

**LANMESH** Wireless

INDUSTRIAL AUTOMATION SOLUTION



Simplifying **Plant Management**

Android Software 4 **Industrial Motoring**

Smart Phone Based **School Bus Arrive System**

Secure Web Based **SCADA**

Design  
Solution  
Consulting  
Support

INDUSTRIAL AUTOMATION AND PLANT MONITORING  
SYSTEM

LanMesh Wireless offers unique expertise in secure web based, and Android smartphone based Industrial Automation control technologies, specifically designed for harsh and rugged environment, and complete end-to-end turn-key solutions. We have been investing the research of Intelligent wireless Data Acquisition and Processing System (DAPS) solution since 2003.

**LANMESH** Wireless

Wireless Sensor Network  
Smart Phone Software for Industrial automation

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## NOVEL SMART PHONE APPLICATION FOR INDUSTRIAL AUTOMATION CONTROL



## Technology at work for your business

As a mobile platform, Android has grown its popularity among consumer market. Its open market model, rich tool chains and supported by powerful hardware platform make it an candidate for Industrial Application.

Imagine how easy and convenient to monitor and control anywhere in a secure way. LanMesh Wireless is among one of the first vendor provide Blackberry/Android smartphone based application in Canada market.

Critical data can be monitored and device can be control through Android smart phone through secure channel with 128 bit AES encryption, no worry about of confidentiality, integrity, availability of your control network system.





## SIMPLE AND RELIABLE ARCHITECTURE FOR VARIANT APPLICATION

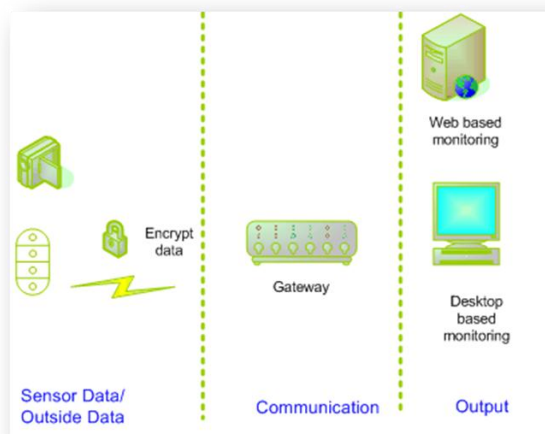
**Flexible Solutions for** your business needs

### INTEGRATED WIRELESS SENSORS APPLICATION

LanMesh Wireless Industrial Automation solution provides sensor data collection and processing system via a simple installation, minimal maintenance and low power consumption.

By implementing our solution for Liquid Inventory Supervision System, it gives suppliers and their customers maximum control over distribution, collection and overall vessel management for a variety of industries including chemical, petroleum, agriculture, utilities, pharmaceuticals, food and beverage, and water and wastewater treatment.

Each deployed sensor measures tank levels, the data are merged to a local gateway through RF signal based on Direct Sequence Spread Spectrum(DSSS) wireless technology.



The sensor data or device control information are captured in a real-time manner. The selected data are encrypted depending on the QOS. All data are collected and routed through distributed gateway to Internet, eventually merged into Network Administrator Node to processing. Graphical display and analysis result are provided to the end user.



## Web Based Interface



Automated System

User Friendly Display with Graphic and Tables

Report chart, alarm, notification via SMS

Alarm Service - receives data updates from LiveData Service and manages alarms.

Live Data Service - receives near real-time updates from data sources and provides other components with access to live data.

SQL Data Source Provider - monitors data changes in SQL databases.

Custom Data Source Providers - Custom or third-party components that monitor data changes in arbitrary data sources.

History Database - A SQL database that stores historical data.

Alarm Notification Service - sends alarm notification messages via email or SMS, and accepts alarm acknowledgements via SMS.

Security: Support SSL protocol. Communication between server and client are encrypted.

## Ubiquitous Abstract Data Layer for Data Acquisition

Virtual Device

Plug-in and Play  
Driver

Fast Deployment  
for custom or  
private Protocol

Flexible  
architecture,  
either combined  
hardware or  
separate Data  
Acquisition and  
Web server

- Server-Agent model. Data Acquisition act as agent and normally be deployed to close to monitoring/control device.
- Two types of data sources: event-based and polling-based, via abstract device layer
- Raw data are first sent to Abstract Layer of Data Acquisition agent for pre-processing prior to send to core software
- Built-in driver for RS232 Serial, TCP, UDP, Http-Get, USB, and more
- Driver is written in Java language or C language. Interface with external device and generate real-time





## LanMesh Web Based SCADA software



### INDUSTRIAL AUTOMATION AND PLANT MONITORING SYSTEM

LanMesh Web Based SCADA software runs on a gateway machine and all device connecting this gateway, either through wire, or wireless. Processed data are pumped to a secure web server. Administrator can easily control and monitor SCADA in remote site.

Features include:

Display status and remote control via wired and wireless interface, such as Ethernet, Modbus, CAN, RS485, RS232, IEEE 8021.11/a/b/g etc.

Have the ability to add plug-in-and-play driver for all customized automation device, no matter legacy or new device.

Log operating history and alarm, sending trigger alarm to email account or SMS

Support Android/Blackberry smart phone remote control and monitor.





