down feature** to view details of individual vehicles
- ✓ **SMS/Email** Based notification in case of device tampering
- ✓ **Reporting** capability to extract Vehicle Movement, Kilometres travelled, Hours of operation and other reports important for business user
- ✓ **Periodic reports** (Daily/Weekly/Monthly) over Email to set of pre-defined users.
- ✓ **Multi User Access** for tracking by users across regional and corporate office.
- ✓ **Training for application** users for dashboard usage and field technicians for Hardware installation
- ✓ **Geo-Fence reporting** of each tractor.
- ✓ **Remote Immobilizer Functionality** – to stop the tractor remotely if it is used beyond certain time.

Thank you.