



# Hewlett Packard Enterprise

## Global Product Authentication Service

**GPAS is an innovative and comprehensive cloud-based Brand Protection, Track & Trace and Consumer Engagement Service that drives business value by addressing problems and challenges that organisations face when operating within global markets.**



# Global Product Authentication Service



Since its creation in 2009, GPAS has become the global standard to solving counterfeit, grey market and supply chain challenges surrounding the manufacture and distribution of finished goods. GPAS initially protected HP's supply chain, the 9<sup>th</sup> largest in the world. GPAS has been extended to the external market and has seen a wide range of customers use the service in a variety of market sectors including Food & Beverage, Nutraceutical, FMCG, Apparel, Electronics and CPG to name a few.

At the core of any traceability program is the requirement to uniquely identify and track individual products. GPAS maps the clients value chain and the product/shipment changes of custody, business processes and traceability events. The value of GPAS is realised through GPAS business intelligence reporting for actionable analytics and alerts.

The success of any brand protection and supply chain program is to not only address the business problems and challenges but to derive real business value from the solution. GPAS has credible, domain experience and expertise in supporting our clients achieve this goal.

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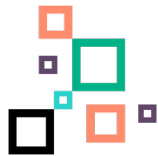
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## Problems & Business Challenges

### Product Serialisation



### Regulatory Compliance

### Product Track & Trace



### EPCIS / ePedigree

### Consumer Engagement



### Product Authentication

## Anticipated Business Pain Points

### Brand Manager

- Impact of brand damage
- Grey market activity
- Lack of customer data
- After hours manufacturing
- Serialisation
- Counterfeit prevention
- Lack of "situational awareness"

### CEO, CFO, & COO

- Reduced revenue & profit
- Public relations
- Share price
- Regulatory risk & compliance
- Brand damage
- Inefficient operating processes

### Supply Chain Manager

- Loss of control
- Inability to track individual products
- Supply chain inefficiency
- Lack of visibility of products
- Open supply chain monitoring
- Product recall inefficiencies

### Marketing

- Unable to personalise content
- Limited consumer engagement
- Inability to drive brand loyalty
- Inability to upsell products

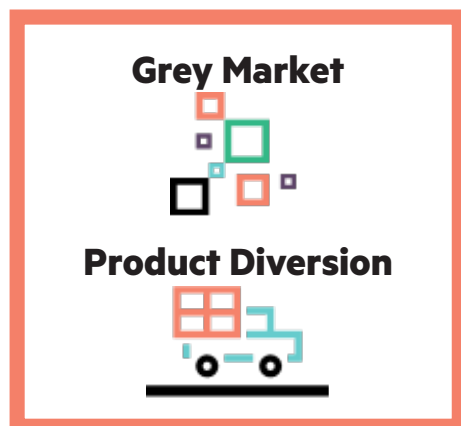


# Brand Protection & Anti-Counterfeit

GPAS protects via 'Item Level Serialisation', unique identification of products from point of manufacture with GPAS cryptographically secure codes whilst being flexible to operate using 3<sup>rd</sup> party codes.

Through event tracking, GPAS has the ability to capture all traceability event data from B2B & B2C.

GPAS is EPCIS compliant & seeks to promote GS1 standards.



## Grey Market & Product Diversion

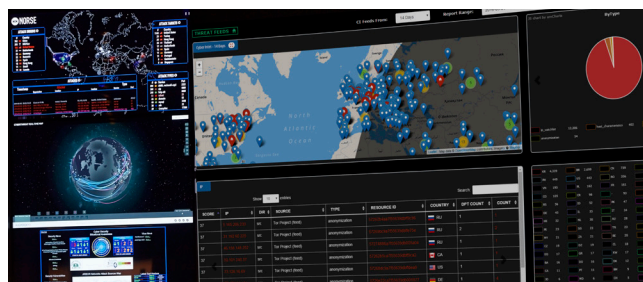
GPAS enables the monitoring, management and prevention of illicit supply chain and grey market activity. i.e. The diversion of product within the supply chain.

This is achieved through the use of GPAS business rules and activity alerts. These rules are fully configurable to client needs.

GPAS provides an unparalleled view of real-time grey market activity providing a level of situational awareness to these revenue impacting events.

## Asset Tracking & Verification

Allows the serialisation and storage of associated asset attributes which will be applied to assets that need to be tracked throughout their usage lifecycle.