## LanMesh School Bus Tracking System Solution

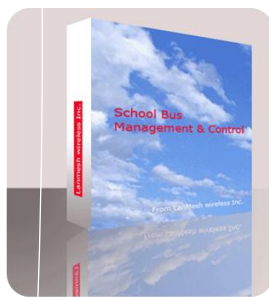


For decades, engineers at LanMesh have been performing the research for location based service using cell tower technology. Today, LanMesh provides state of the art real time Vehicle Tracking and Management Software without any special hardware purchase. Our solution can be used to track and dispatch bus, school bus, truck and public service vehicle like fire truck and police car through secure communication with a rapid deployment within days.

### LANMESH BUS TRACKING SYSTEM SOLUTION

Main service of our LanMesh School Bus Tracking System include[1]:

- Instant report bus stop by sending SMS,Email or making a real time VOIP phone call to the rider who has subscribed the service.
- Manage multiple buses at one integrated web based tools and get instant status report of all managed bus.
- Dispatch bus from control center by showing real time message on the LED panel[optional feature].
- Real time Video Surveillance transfer from bus to web based secure management center, and automatically archive up to a year record [optional feature]





## LanMesh Asset Management

### LANMESH BUS TRACKING SYSTEM SOLUTION

LanMesh Intelligent Fleet Management Software is a cost effective solution for small and medium fleet company to manage cargo retail product across North America, and a good start up option for large size logistic company.

The mobile terminal is connected to Fleet Control Center via GSM/GPRS/CDMA/UMTS/HSPA, in the weak or no signal coverage area, data is accumulated and stored in onboard terminal and immediately upload to control center upon reaching signal coverage area. Satellite communication option is available should required by the customer.

Feature of LanMesh Fleet Management Software:

- Secure Web based user interface - easy to learn and use, data keeps confidential integrated without the worry of eavesdrop or compromise;
- Quick view log of any individual of all fleet track record;
- Support dynamic dispatch cargo and the acknowledge from the driver;
- Collect real-time track condition of shipping cargo



### RFID FOR FLEET

With LanMesh's integrated data application software, RFID tag can be used in Fleet Management System as data acquisition approach. RFID for logistics solution allows wireless transmission of information for product identification. This technology provides the traceability of delivering assets among the supply chain, comparing its predecessor bar code.

RFID tags can help the company to reduce warehousing costs and error rates in the supply chain. It also reduces costs and waste within the supply chain.



## Customized Software Service

### RAPID SOFTWARE DELIVERY WITH TURN KEY SOLUTION

We realize that time is money and in a fast-changing market we want nothing more than for you to launch your services/products as quickly as possible. We use a sophisticated design & development process that allows its business customers to deploy the customized software solution expeditiously and in time manner with quality you expected.

### Customized Software to implement Secure Wireless Smart Grid Network

Some existing Wireless Grid Network standard e.g. 6LowPAN, Zigbee, IETF1451 are designed for common application with the vulnerable side effect due to the less consideration of security issue. The industrial automation control industry require a substantial security to the network to eliminate the consequences of break-in of network. Some of the wireless grid networks are deployed for industry automation application. The industrial automation control industry requires a substantial security to the system to eliminate the consequences of break-in of network. The network must be designed with the care of security. The automation control software and systems must be analyzed and tested in line with your real specific environments and needs independently before they are deployed, in order to reach the utmost reliability during the plant operation.

However, most of existing grid network standard use static key without key management option. Those Wireless Grid Network without extensive security consideration are not difficult to be comprised using easy find available tools. To protect the privacy of sensor data among safety-critical wireless grid network from malicious attack, eavesdropping and deny of service, proprietary embedded secure grid network is an option.

LanMesh Wireless offer customized mesh network software components or turn key solution to meet the needs of your business, in a simple, flexible, fast and cost-efficient way.

We makes it possible to deliver customized encryption algorithm implementation using LanMesh Embedded Crypto Library to adapt to resourced constrained embedded hardware. The selected security symmetrical algorithms including AES, RC5, RC2, TEA, blowfish, etc, asymmetrical including Diffie-Hellman, etc. We deliver tested, proven embedded crypto software to integrate into your product.



# Secure Industry Control Network Service



## DESIGN SERVICE

We understand Industry Automation business model and what Small-Medium Business (SMB) really needs. We provide integrated service with cost saving solution for SMB. With the selection of our solution, there is no need to keep dedicated Industry IT administrator in your organization, just for dosing occasional task.

We understand the difference between control networks and office networks, which are essential for the successful design and deployment of manufacturing-critical networks. Our experienced experts will bring your company correctly designed, fully functional, and robust industrial control network that is reliable in operation, from plant-wide to multi-site manufacturing controls networks

## Service Domain

- Technology Planning, budget estimation
- Wired and Wireless Control Network Design, Implementation and Support
- Wireless network site survey and report
- Network Security Infrastructure Design and Implementation
- Network Data Assessments and Testing
- Network Penetration Testing
- Wireless Network Intrusion Detection
- Internet Firewall Security Assistance
- Vulnerability Scanning, Disaster Recovery Planning and Testing
- Wide Area Network Design, Implementation and Support
- Remote User Connectivity
- Web Enabled HMIs / Web Server Deployment
- Network Security, VPNs and secure wireless Networks
- Environmental Monitoring



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