ADVANCED PRODUCT TRACEABILITY

Credits: www.sgsystemsusa.com, www.mactrast.com, www.barix.com, www.intellitrack.net

For the manufacturing sector, product quality and customer satisfaction are the main focus that producers strive for to meet or exceed excellence and business sustainability. An increasingly competitive global environment demand organisations to address product authenticity to establish and maintain credibility. Here, traceability in ensuring product authenticity is an all-important first step in building trust in the marketplace.

The ability to ascertain a product's purity and originality especially in premium products is key to ensure that counterfeit activities are kept at bay. The present method of verifying product authenticity is via spot checks and raids by the local enforcement division which is a reactive measure. Furthermore, stakeholders that contribute to the supply chain during the manufacturing have low visibility of each other's process as it entails a manual effort to trace the information source of products. Stakeholders also use various standards at different stages of manufacturing for safety and compliance that are often not synchronised with each other. In order to build and maintain trust in locally made products, it is necessary to be able to trace a product's authenticity.

Challenge

Present day manufacturing processes to ensure product authenticity and reduce counterfeit are both resource-intensive and effort-intensive. These heavily rely on manual efforts to gather product information, streamline and disseminate the information throughout the supply chain. Additional costs are incurred to inspect and verify products at retail outlets, distributors and wholesalers. The current gaps are:

- Manual process of information gathering and verification on safety, source and production information for products.
- Lack of full visibility among stakeholders in the supply chain of their activities.
- Multiple standards for identifying, capturing and sharing information about products.

CURRENT GAPS

- Manual process of information gathering and verification
- Lack of full visibility among stakeholders in the supply chain
- Multiple standards for identifying, capturing and sharing information
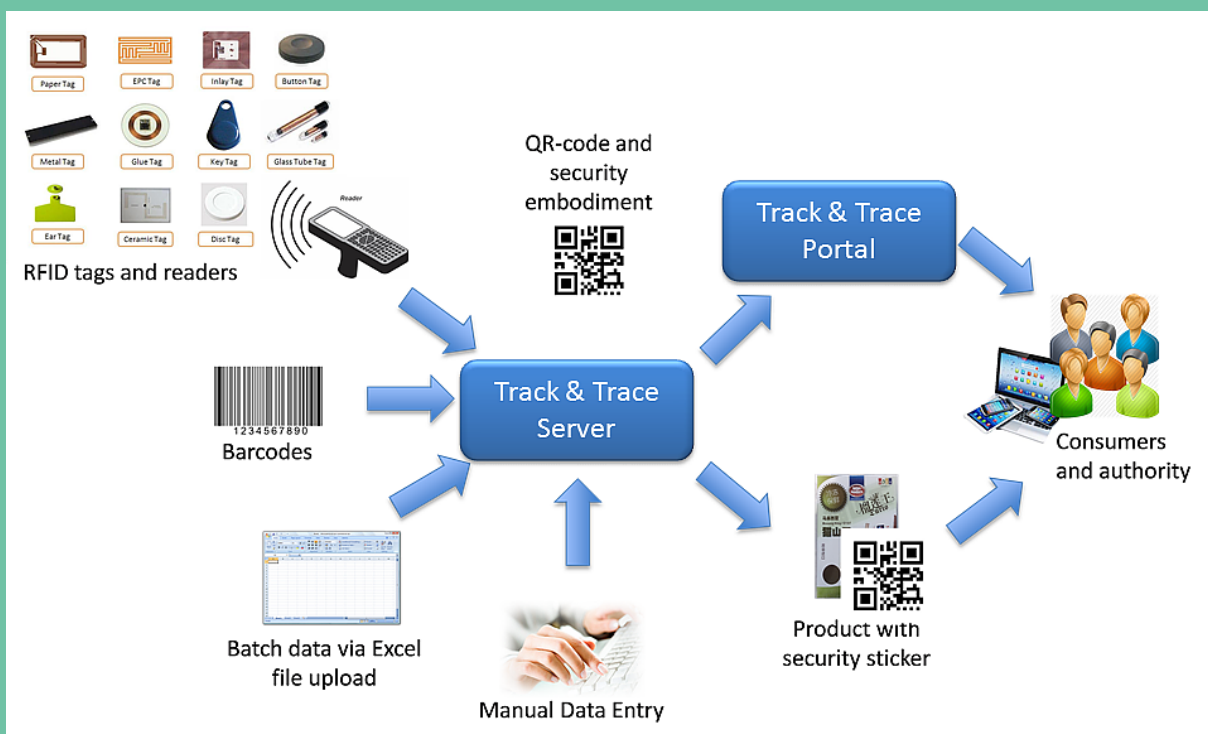
ADVANCED PRODUCT TRACEABILITY SOLUTION

- Centralised and secured information gathering, processing and verification
- Intelligent dashboard to monitor each stakeholder's activities in the supply chain
- Standardised information sharing based on GS1 Standards

Solution

MIMOS' Advanced Product Traceability solution provides a method to address the need for product authenticity. The solution facilitates the product track and trace process by connecting all stakeholders in the supply chain on a platform based on GS1 Standards. GS1 is a global, neutral, multi-sector standard for identifying, capturing, and sharing information, about products, business locations, and more, make it possible for companies to speak the same language, connect with each other, and move their business forward.