## Key GPAS Features

- Serialisation of finished goods
- Overt/Covert copy protection mechanisms
- Full supply chain traceability & visibility
- Ease of Implementation
- Security & monitoring
- Comprehensive consumer engagement
- Business Intelligence
- Business Analytics (aaS)
- Supply Chain Blockchain
- IoT (Internet of Things)

## Global Counterfeit Facts

Global counterfeit US \$1T  
10~12% of all international trade

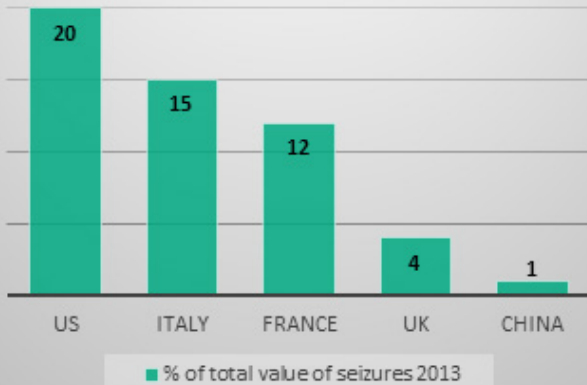
64% of counterfeit products are purchased from legitimate shops and retailers

\$75B pa. Estimated loss to pharmaceuticals industry  
\$60B pa. Estimated loss to food & beverage industry  
Counterfeit drugs account for ~60% of all drugs in developing countries  
12-15% of all automotive spare parts are counterfeit  
Pharmaceutical Anti-counterfeit market is expected to grow 13.6% over the next 5 years.

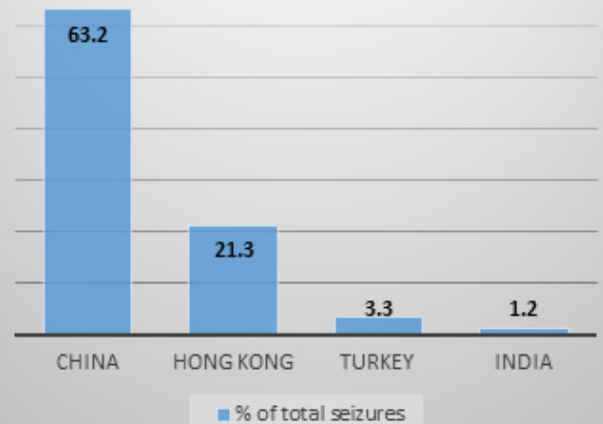


# Global Counterfeit Statistics

Countries hit hardest by trade in fake goods



Where most fake goods originate



Source: OEDC.org

## GPAS at a glance

- OPEX vs CAPEX
- Low overall cost of ownership
- Readily integrates with existing systems (ERP/MOM)
- Modular design supports business prioritisation
- Highly extensible & configurable
- Ease of roll-out & integration
- Flexible & inter-operable
- Global connectivity
- Operates to GS1 standards
- Comprehensive business intelligence reporting
- Advanced analytics capabilities
- Applicable to a range of market sectors
- Consumer authentication of genuine products
- Individual item finished goods traceability
- Ingredient/raw material level traceability

### GPAS Benefits

- Direct to customers or print service providers under a variety of flexible commercial arrangements
- Faster ROI on capital investments, reducing operating costs & much more
- For print service providers, relationships change from delivering a commodity based service to a business value led offering
- All services can be delivered direct to customers or print service providers as a Cloud Service offering with no integration required at the printer site
- Consumer engagement experience can be delivered as:
  - GPAS service offering
  - Co-branded service offering
  - Customer/print service provider branded service offering.



# GPAS Cloud Based Service

Cost | Speed | Security | Global Scale | Productivity | Performance | Reliability

**GPAS is provisioned as a cloud based service within a secure and energy-efficient next-generation data center. The GPAS service is offered with a service level agreement that addresses data security, privacy, disaster recovery and business availability requirements. Our multi-tenant infrastructure can scale to support high volumes of transactions.**

## Value Proposition for Print Service Providers

GPAS can integrate with any printer capable of printing variable data, although we have a strong association with HP Indigo printers.



### **GPAS offering will enable a Print Service Provider (PSP) to:**

- Increase the value proposition behind their existing print service offering
- Create the opportunity for new routes to market for their Label and Flexible Carton Print business.

