



The Device Supplier View of Provider Inventory

Knowing the quantity with confidence at all times of device supplier items in a provider location allows suppliers to operate at the proper level of inventory to meet the provider demand. The current methods of tracking this inventory are 1) having the provider's nursing staff count inventory, or 2) sending sales reps to each provider location to count inventory. Neither solution is very good. Nurses do not have the time or desire to spend time counting each suppliers' inventory so it does not get done. Sending sales reps into the provider locations is expensive and is usually not done on a frequency to track the inventory precisely. The consequence is suppliers overstock each provider location under the pressure to never miss a case. This causes excess capital to be spent by the suppliers to build more inventory than would be required to meet the demand. Also devices might expire at the provider location unless the sales rep watched the expiration dates closely. The Implantable Device Supply Chain study done in 2011, showed an excess of 30% of inventory in the typical device supply chain and 7-10% of devices each year are written off due to being not used prior to their expirations date.

This situation would be vastly improved if the supplier had access to real-time autonomously collected inventory, especially if the supplier wanted to consign the inventory. Consignment would allow the supplier to relieve the provider of inventory risk and take that inventory risk on behalf of the provider. The suppliers could accept the real-time data directly giving them much better inventory and demand information which would allow them to meet product demand with better service at a lower cost.

Seeonic has developed the technology to automate the collection of real-time inventory. The Seeonic technology is installed at the point-of-use for the provider in the rack or cart containing RFID-tagged devices. The technology periodically scans the items and collects the inventory count by SKU along with a serial number for each item. Seeonic works within the physical constraints of the rack or cart to install antennas able to scan all of the RFID-tagged devices. The Seeonic architecture allows the scanning technology to be installed in almost any setting without any impact on IT or power infrastructure therefore having little to no impact on the provider locations.

Seeonic's technology to solve the tracking and forecast problems consists of two major elements, **SightWare**® and **Seeniq**®. **SightWare** is a small electronics module with connected antennas that can scan an area searching for RFID-tagged items. Connected to **SightWare** are Seeonic's proprietary antennas and switching system configurable to most racks and carts. Once collected, the contents of all the tags found are transmitted via a wireless network to the **Seeniq** server on the Internet where they are stored for further review and analysis. At any point in time, an authorized user with a web browser can see from dashboards provided by Seeonic, the location and serial number of all of the scanned items. A complete inventory of all items is therefore known within the periodicity of the scanning of each **SightWare** module, a dynamic parameter set by the supplier in the **Seeniq** application. The **Seeniq** data can also be interfaced to the suppliers' business systems.

