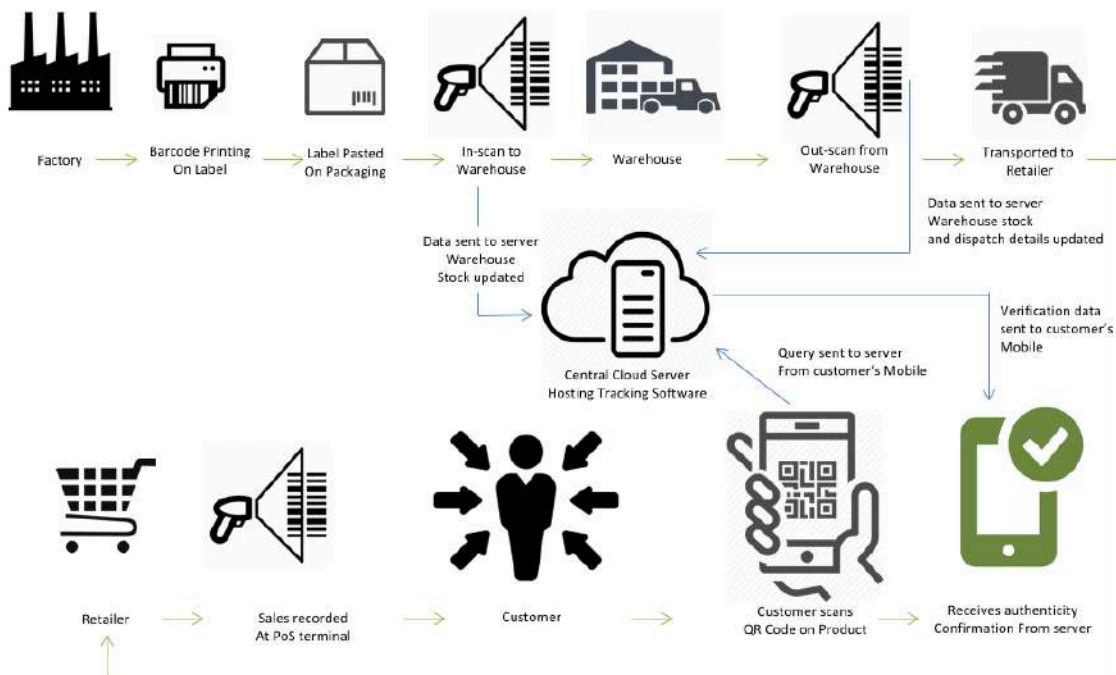**Track & Trace Scope**

Traceability is a key word in today's production, distribution and retail channels. The term "traceability" is usually defined as the ability to identify the origin and the various stages of consumption goods production and distribution processes. The term "track and trace" is also used when describing traceability, which also includes the ability to track where a product is at any given time within the distribution system.

Track & Trace Workflow

A product is tracked at each stage of production across the production line and the final product is given a unique number which is tracked in all subsequent channels like logistics, retail and end customer. This enables companies to receive movement updates of items, it's current location, date of sale at the PoS etc. even the end customer can verify product authenticity using the same unique code to trace it back to manufacturer.

Traceability can be made real time when combined with a robust data management system, RFID and bar code scanning solutions to create a versatile Real Time Systems (RLTS).

Schematic Workflow Diagram for a General Retail Scenario

Track & Trace Technology

In order for traceability to be effective, processes must **shift from error-prone manual ones to automated ones** – capturing, storing and managing information automatically. Track & Trace makes use of multiple technology in tandem to achieve the same like:

- **Data Capture & Mobility Hardware**
- **Software Systems**

Process	Components

Data Capture & Mobility Hardware	• Mobile computers, bar code scanners, RFID tags and readers, and industrial wireless local area network (WLAN)
	• Devices to capture all traceability methods, including:
	    ○ 1D and 2D bar codes
	    ○ RFID
	    ○ Direct part marking: laser etch, dot peen, chemical edge, stamped

Software Systems	• Applications that create mobile and fixed reader front-end interfaces to MES and ERP systems, quality and lab systems.
	• Management software to:
	    ○ Manage, maintain and monitor mobile devices
	    ○ Manage, monitor, and ensure security and compliance within wireless networks