By '**Moving up the value chain**' of the services PSP's can offer, GPAS will provide the PSP with the opportunity to:

**1** Retain existing customers & build existing portfolio

**2** Differentiate themselves in the marketplace from their competitors

**3** Ability to attract new customers and markets whilst concentrating on their core service offering

**The GPAS** plug-in for **HP SmartStream Designer** integrates seamlessly into work-flows allowing the creation of sophisticated, custom security jobs through a simple, affordable variable data tool optimized for HP Indigo presses. Based on industry-standard tools, **HP SmartStream Designer** includes a design software plug-in that can be used to conveniently personalize any print job's images, text, and colors creating virtually unlimited variations of the design to maximize impact.

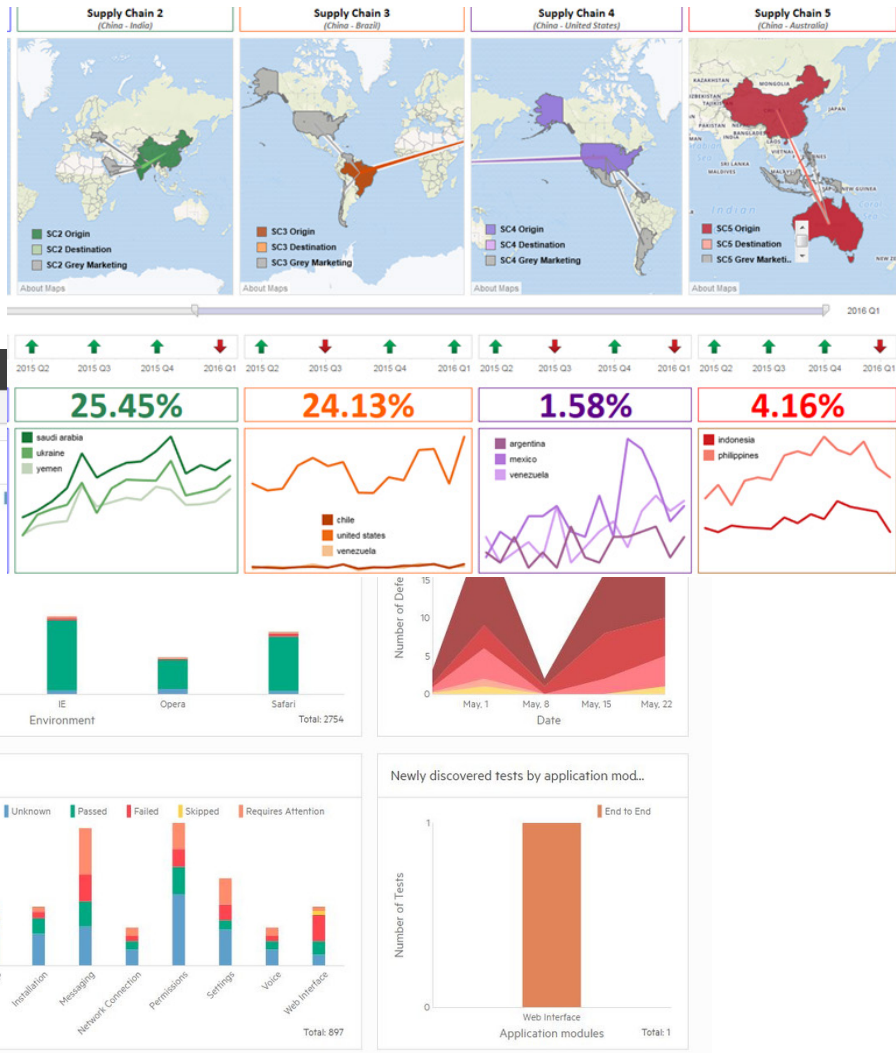




# GPAS Business Analytics (aaS)

**GPAS** uses HPE's Big Data platform to unlock hidden actionable analytics that can be merged with (for example) consumer sentiment data to provide a real-time product and brand monitoring solution.

GPAS Business Analytics is provided aaS and is configurable to our clients business needs in support of operational, or Exec level business analytics.



# GPAS Business Intelligence & Alerts

Represents how GPAS is consumed from a business operations point of view. With real time alerts and notifications related to product supply chain activity. All counterfeit, grey market and supply chain traceability activity is visible through the brand owner dashboard incorporating GPAS business rules engine, allowing for configurable, actionable analytics and alerts.