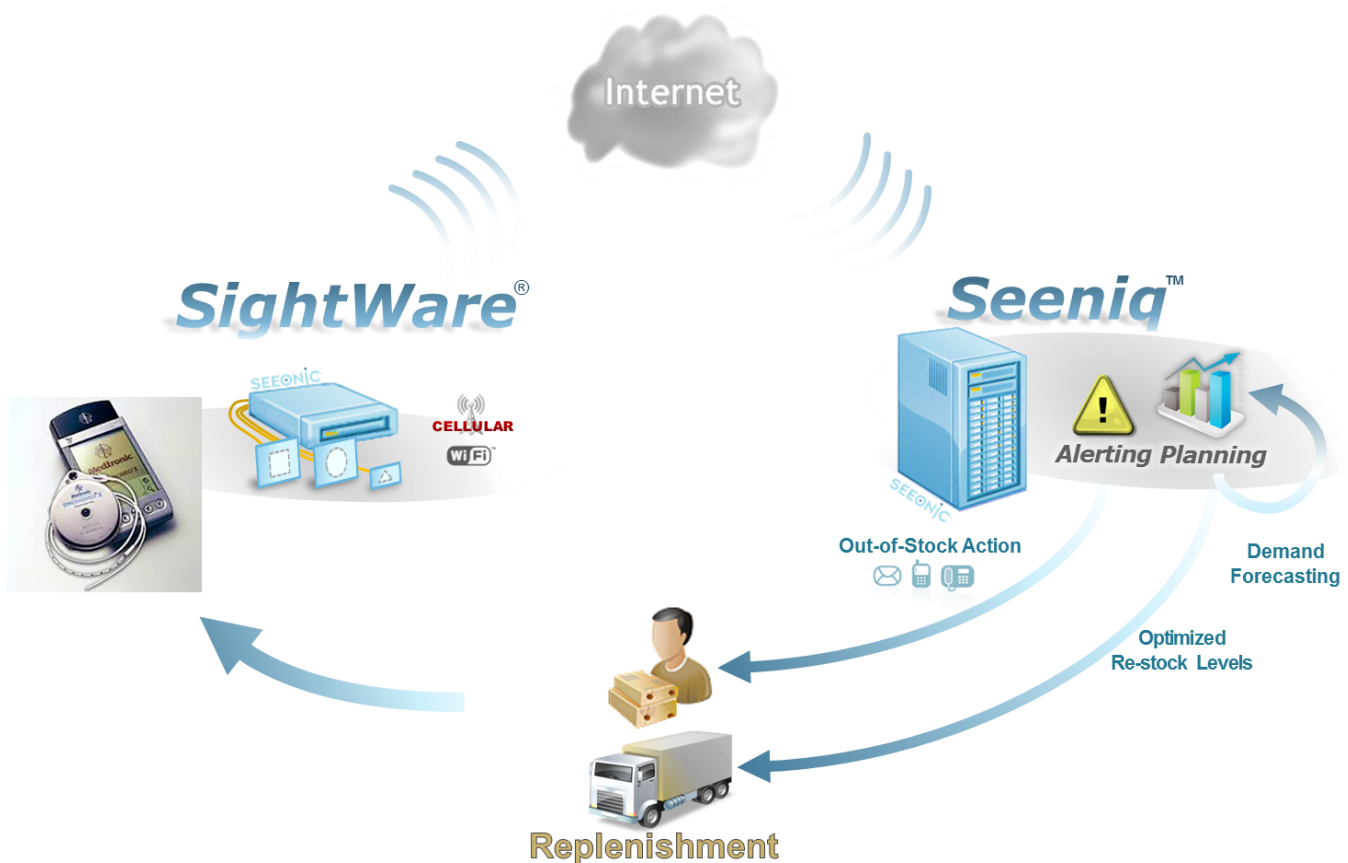
The **Seeniq** dashboard provides a picture of the current inventory and the inventory over time. **Seeniq** can also help the user use predictive analytics to model provider demand and use predictions from the models to minimize inventory in the future. Since the inventory of all of the provider locations where the Seeonic

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technology is installed is displayed on the dashboards, the supplier can also see if the demand can be satisfied by another provider location if a particular SKU is unavailable in the provider location inventory being viewed.

