



**Patient and Asset Visibility
Data Exchange Standard;
IEEE P1903.1**

GHX / Visible Assets

December 23, 2008

Better Health for Your Bottom Line

A GHX and Visible Assets Sponsored Standard

IEEE P1903.1 Will Move US Healthcare from Expensive Manual Records to Automatic Process Free Records.... The Benefits:

1. Standardize data exchange leads to efficient logistics and automatic movement of healthcare products, efficient patient logistics and optimized patient flow with automatic, process free links of product information tied to patient data.
2. Can reduce US Healthcare costs by as much as 20% through more efficient use of fixed assets, automatic events, automatic events exchange and automatic data logs and automatic audit trails with minimal new processes.
3. Enhance US patient safety through real-time product information linked to real-time patient information.
4. Enhanced data logs, data accuracy and key parametric data leads to cost reductions as well as continuous performance improvement in future.

A GHX and Visible Assets Sponsored Standard

IEEE P1903.1 Stakeholder Objectives

1. Develop standardized data storage requirements, and data exchange requirements and standards for wireless asset tags, wireless patient visibility wristbands, and wireless physicians and staff ID cards, used within procedure rooms, operating rooms, hospital wards, and emergency rooms
2. Develop standardized data storage requirements, and data exchange requirements and standards for wireless asset tags, and wireless ID cards, throughout the implantable device and disposable supply chain.
3. Develop acceptable audit standards for billing, and invoicing, and Proof of Use (POU), Chain of Custody (COC) based on 1-2 above, as well as HIPPA compliant audit trail data that provides accurate and rapid recall information for any product.
4. Develop standards and best practice processes for use of electronic wireless visibility systems within mission critical areas within a US Hospital.

GHX – Healthcare’s Customers/Partners

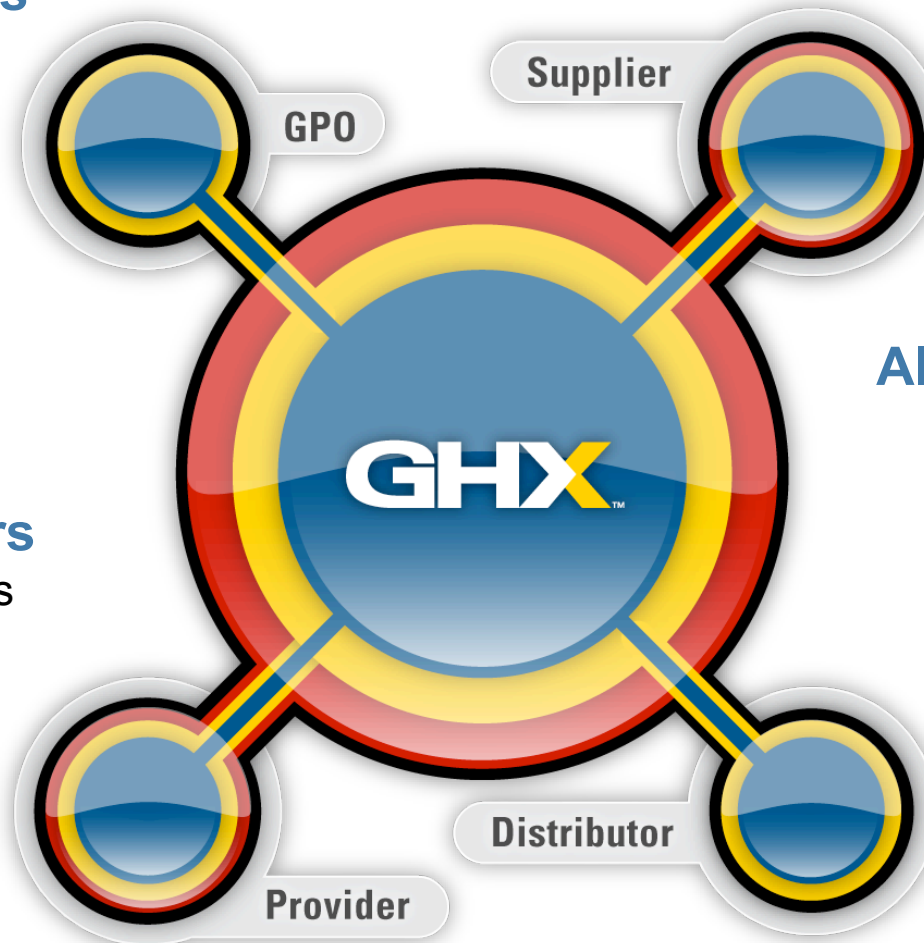
80% US Healthcare disposable products and implantable products flow through GHX