# GPAS Geospatial Analytics & Visualisation

## Services Powered by: OmniLocation

The **GPAS** Mapping Service provides a browser-based environmental mapping and information-layering tool for business analysis and transportation planning. The scope of this service provides complete flexibility of geographic or architectural data sources, update ability, I/O ports, user access, hosting options, delivery methods and support alternatives, without compromising accuracy, clarity or usability.

This tracking visualisation service helps organizations understand the Geospatial relationships between customers, operations, field staff, assets and vehicles; as well as the impact of dynamic forces such as weather, fire, drought, traffic, floods and more.



### Situational Intelligence - Supply Chain Management.

Locate, Geocode, Overlay, Animate, Alert, Filter, Sort and Visualise.

### Industrial Site Management & Predictive Maintenance.

Machine Connectivity, Autonomic Sensor Analysis, Active Controls.



### Track, Trace & Trend

#### Enterprise In-transit Visibility.

- Event Management, Shipment Tracking, Geofencing, Notification.

#### Remote Resource Optimisation

- Multi-Variant Analysis, Task Assignment, Shared Visits, Routing

### Manufacturing Life cycle Monitoring



### Full Enterprise Visibility

- Manufacture Plant
- Assembly Plant
- Dealership
  - Current Ownership
  - Supply Chain Status
  - Audit Detail
- Satellite Dealerships

### Supply Chain Update

- Truck: Motion-Sensitive
- Ship: Updated Twice Daily
- Plane: Continuous Update
- Train: Motion-Sensitive

### IoT Analytics Business Value

#### Full Enterprise Visibility

- Warehouses
- Delivery Trucks
- Destinations
  - Current ownership
  - Supply chain status
  - Load detail
- All sites, not just delivery

#### Supply Chain Update

- Compare request to delivery
- Updated continuously
- Warehouse resupply

#### Analytics

- Power BI Interface
- Performance Metrics

#### Accountability

- Time Definite Delivery
- Automated Auditing
- Fleet Management
  - Weather
  - Traffic

