

**Product Datasheet:: *Smartray™***

***Smartray™* Features:**

- Non-invasive measurement of liquid level inside sealed vaccine vial or bottle
- Hardware is based on state-of-the-art Radio frequency technology
- Monitors liquid medication and vaccine vial dose usage
- Scan, capture and store barcode or RFID data - expiration date, lot number, vaccine & manufacturer name, dose, total volume
- Reduces vaccine and medication wastage
- Automates inventory supply chain process
- Vaccine and medication scheduler due tracking and alert
- Vaccine consumption tracking
- Vaccine inventory tracking
- Interface with vaccine distributor supply chain and EMR system
- Each Smart tray holds multiple vials And bottles
- Generate reports- vaccine inventory, level-measurement, consumption, given & due scheduler
- Big Data analytics report on collected data
- Mobile Web Apps iPhone and Smart Phone and iPad
- Operating Temperature -0 to +70°C

***Smartray™***



**Patented and Approve**



**Vaccine Vial**

## **Product Family Overview:**

The FMS Inc., first patented commercial product **Smartray™** system for swine industry has successfully passed customer site or field testing. Hardware unit is based on state-of-the-art Radio frequency technology. The **Smartray™** system allows user to measure liquid level in **nine** sealed Human Vaccine vial per **Smartray™** system.

The **Smartray™** system is sensitive enough to respond with these different Vaccine liquid medication combination - from water based medication to oil based medication to different solution mixtures, from transparent liquid to thick, dark opaque, color solution from 1ml to 10ml in different glass and plastic bottle sizes, even most critical and different types of liquid medication.

## **Functional Description:**

The **Smartray™** hardware system measures vaccine liquid level and volume in a sealed vial. The custom built-in application graphic user interface (GUI) software online workflow monitors and tracks the inventory system from purchase to consumption phase. Track given vaccine, vaccine due scheduler, generates all tracking, monitoring and statistic reports. Also big data analytics report on collected data.

## **Hardware Unit:**

### **Part:**

- **Smartray™** with 6-holders
- Barcode scanner

### **Laptop:**

- Laptop, application graphic user interface (GUI) Software is installed.

### **AC Power Supply Adaptors:**

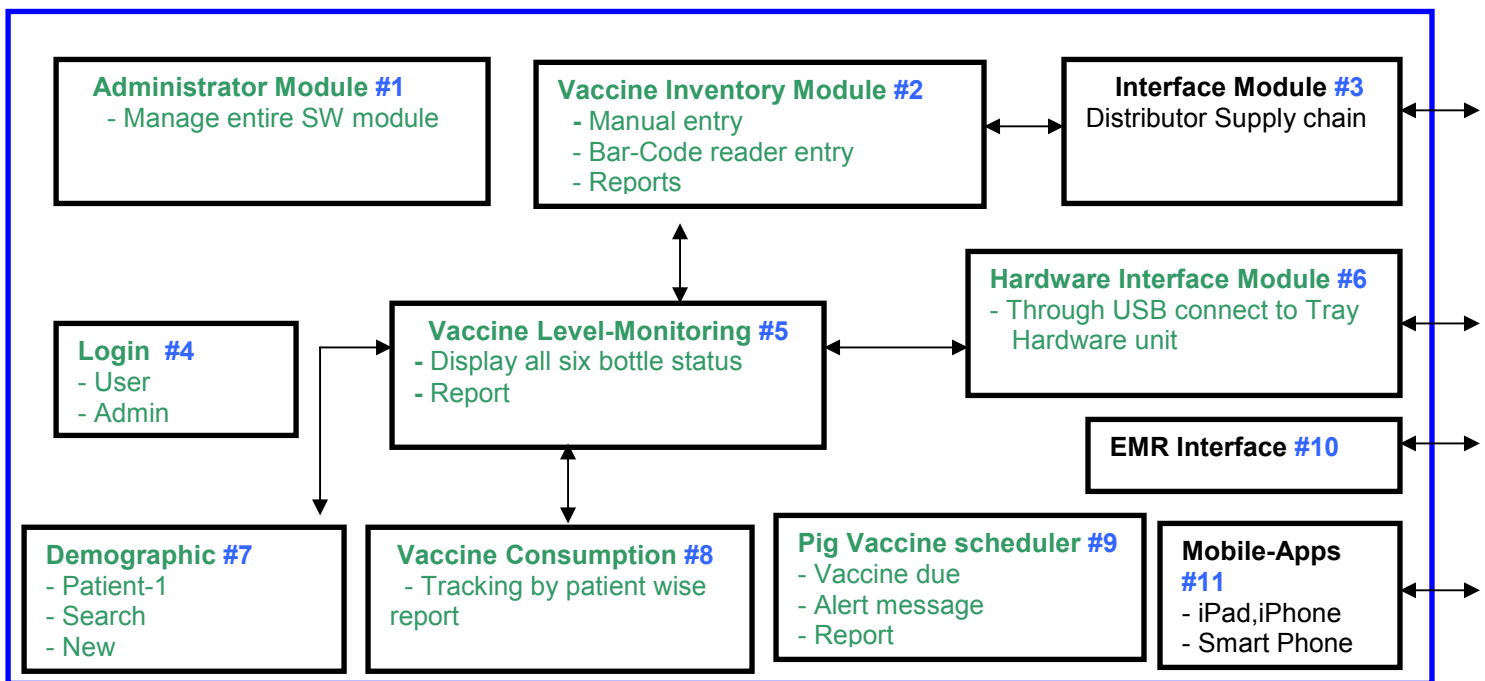
- Controller-board unit 5V dc 2Amp
- Smart tray unit 3.3v dc 2Amps