All Major GPOs

- Premier
- HPG
- VHA
- MedAssets
- Broadlane
- Novation
- UHC
- Amerinet

3,500+ Providers

- 90 of top 100 IDNs
- Over 80% of US Licensed Beds



300+ Suppliers

- Over 90 % of the med/surg market

All Major Distributors

- Cardinal
- Owens & Minor
- Amerisource
- Bergen
- McKesson
- Fisher

Visible Assets Customers/Partners

- **Healthcare**

- Manufacturers

- DePuy
 - Zimmer
 - Ethicon
 - Smith & Nephew

- Hospitals

- Holy Cross
 - Tampa General
 - Tenet
 - Indiana Orthopaedic
 - Boca Raton Community
 - Mercy
 - Integris Health
 - Mayo Clinic
 - Cleveland Clinic

- Global Health Exchange

- **Department of Energy**

- Los Alamos Labs
 - Savannah River
 - Oakridge

- **Department of Defense & Sig Sauer, Colt**

- **Danaher**

- **Trimble**

- **Epson Electronics**

- **NASA, + 6 SmallCo's**

Confidential

Demand Driven Supply Economics

Active Inventory Visibility

Provider Point of Use (POU) Landscape

Provider Settings				
Warehouse	Receiving	Distribution Point	General Care Locations	OR & Procedure Suites

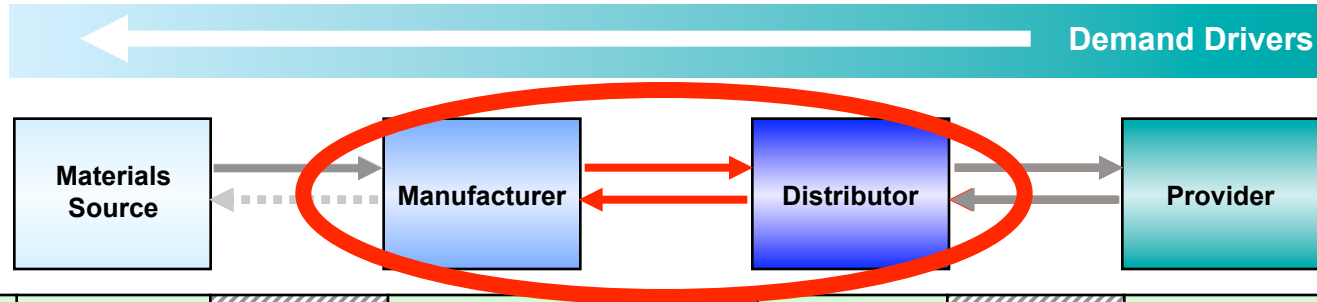
Ortho / Cardio



GHX Business Hub – Implants & Devices Value Proposition

Close The Loop On Patient Safety:

