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Partner for your success

Customer case Study

Manufacturing

JobsOnNeed

TestOnNeed

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Smart Asset Management

North American Vendor
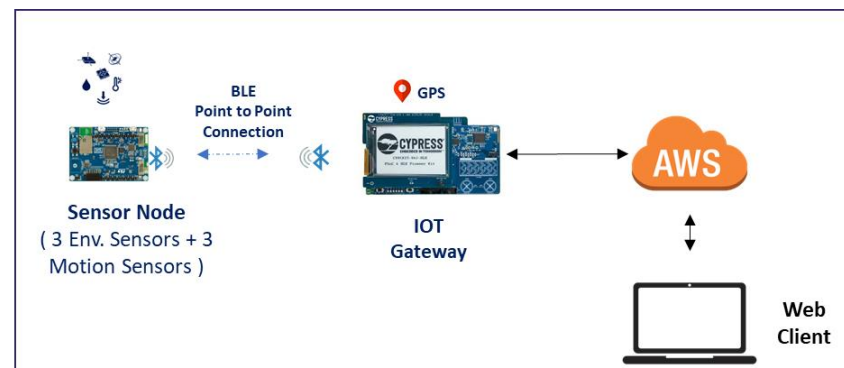
Cold Chain Monitoring

Requirement

- Design and Development of functional prototype Cold Chain Monitoring Solution
- Identifying and integrating sensors, gateway, connectivity, and cloud

Solution

- Delivered end to end solution with environmental sensors (temperature, humidity…) and motion sensors (Gyro, Accelerometer) with 32 Bit Controller, FreeRTOS based firmware, BLE connectivity, and AWS cloud connectivity over Wi-Fi
- Implemented Historical data backup/storage, and dashboard visualization with Graph , Google Maps view for tracking

Customer Benefit

High quality, high performance, robust, and feature rich end to end cold chain monitoring and management functional prototype.

Smart Infrastructure Monitoring

European software solution provider

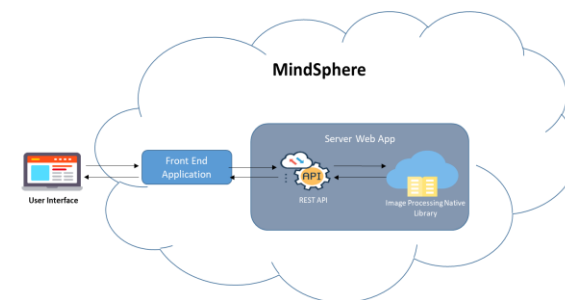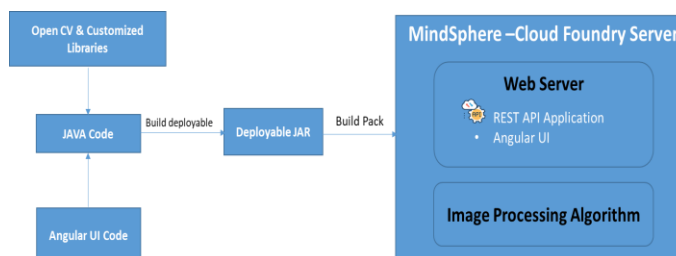High rise building, tunnel, road, and Bridge inspection

Requirement

- Develop a software solution to capture, process, identify, alert, and report the cracks in the infrastructure
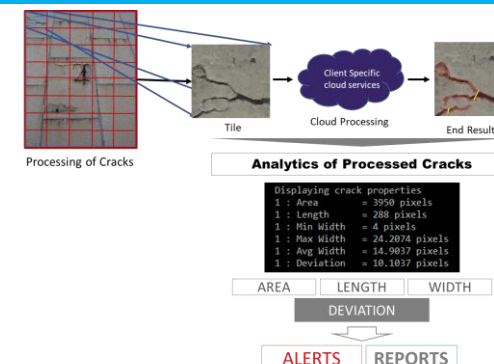- The solution must be integrated in to the existing Mindsphere cloud foundry server

Solution

- Delivered image processing plugin with optimized crack detection algorithms, frontend UI, and integrated with the Mindsphere foundry server.

Customer Benefit

Customer leveraged the solution to innovate and provide solution for multiple use cases such as tunnel, high rise building, roads, and Bridge inspection etc.