## **Application GUI Software Description:**

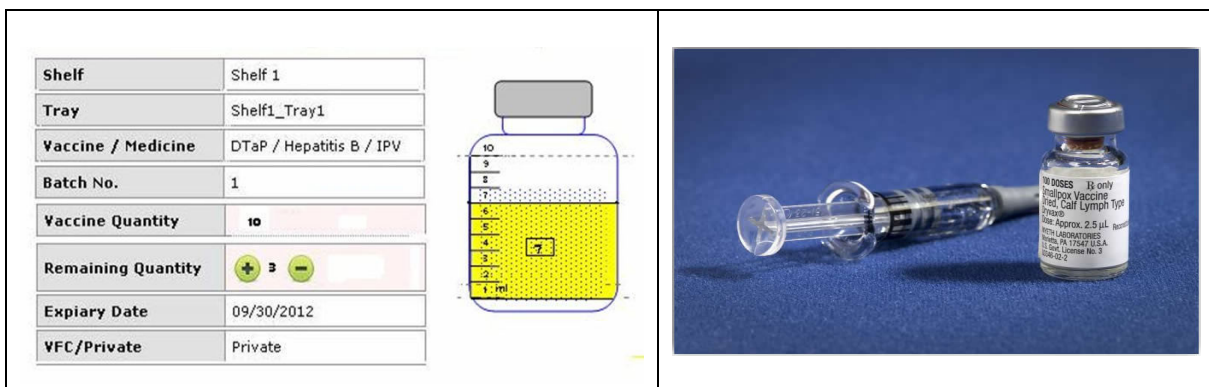
- Web and user based the **Smartray™** inventory management system software
- Barcode/RFID data collection
- Vaccine due alert messaging
- Medication Consumption or given medicine tracking system

- Inventory system - single liquid drop to bottle/vial level to vial lot number
- Medicine purchase order
- Connect to medication supply chain distributor
- Big data analytics report on collected data and various report generation
- Connect or interface with Swine any EMR system
- Mobile Web Apps – Smart phone, iPhone & iPad

### Custom Software GUI Workflow:



### Screenshot:





### **Installation:**

**Smartray™** system custom application GUI software is pre installed and configured on Laptop.

### **Users:**

**End user** – Doctor, Allergist clinic and Hospital

**Intermediately user** – Research Labs.

**Supply chains user** – Distributor or pharmaceutical company

### **Advantage and Benefits:**

- The **Smartray™** patented product approach is unique and first of its kind in Human Health industry
- Allows Doctor, Allergist clinic and Hospital to **reduce medication cost, operation cost** and control & **reduce wastage.**
- Entire workflow is digitized and online
- Interface with distributor supply chain
- Interfaces with any EMR/EHR system

### **Vaccine Wastage:**

According to WHO released the “Global Vaccine Action Plan 2011-2020” document -

- Doses discarded from opened vials after the immunization session, in accordance with multi-dose opened vial policy (MDVP) or otherwise.
- Doses damaged in unopened vials for any other reasons: e.g. problems with the cold chain (VVM at discard point, frozen DTP, TT or HepB), expired vaccine batches, broken vials during transport and handling;

### **Liquid vaccines wastage:**

- 25% wastage rate for 10-20 dose vials
- 10% wastage rate for 2-6 dose vials

**FMS Inc.**, has addressed human vaccine wastage in multi-dose vials problem through its patented product called **Smartray™** system and reduced vaccine waste and operating cost significantly.



**Smartray™** system is placed inside refrigerator to keep multi-dose open vial in cool environment as per MDVP requirements. The FMS' vaccine tracking and management software system communicates (send multi-dose vial data such as remaining doses information, expiry date, lot number, vaccine name and so on) with cloud data server from inside refrigerator to vaccine data tracking remote central server or depository online.