The solution consists of:
- Centralised and secured information system for real-time information gathering, processing and verification available to all supply chain stakeholders.
- Intelligent dashboard that provides each stakeholder from manufacturers to authorities a full view of supply chain processes and the contributing stakeholders.
- GS1 Electronic Product Code Information Services (EPCIS) to enable business enterprises across the supply chain to share standardised detailed product and process information.

Advanced Product Traceability solution

Solution Highlights

- **Product Track and Trace**

  Consumers can check for a product's authenticity by gaining access to its origin information, associated certificates and validity statuses. Authorities can also monitor a product's movement, 'health' and status along its delivery route before it reaches its final destination. Furthermore, the tracking and tracing solutions can be used to fight unauthorised distribution, which is frequently linked to counterfeiting.

- **Information Sharing Throughout Supply Chain**

  The solution adopts standardisation of data collection methods and adoption of uniform data format with GS1 that simplifies information sharing and retrieval for better economies of scale. Authorities and product owners can perform corrective measures or recall efficiently by distributing the correct and relevant information, and directives promptly to all parties involved in the supply chain.

- **Product Status Alerts**

  When changes in product status occur, users are immediately alerted through a single point of reference that backs product credibility with reliable information.

- **Mobile Web Services**

  Mobile authentication verification enable customers can interact with product at anywhere at any time and being able to verify process certification, such as organic or halal.

- **Crowdsourcing Capabilities**

  Through crowdsourcing, the gathered information coupled with geo-location information enables the creation of a detailed database on retailers' behaviour, breaking down hierarchies and silos, enabling preventive action, and effective and responsive compliance enforcement.

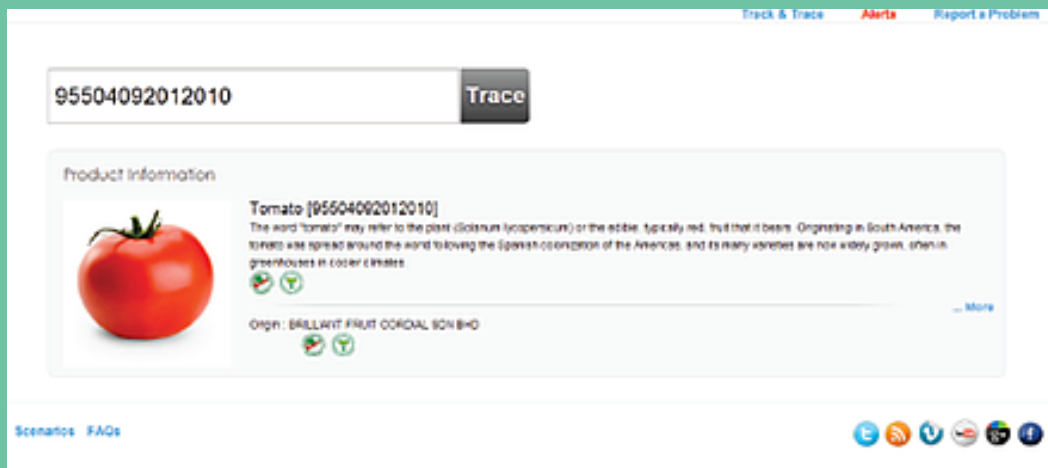# Impact

Enhanced Product Authenticity Assurance

- Using a smartphone, consumers can scan a QR code on product packaging to know its origin, expiry date, production date, exporting and importing companies.
- On the system side, the QR code will be validated for duplication and alerts shall be generated to lodge a report or request for product recall.
- At a higher level, information will be channelled to exporters and regulatory bodies for follow up action.

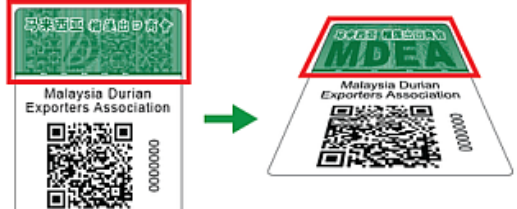### Improved Operational Efficiency and Information Sharing

- Sales and operation efficiency can be enhanced through product trail information, outlet sales efficiency and best-selling items.
- Stakeholders no longer need to work in silos and leverage on readily available information shared across the platform.
- Product information can be easily shared and utilised for product movement tracking across the supply chain enriched with geo-location coordinates.

Sustaining Existing Business and Facilitating Expansion

- Immediate action can be taken on product recalls and restore market confidence thereby reducing losses and continuing existing business momentum quickly.
- For business owners' expansion, the traceability solution can be potentially used for other premium products such as Halal and Green products.
- Other areas that may gain from this are digital products such as e-books and digital music to ensure authenticity.

Product track and trace via product code

Authenticity verification using QR code (credits: MDEA)

MIMOS

Drawing from MIMOS' experience of more than 30 years in R&D in ICT, industrial electronics and nano-semiconductors with a core of over 700 researchers and scientists producing world-class design and R&D, a plethora of technologies with more than 900 patents filed to-date is now in motion to spearhead the proliferation of next-generation systems.

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