Smart Operational Monitoring

Asian Manufacturer

Automated cooling of pipe in manufacturing plant
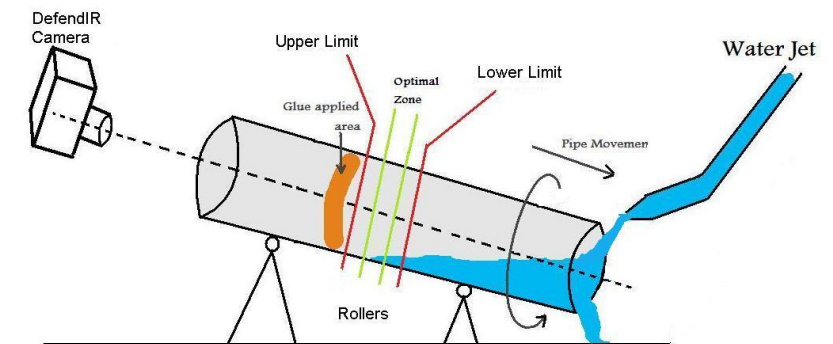
Requirement

- Design and Development of automated mechanism to cool the pipe when manufacturing by maintaining the appropriate water level
- The solution should be integrated with existing manufacturing infrastructure.

Solution

- Delivered machine vision based solution with algorithms to detect the water level below or above threshold, generate events to control the water supply.
- Integrated thermal camera with touch screen frontend with performance and user defined statistics in the existing infrastructure

Customer Benefit

Customer controlled the cooling at optimal level with the delivered automated solution and increased the quality of Pipe manufactured with no defect.

Smart Operational Monitoring | Smart Asset Tracking
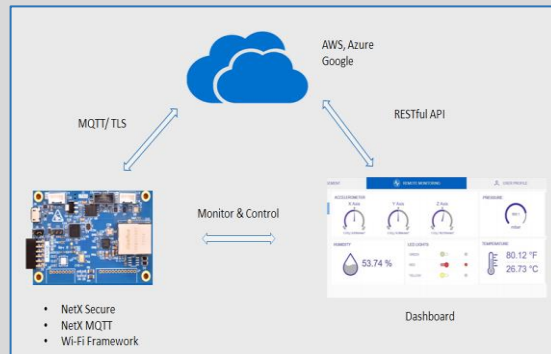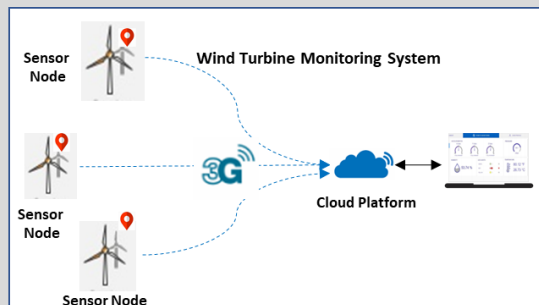
NA Vendor

European Vendor

Requirement

Build solution for remote monitoring of wind turbine through data collection, provide insights with analytics for corrective action
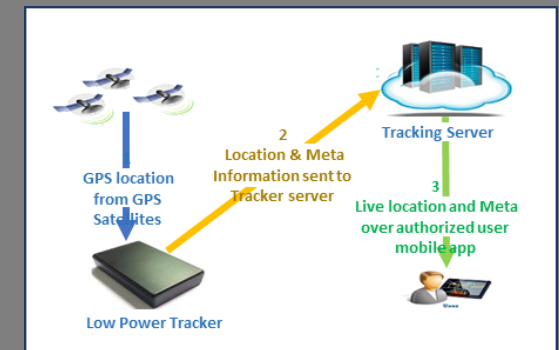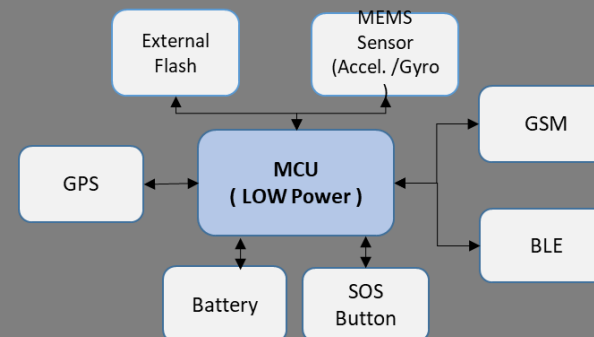
Requirement

Design and development of Low power low cost solution for tracking device for industrial, vehicle, and personal asset

Solution

- Delivered end to end solution from hardware to firmware, sensor acquisition, certification, cloud and mobile application
- Implemented / integrated environmental sensors(temperature, pressure, humidity) and motion sensors(accelerometer, gyro), Firmware and device upgrade/configuration over the air, Cloud (AWS), Connectivity (Wi-Fi, 3G), GPD, data analytics and dashboard

Solution

- Delivered end to end solution from hardware to firmware, sensor acquisition and filtering, certification, mobile application, and consulting for mass production
- Implemented Low Power GPS Tracking and Geo-fencing, motion detection algorithms using GPS and accelerometer data, alerts such as low battery , temperature etc. and connectivity over BLE