### Asset Management: Visual Sewer Network

- Lines
- Manholes
- Pump Stations

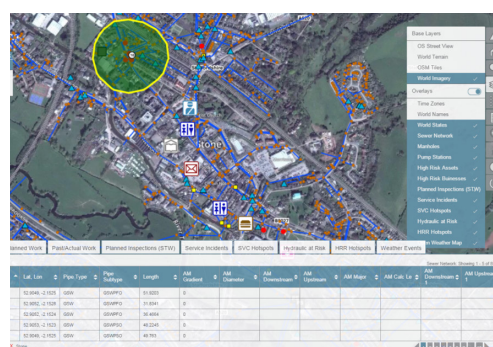
### High Risk Assets

- Hospitals, Police Stations, Post Office, School, etc.
- High Risk Businesses

### Event Management:

- Weather events
- Distance/Area Measure
- Flood Risk Analytics

### Flood & Sewer Overflow Prevention

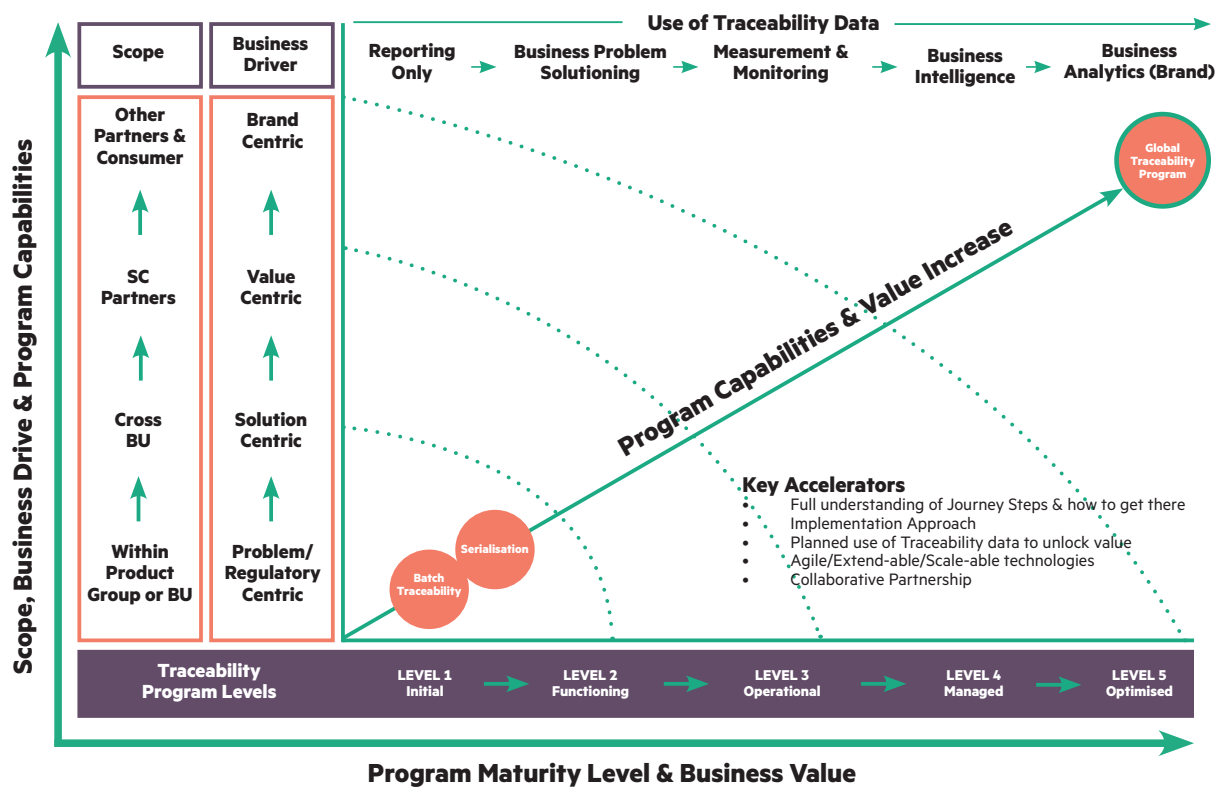


# Value Chain Traceability Services

GPAS maps the client value chain and the product/shipment changes of custody, business processes and traceability events. GPAS enables the data collection and enables business intelligence reporting for actionable analytics and alerts.



## Global Traceability Programme



### GPAS and the GS1 Traceability Framework Standards:

The GS1 Traceability Framework is based on a number of GS1 Standard object identification keys which GPAS is both fully compliant with and also fully endorse as an end to end supply chain traceability framework.





## Typical Implementation Lifecycle

### 1 GPAS Code Ordering and Fulfillment via API

Inactive GPAS Codes are ordered in blocks, regular intervals, loaded into Client SAP / Manufacturing systems for distribution to the production lines

### 2 Production Data Assignment to Code Via API

During the manufacturing process, 8 metadata elements are assigned to the GPAS code for later reporting - API Code made active

### 3 GPAS Code Status Management - Authenticate and Activate via API

Pre-Shipping camera tech deployed on the production line verifies readability (Authentication API) of the QR. Activating the code to an Active State

### 4 Shipment Data Assignment to Code via API

Product is packed & added to a shipment - Distributor information is then assigned from the Client backend systems SAP & MOM system

### 5 Closed Supply Chain Distribution via API

Shipment (SN) is Updated - Received - Shipped - received with shipment data updated accordingly

### 6 Customs Clearance via API or Manual

Shipment (SN) updated Customs Clearance Shipment Event Recorded

### 7 Open Supply Chain via GPAS Integration Options x N

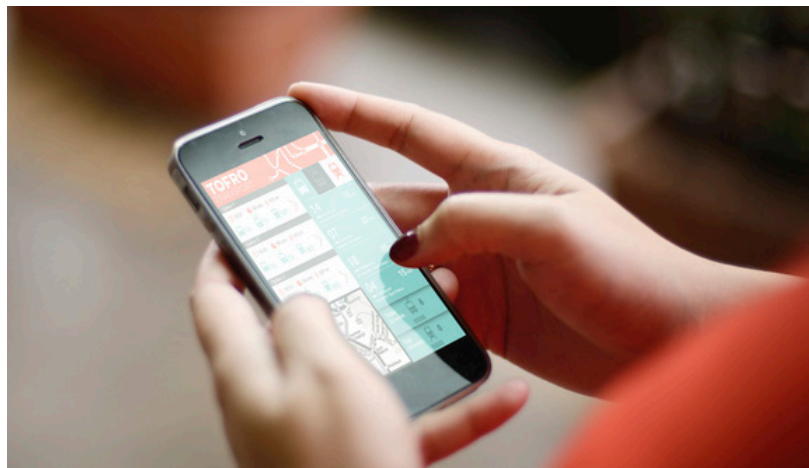
Shipment (SN) is received - Shipped - Received with Shipment Data Updated

### 8 Consumer Authentication

Product is authenticated, the GPAS Code with Metadata is updated.