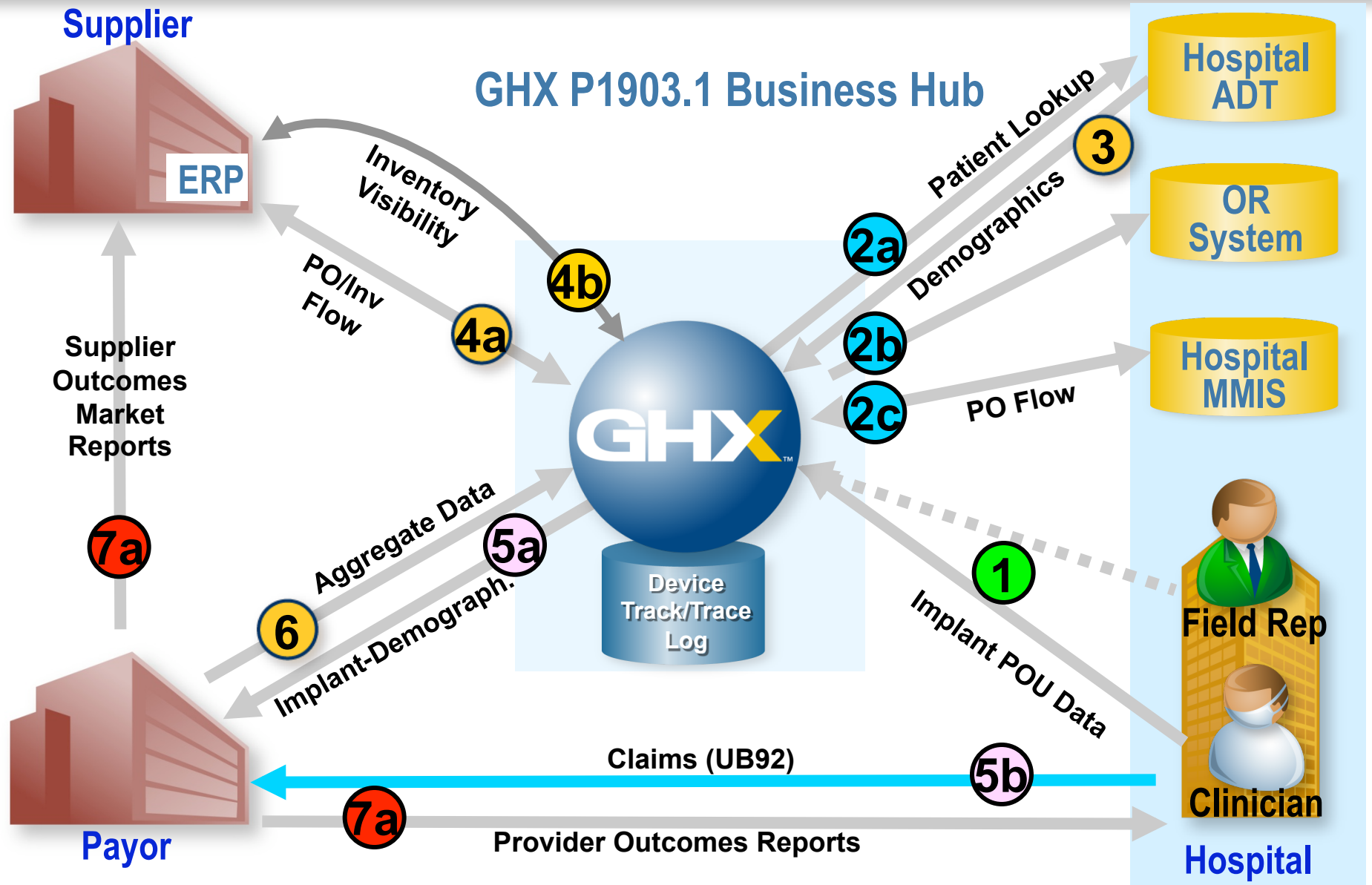
“5Rights” → Implant Track & Trace Log → Best Practice