Customer Benefit

Customer are able to monitor and take corrective action instantly and deliver SLA to their end customers

Customer Benefit

Customer leveraged low cost solution to improve profitability margins

Smart Robotics

World leading Home Appliance Vendor

Computerized Sewing machine

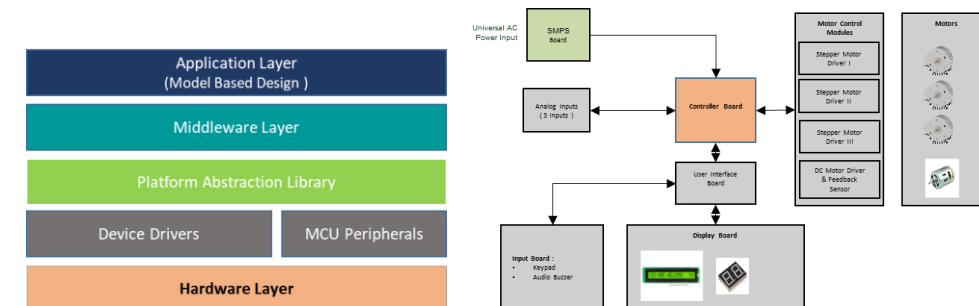|		
8 Product Line Variants	**10+** Complex Devices Hardware Abstraction	**3** MCU Variant Abstraction
Model Based Design	IEC Standard Compliance	Motor Control Algorithms

Requirement

- Reverse engineer, re-design and implement sewing machine product appliances for multi-variant product line

- BOM Costing and optimization for improved profitability

Solution

- Delivered advanced motor control system with new control and user interface board, electro-mechanical interface design engineering with accuracy/timing, testing and certification

- Implemented Optimized hardware components selection & analysis with improved scalable modular system architecture & design (hardware & firmware)

Customer Benefit

Considerable savings by reducing the electronics BOM per machine equals 5.5 USD, and customer manufactures millions of them in a year with functionality enhancements

Hardware & Software architecture

Smart Robotics

European Vendor

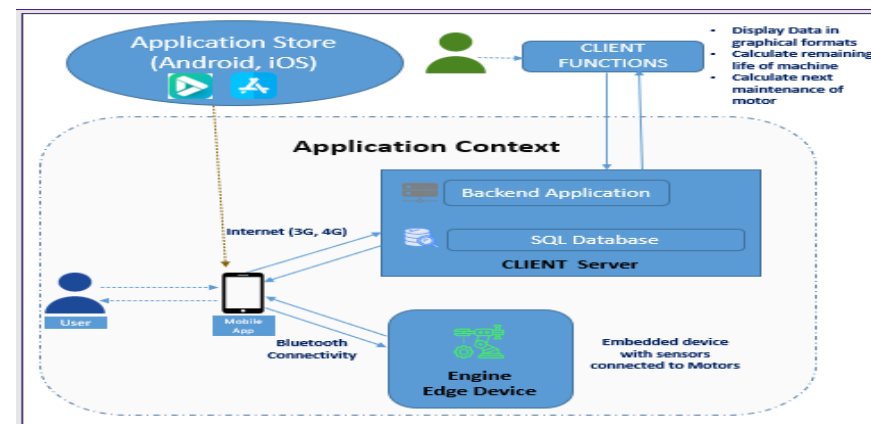Health Monitoring of Motor engine

Requirement

- To build ground up end to end IOT system for collection of motor critical parameters like vibration and temperature data for predictive maintenance and saving costs.

Solution

- Delivered Raspberry Pi application to periodically collect temperature and vibrational data from sensors of the motors
- Implemented android and iOS application, data storage, and server side application for visualization and dashboard

Customer Benefit

Delivered low cost, low energy, high performance health monitoring of motor engine end to end IoT ecosystem
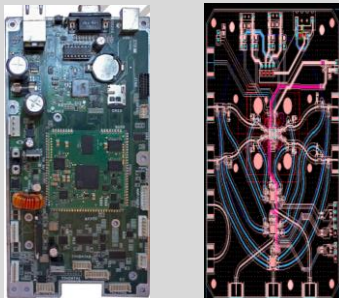
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NA Vendor

Requirement

Design and Development of board with HOST platform to support PCIe 2.0 , SDIO 3.0 and USB 2.0

Solution

- Delivered solution by selecting components, hardware and enclosure design, linux utilities development and testing
- Implemented and tested measurement on selective rails, thermal analysis, form factor usability and aesthetics using tools such as OrCAD Schematic and instruments such as analyser and power meter

Customer Benefit

- Improved speed and signal integrity
- Smaller form factor with considerable savings in cost and space.