# GPAS Copy Protection

The protection of any brand requires the uses of anti-counterfeit and product security measures to be taken across your product and supply chain. GPAS copy protection provides brands owners the ability to deploy overt, covert or forensic image based security features on the product or packaging.



## GPAS Security Options

Security Level	Consumer	Retailer	FSA / Inspector	Custom Agents	Application Required
Authentication Only	QR (O) Datamatrix (O)	QR (O) Datamatrix (O)	QR (O) Datamatrix (O)	QR (O) Datamatrix (O)	QR / Datamatrix Scanner
User Engagement Authentication	Guilloche (O) Digital Fiber (O)	Guilloche (O) Digital Fiber (O)	Guilloche (O) Digital Fiber (O)		QR Reader
Copy Detection	Digital Watermark (F) BrandMark (F)	Ultraviolet (C) Infra-red (C) RFID (O) Digital Watermark (F) BrandMark (F)	Ultraviolet (C) Infra-red (C) RFID (O) Digital Watermark (F) BrandMark (F)	Ultraviolet (C) Infra-red (C) RFID (O) Digital Watermark (F) BrandMark (F)	BrandMark Application. UV Reader. Watermark Application.
Copy Prevention Advanced		BrandMark (F) Custom Ultraviolet (C) Custom Infra-red+ (C)	BrandMark (F) Custom Ultraviolet (C) Custom Infra-red (C)	BrandMark (F) Custom Ultraviolet (C) Custom Infra-red (C)	BrandMark Application. UV Reader.
Copy Prevention Expert			Taggant (F)	Taggant (F)	Security Tester

**(O)** - Overt: Can be seen openly. Plainly apparent to the naked eye.

**(C)** - Covert: Not openly visible to the naked eye.

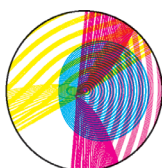
**(F)** - Forensic: Scientific methods & techniques are used within this copy protection feature.

### QR Code



powered by HPE GPAS

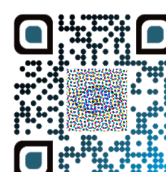
### Guilloche



### Digital Fiber



### BrandMark





# GPAS Key Business Industries

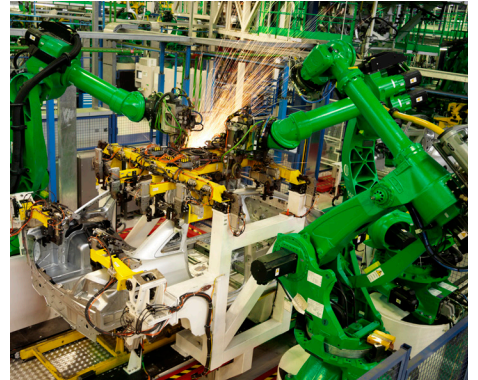
**Dairy & Agriculture**



**IT Services**



**Automotive**



**Manufacturing**



**Food & Beverage**



**Pharmaceutical**



**Apparel**



**White Goods**



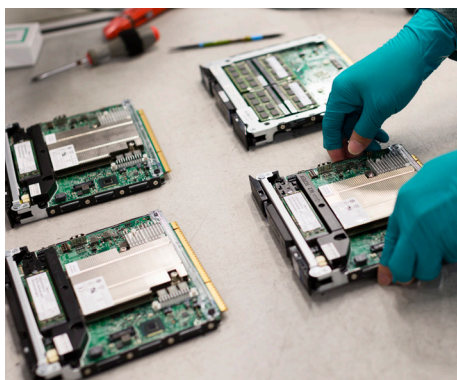
**Nutraceutical**



**FMCG**



**Electronics**



**Oil & Gas**





TraceTracker is an authorized reseller of Hewlett Packard Enterprise and GPAS.

GPAS is fully integrated in all our solutions. All information that is handled through our traceability engine (TIX EPCIS) can be integrated with the GPAS Business Analytics suite of modules.

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