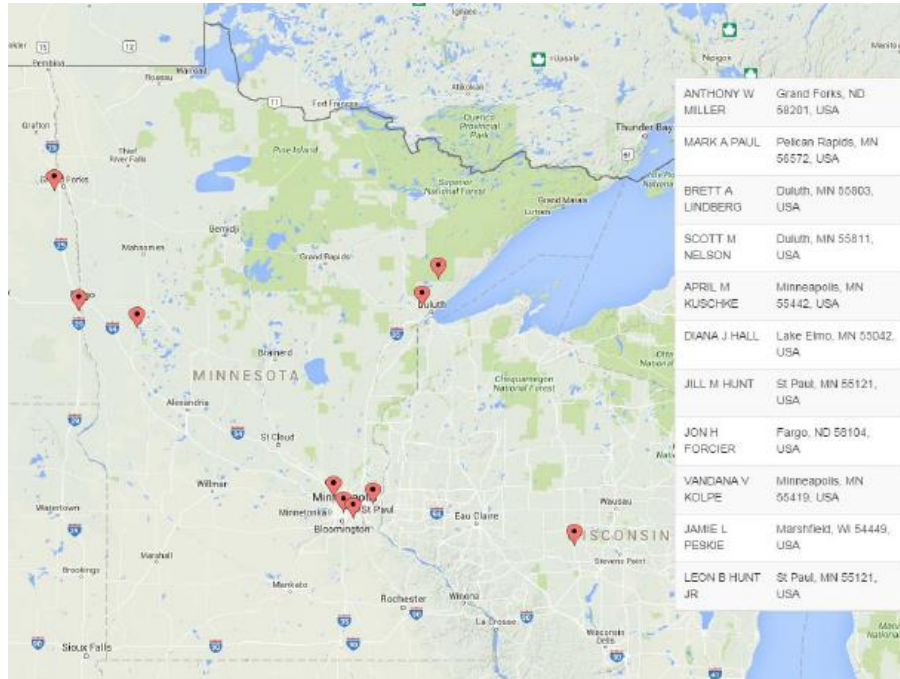
Seeonic Architecture

Below is a diagram of the Seeonic architecture. The **SightWare** module on the left is either battery or wall powered and is installed in the rack or cart where the inventory is located. When it activates itself on the periodicity it was set for, **SightWare** does a complete inventory scan and sends the resultant SKUs and counts to **Seeniq** via the cellular network. The **Seeniq** application creates the dashboards, looks for pre-defined alerts and issues any that are appropriate electronically. **Seeniq** is also tool for analyzing the data collected and developing demand models and predictions for future demand. The **Seeniq** data can not only be displayed on dashboards, it can be transferred to the supplier's business systems.



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Below is an example map dashboard built for a device supplier to give them a picture of the current device inventory in the provider locations.



Each provider location is located on the map. Clicking on the red balloon allows the sales rep to get more detail about the inventory at the location as shown below. On the left of the dashboard is the device type and description. Not only is the item listed with its serial number, but its expiration date (UBD) is noted.

CFN	Family	Description	Serial #	UBD	Days
6947M55	Leads	LEAD 6947M55 DF4 ACTIVE DC US EN	TDK133098V	2015-12-19	40
6947M52	Leads	LEAD 6947M52 DF4 ACTIVE DC US EN	TDK188109V	2017-06-04	40
694765	Leads	LEAD 694765 SPRINT US 65CM FPA QUAD	TGG612671V	2016-04-08	40
6937A-58	Leads	LEAD 6937A-58 US CS SVC UNI	TDB301633V	2016-06-09	40
DV8B1D4	ICDs	ICD-VR DV8B1D4 EVERA XT US DF4	BNW0221001H	2016-12-28	40
5076-45	Leads	LEAD 5076-45 MRI US	PIH3798400	2017-07-10	40
5076-52	Leads	LEAD 5076-52 MRI US	PIH3802600	2017-07-09	40
DTBA1D4	ICDs	CRF-D DTBA1D4 VIVA XT US IS1/DF4	BLE114785H	2016-08-28	40
456888	Leads	LEAD 456888 DTTAIN PERFORMA USA	QJCD18347V	2017-04-23	40
DTBA1QQ	ICDs	CRF-D DTBA1QQ VIVA QUAD XT US IS4/DF4	BLC202952H	2016-02-14	40
5076-65	Leads	LEAD 5076-65 MRI US E3FU	PIH3742706	2017-04-01	40
6925M55	Leads	LEAD 6925M55 DF4 ACTIVE SC OUS 17L	TDL142516V	2017-05-16	40
6935M62	Leads	LEAD 6935M62 DF4 ACTIVE SC US EN	TDL089663V	2016-08-06	40



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Seeonic builds comparable dashboards to meet a supplier's needs. **Seeniq** also consists of tools that use predictive analytics to forecast future demand and suggest inventory actions to prevent overstocks by having the appropriate inventory to meet the expected demand.