Asian Vendor

Requirement

Implementation of FPGA enabled real-time video processing and enhancement removing background from the scenes and accurately specify the targets

Solution

- Delivered solution by eliminated the background with automatic threshold, target detection in real time computation of image size (720x576x10 bits) i.e. at 25frames per sec i.e. over 150 Mbps data rate
- Implemented by acquiring input video from source using decoder chip configured with IIC bus, and did Comprehensive testing with Virtex-4, Virtex-5, Kintex-7 and Virtex 7 devices

Customer Benefit

Input Video Frame

Accurate Output Video Frame

European Vendor

Requirement

Develop low cost RF signal attenuator that attenuate signals up to 90dB with RF frequency range (0 to 6GHz) in 2G& 5G Wi-Fi signal testing

Solution

- Delivered using FPGA interface connected to host processor interface via glue logic, and Hybrid dielectric PCBs using Rogers +FR4 material were fabricated
- Implemented and tested using tools (OrCAD Schematic, PADS PCB, FloTHERM, SolidWorks) and Instruments used (Network Analyzer, Agilent VSG, Temperature chamber, Power meter, Spectrum analyzer, Shield boxes room (Rx sensitivity testing)

Customer Benefit

- High accuracy and linearity
- Minimized RF signal loss and substrate leakage
- Considerable savings in cost and space.

Test Automation

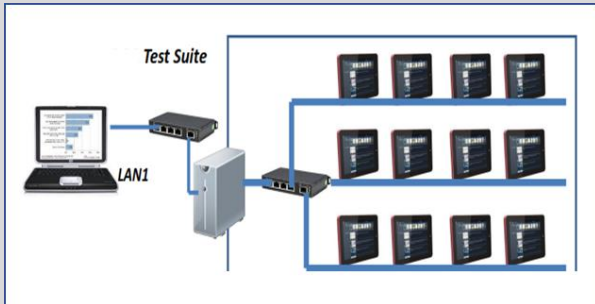## NA Vendor

Requirement

Auto controlling , testing and monitoring the inflight entertainment devices

Solution

- Delivered test automation framework with record and playback, data driven & event driven, and model based testing, test management, reporting, and logging via web interface
- Implemented on Android and QNX Platform support, and Hardware Simulation such as events, Scenarios etc.

Customer Benefit

Cost reduction with high-quality product delivery
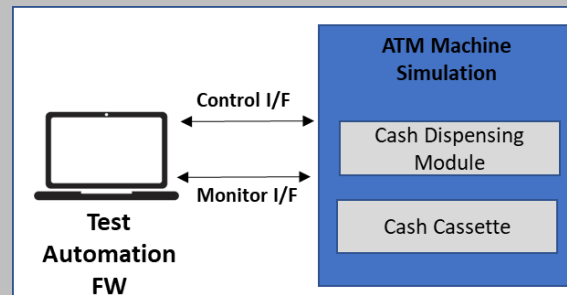

Asian Vendor

Requirement

Automation testing solution for testing ATM machine modules

Solution

- Delivered windows based testing framework for ATM Modules Simulation and Emulation
    - ATM Cash Dispensing Module
    - ATM Cash Cassettes
    - ATM Module sensors
    - Cash Notes
- Implemented standard device communication module over XFS on USB , Ethernet and Serial

Customer Benefit

Cost reduction with high-quality product delivery
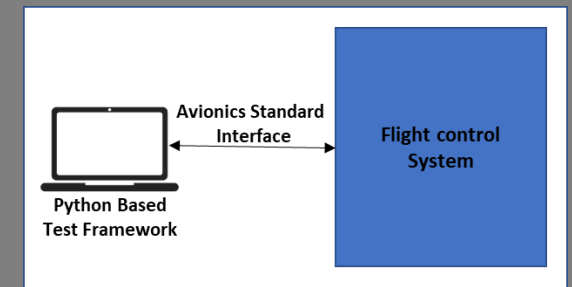

Asian Vendor

Challenge

Test automation solution for verification & validation for Flight Control System

Solution

- Delivered automated Python based test framework
- Implemented different types of analysis as per Aerospace DAL A level
    - Structural Coverage Analysis
    - Stack usage Analysis
    - Memory Usage Analysis
    - Object Code Analysis

Customer Benefit

Cost reduction with high-quality product delivery

w5rtc
Partner for your success

We *solve* your customer challenges

We *start* your project when you need it

We *support* you to win your customer trust and orders

We *offer* SLA and profitability driven partnership model

We *provide* flexible onshore, offshore and nearshore engagements

We *deliver* products fast with high quality

We *automate* all to be fast to beat the slow

*Being efficient and fast is all about transformation
and success is all about welcoming it.*

To transform and to provide the best product fast, start today your journey with us.

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