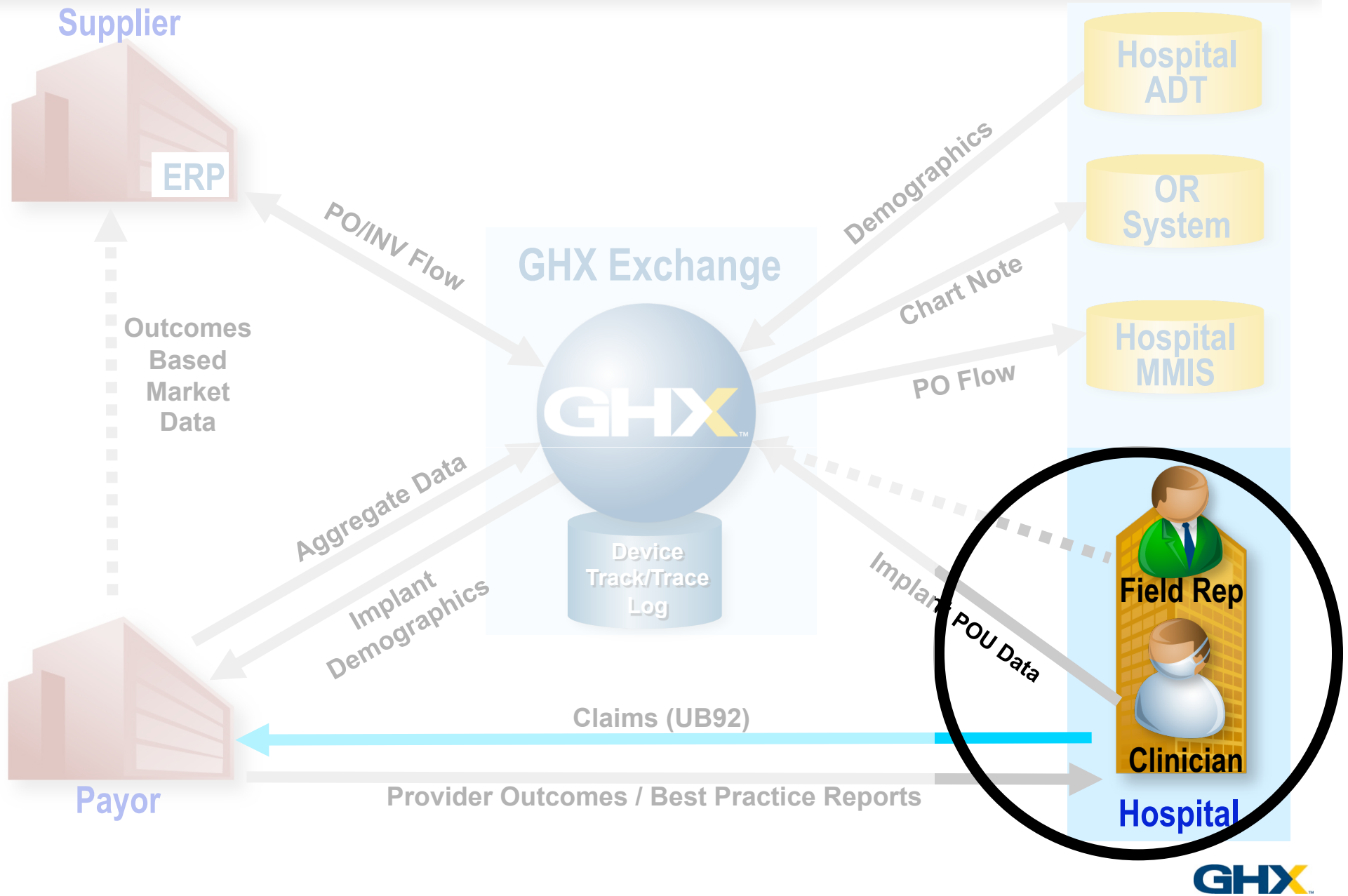
Inventory Economics	\$		\$\$\$\$		\$\$		\$
Operational Economics	\$		\$		\$\$		\$
Operational Efficiency	\$		\$		\$		\$
Reconciliation Reduction			\$\$		\$\$		\$\$
Improved Reimbursement							\$\$\$
Financial Outcomes			\$\$\$		\$		\$\$\$
Clinical Outcomes			\$\$\$				\$\$\$

Material ROI and Clinical Benefit

IEEE 1903.1 - GHX Active Asset Data Infrastructure



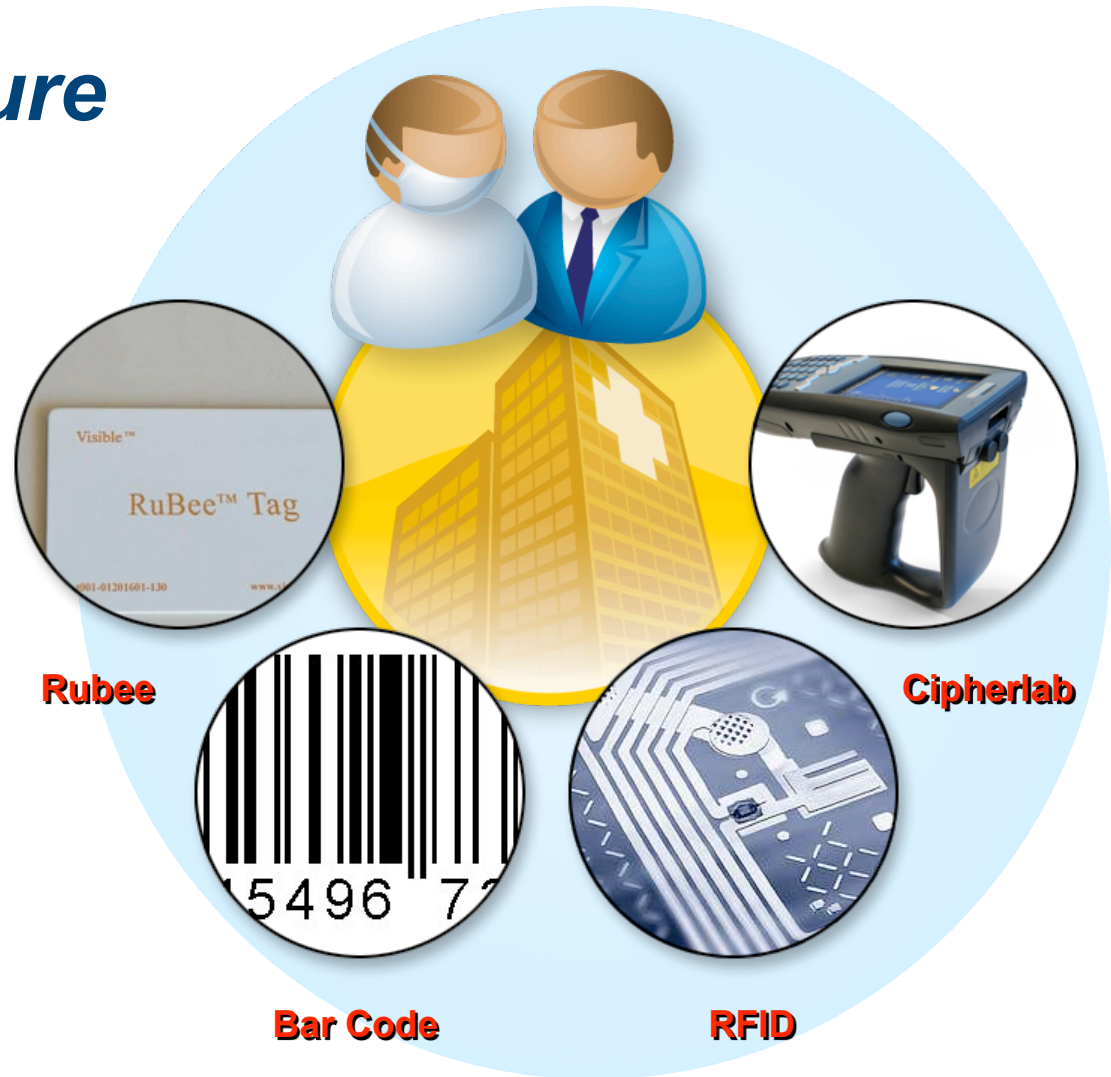
PAVE IEEE 1903.1 - GHX Active Asset Solution



PAVE IEEE 1903.1 POU – An Enterprise Strategy

Open Infrastructure

- POU “event” certification
- Multiple form factor
- Multiple technologies, based on product value.



“Hands Free” Visibility and Documentation

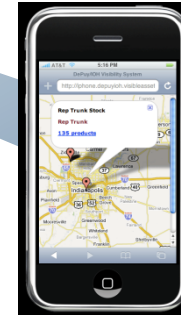
Sales Rep Shelves



**Distributor
Tunnels**



**Sales Rep
Trunks**



**“Always On”
Visibility
Tracking
POU Capture**

**Manufacturer
and
Distributor
Warehouse**



**Hospital
Consignment**



**POU
OR/Procedure Suite**



GHX and Visible Assets – Hands Free Advantages

Unique Wireless Technology

Visible Assets - RuBee™
(125 KHz) Active/Passive Tags

IEEE P1902.1
FDA Clearance as NSR

Benefits

Reads Thru Liquid & Metal
30 ft Read Distance

Reads at Item Level
Low Cost Infrastructure
“No Change in Process”
FDA Clearance/Secure
Small Active Tags
One Network



Confidential

Automated POU Data Capture

Visible Procedure Room
Scanning On

DOB: 1927-07-14 MRN:

Allergies: NKDA Surgery Site: Right Knee

Procedure: Right Knee Unicondylar Versus Right Total Knee Arthroplasty Diagnosis: Right Knee DJD

Products					Physician Details	
Femorals					Martin Roche 05:23PM	
Description	Product Number	Lot Number	Expiration	Arrival Time	Staff Details	
PFC SIGMA C/S NPOR FEM LT SZ 5	960045	336045BB	2016-08-31		Physicians Assistant (4002)	05:23PM
PFC SIGMA C/S NPOR FEM LT SZ 4	960044	326044BC	2016-08-31		Or Technician (3008)	05:23PM
PFC SIGMA C/S NPOR FEM RT SZ 5	960055	406055AB	2016-10-31			
Patellas					Steps Remaining: <input checked="" type="checkbox"/> Procedure Initialized <input checked="" type="checkbox"/> Procedure Started <input checked="" type="checkbox"/> Timeout Performed <input checked="" type="checkbox"/> Authorize Procedure <input checked="" type="checkbox"/> Wrap Up Procedure <input checked="" type="checkbox"/> Generate Forms	
Description	Product Number	Lot Number	Expiration	Arrival Time		
PFC SIG OV/DOM PAT 3 PEG 38 MM	960102	2205922	2011-08-31			
Tibial Inserts						
Description	Product Number	Lot Number	Expiration	Arrival Time		
SIGMA STAB GVF INS 3 10MM	158123010	AP4JN4000	2011-04-01			
Tibial Trays						
Description	Product Number	Lot Number	Expiration	Arrival Time		
No Products Detected						

Were all the products above inserted into the patient?

IEEE 1903.1: GHX and Visible Assets Summary

Hands free, automated real-time tracking of :

- Web based access
- Products- Inventory and Orders (*Manufacturer, Distributor and Provider*)
- Patients
- Physician/staff
- Minimum change in clinician process

POU based processing and integration

- PO – Invoice (*MMIS ↔ GHX hub , ↔ ERP*)
- OR/Procedure Charting
- Cost tracking and billing integration
- Recall log
- Evidence based data reports
- OR throughput and capacity efficiency audit

Minimal cost to deploy in procedure setting

- No cabinets or construction
- Retrofit existing facilities

Initial targets – orthopedics, cardiology, other medical device practice





**Patient and Asset Visibility
Data Exchange Standard;
IEEE P1903.1**

GHX / Visible Assets

December 23, 2008

Better Health for Your Bottom Line